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THE CANADIAN FISHERMAN

(Official Organ of the Canadian Fisheries Association)

VOL. X

GARDENVALE, P. Q., JANUARY 1923 - DEC. 1923

No. 1-12

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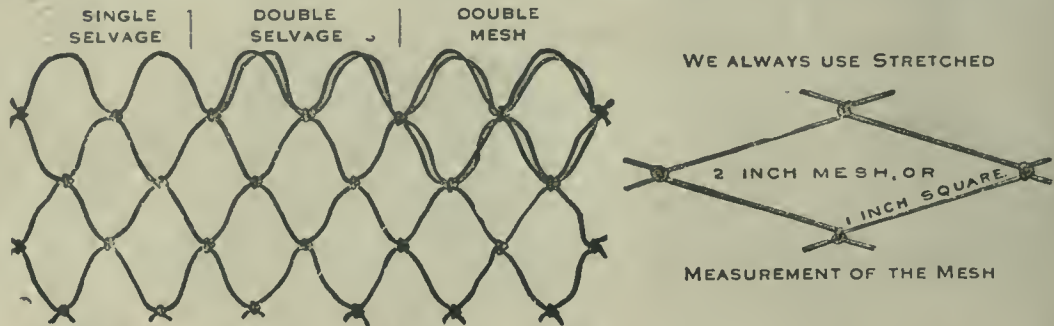
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THE CANADIAN FISHERMAN

Official Organ of the Canadian Fisheries Association
A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada,
and Technical Education of those engaged in the Industry.

VOL. X

GARDENVALE, P. Q., JANUARY 1923

No. 1

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SUBSCRIPTION

Canada, Newfoundland and Great Britain \$2.00
United States and Elsewhere \$3.00
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Published on the 17th of each month. Changes of advertisements must be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication, these will be paid for at our regular rate.

The Industrial & Educational Publishing Co. Limited

J. J. Harpell, President and Managing Director
GARDEN CITY PRESS, Gardenvale, Que.
Telegrams and Express Ste. Anne de Bellevue, Que.
Eastern Manager, A. S. Christie, Gardenvale, Que.
Western Manager, H. W. Thompson, Aladdin Building,
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The shipowners in question (The East Asiatic Co.) were enabled to pay 20% on their capital, while the shipbuilders referred to (Burmeister & Wain) distributed 15% to their shareholders.

The Central Council for Economic Information estimates that 12½% of British, 40% of American and 22% of Italian owned merchant vessels are laid up. That is, out of 32,674,000 tons of ships, nearly 8 million tons are idle. Scandinavia, which has the greatest proportion of motor ships, has a very small laid up tonnage, and not a single motor ship is idle.

The second-hand tonnage market is glutted with ships at very low prices, but it is rare for a motor vessel to be offered at all and the holding price is invariably comparatively high.

The motor ship is in its swaddling clothes so far as Canada is concerned, but we believe the above facts are so pregnant in meaning to the shipbuilder and shipowner, that they need little emphasis.

They point to the advisability of the shipowner restricting his new tonnage to motor vessels and even to the conversion of his present fleet to oil engined vessels.

To the shipbuilder in the present period of adolescence they point to the desirability of carefully investigating the present position of the oil engine industry, with a view to using the most attractive engine offering having regard to the service required.

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The five letters of which the above is the first, will appear each month by month. If however you would like to study them together and at once please write us for copies.

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: - : EDITORIAL : - :

JAS. H. CONLON, Editor

FISHERIES PROGRAMME FOR QUEBEC

The general outline of his fisheries policy which Hon. J. E. Perrault, minister of colonization, mines and fisheries, had approved by the Quebec legislature last month, indicates an honest desire to promote the advancement of the industry. It is comprehensive in its nature, generous in its financial requirements and obviously inspired by a sincere motive. The legislation adopted is permissive in its character, that is, it permits the minister of fisheries to do certain things, but there is no obligation to carry out the policy either in whole or in part. Should he discover, upon mature investigation, that a certain phase of his programme will not accomplish the end for which it was designed, he need not proceed with it. What the legislature has adopted commits the government to nothing and in having it so, the Hon. Mr. Perrault exhibited considerable wisdom.

In shaping a programme such as the present one it is impossible for a minister, particularly one with little knowledge of the industry prior to assuming the fisheries portfolio, to hit on all fours upon a scheme that will accomplish the end in view. An industry so technical and so highly complicated as the production and marketing of fish cannot be mastered in a brief period. But as things stand now the minister will profit by criticism. In this spirit we offer it. We commend his enterprise. That is what the fishing industry throughout the country wants. But it would be too bad if that enterprise were misdirected. A failure to produce practical results from his policy would certainly have a reflex action and would, furthermore, incline future governments to overcautiousness in experimenting with fishery matters. So for the protection of all concerned it seems advisable to discuss the matter fairly and frankly while it is yet time.

Hon. Mr. Perrault proposes to establish a cold storage plant in the city of Quebec and make that city the centre of distribution of fish from the maritime districts. Furthermore he contemplates building cold storages at points along the North Shore, on the Gaspé coast and on the Magdalen Islands; and he also has in mind to equip one of more ships with cold storage apparatus in order to transport fish with safety. The plan sounds all right, but has due consideration been

given to the brevity of the fishing season in the maritime waters of Quebec, the fact that fully three-quarters of her fish production goes into export, and that a considerable portion of the balance does not enter into consumption at all?

Cod and herring are the most prolific fisheries; they produce six-sevenths of the total annual volume of fish. Certainly not more than ten percent of the cod goes into local consumption, and of the herring only a fractional proportion is used locally. To resort to actual statistics: During 1921 Quebec produced in her maritime waters about 72,000,000 pounds of fish, of which 45,000,000 were cod and 18,000,000 herring. The most liberal calculation discloses that only 14,000,000 of this quantity was consumed in Canada and the adjacent American markets. The fresh varieties, other than cod and herring, entering into the volume consumed thus are all seasonal, such as mackerel, smelts, lobsters and salmon which the markets absorb with avidity while they are yet in season. Hence they do not require freezing accommodation, although cold storage facilities at some fixed centre might be of value. As a bait preserver the freezer is valuable, but here there enters the problem of inducing fishermen to utilize frozen bait. Similar institutions in the Maritime Provinces, which were fostered by federal authorities, have proved their worth in providing a steady supply of bait but otherwise have been of no account.

Possibly it is not generally known that the federal government for many years maintained a policy of subsidizing fish freezers on the Atlantic Coast. From the inception of that policy early in the century until 1909 seventy odd freezers were built, of which seventeen were located within the province of Quebec. Only one of these latter, that at Bonaventure River, operated for the full bonus period of five years. One at Anse la Barbe operated for four years, several of them for three years, five for two years and three for only one year.

Prior to 1909 it was the policy of the federal government to assist regularly constituted "Fishermen's Bait Associations" by paying one-half the cost of constructing and equipping the freezer and, in addition, giving a bonus on frozen bait of \$5 per ton up to twenty tons during the first five years of the operation of the plant. The futility of this plan was realized and following 1909 the government extended a similar offer

to private individuals or firms who would enter the fresh fish business and who would, at the same time, set aside a fixed proportion of their capacity for the storage of frozen bait. The idea was to establish bait centres and, at the same time, places where fishermen could dispose of their catches conveniently. Under that arrangement seven freezers were built in the Maritime Provinces, but only one of them continued to operate and that one would doubtless have been built without subsidy. As a result of its long experience the federal government in 1919 decided to discontinue all assistance to small fish cold storage plants.

There are features of Hon. Mr. Perrault's programme directly designed to stimulate production and get more out of the resource with which the province is so wonderfully endowed. He proposes to organize the fishermen in co-operative groups, to send students abroad each year to study the latest methods of other countries, to subsidize canning plants, to extend the fish cultural service to include dwindling commercial species of value such as the dore, and maskinonge, and, finally, to institute a maritime fisheries board to have direct supervision over fishery matters and the execution of fishery policy. The purpose of each is, indeed, worthy. It will be a pleasure to everyone in the industry if the minister succeeds in organizing fishermen as he proposes. The canning of fish in Canada is still in its infancy. Comparatively few species have been submitted to canning treatment. There is a broad territory to explore and the proposed subsidy to canning establishments may open up new fields.

In explaining his policy to the legislature Hon. Mr. Perrault said it was his intention to despatch agents into the United States and South American markets to ascertain the kinds of fish and the treatments required by these peoples. He plans improving transportation facilities, especially by the provision of a refrigerator car service on the Gaspé coast, to expedite the movement of fresh fish to American markets.

Let us analyze this programme. The minister wants to increase production and he plans sending agents abroad to induce foreigners to take a portion of the increase. His cold storage policy would indicate that a bigger fresh fish business is hoped for, and he plans to move it into the markets of the neighboring republic.

Earlier in our little story we have shown that only 14,000,000 pounds of the fish produced in the province of Quebec enters into consumption in Canada and the adjacent United States markets. Quebec province has a population of 2,349,067 people. On the basis of our per capita fish consumption in Canada—twenty pounds—Quebec should consume about 47,000,000 pounds of fish annually, or nearly four times the total quantity of fish left to Québec producers after they have satisfied foreign demands. On the basis of consumption in England—fifty-six pounds per annum—

which we hope some day to attain, Quebec would consume 131,500,000 pounds, or ten times the total quantity of Quebec fish now available for distribution locally.

These figures tell a significant story. Foreign trade is difficult to procure and competition is keen. Developing business nearer at hand will enable Quebec to avoid many sources of competition. Though Canada supplies forty-three different markets with fish, none consumes the quantity of our fish that we ourselves do, nor is any market supplied with greater facility. We do not suggest that foreign trade should be dissuaged. The very opposite. But it is bad policy to seek it to the exclusion of domestic trade. We should not be lured by green fields far off when we have greener pastures more conveniently at hand.

Many have investigated the problem of increasing the revenue from our fisheries, and all have reached the same conclusion, that the essential thing is to stimulate demand first. Production will follow automatically. If production should be stimulated and the demand for fish remain unmoved, such a condition would certainly not operate to the advantage of the fishermen. Fish marketed in Canada or elsewhere does not go directly from the fisherman to the consumer but through a well-defined channel. If merchandizers find that they are unable to market an increased quantity of fish they will simply not handle it. To propose development at the production end and not at the consuming end seems as futile as to attempt to force water through a pipe that has one end blocked. The pipe would not carry off the water and, as in this case, the damage of the flood would be felt at the source.

The minister, we think, would be well advised to synchronize with his greater-production movement a campaign to stimulate fish consumption in the province of Quebec. The market is there, no doubt about that, and, furthermore, the people of Quebec are the ones who should have first claim upon the food resources of their maritime waters.

YARMOUTH NEEDS COLD STORAGE

Citizens and public bodies at Yarmouth, N.S., have been discussing for a long time, and are still discussing the need of a large cold storage plant at that centre. Four or five years ago the same question was to the fore locally and definite action seemed imminent, but unfortunately the large amount of money required and prevailing unstable economic conditions militated against the progressive step.

It is difficult for one not on the spot to thoroughly grasp local conditions, but a general survey of the situation would convince one that a large cold storage plant at Yarmouth would not only be a paying propo-

sition, but presents itself as an absolute necessity in view of the nature of Yarmouth's business and her geographical location. In the first place Yarmouth is a fishing centre of no little importance and the supplying of bait to fishermen at all seasons of the year is a service which the town must give its own fishermen and outsiders, as well, if they are to compete with fishermen elsewhere who are enjoying such treatment. Then again, Yarmouth is a concentration point for fish moving from points of origin to the consuming markets. It is the terminal of the Yarmouth and Boston steamship service, and also of two railways.

Each year a tremendous volume of fresh seafoods moves from Nova Scotia points, through Yarmouth to Boston. For some reason or other, apparently lack of co-operation between the railways and the steamship company, there is constant complaint about poor connections between train and boat. When fish destined for the American market misses the boat it must lie in unsuitable sheds until the next sailing, or else be moved back to Liverpool or Halifax to get cold storage accommodation. In the first instance there is a serious deterioration in the quality of the fish with consequent financial loss to the shipper. In the latter there is the additional cost of unnecessary transportation which the shipper must pay.

The situation as it stands is a constant worry to Nova Scotians interested in fresh fish trade with the United States. Not only Yarmouth, but fishermen all along the coast to Halifax, will be glad to see a cold storage at Yarmouth, and they will profit by it. An authority on cold storage plants recently told a meeting at Yarmouth that a building costing \$125,000 would serve present purposes. It is not known how local people propose raising the capital, but, considering the widespread service the projected plant will give, there is a great number from whom to draw support.

From every viewpoint it seems Yarmouth must have adequate cold storage facilities if she is to hold her own. There is talk of putting on a collecting vessel, equipped with cold storage, to gather shipments along the south shore and take them to Boston. Whether that plan is feasible or not, is another question, but it indicates quite clearly that opinion is quite general that at present Yarmouth is not equipped to properly handle the trade passing through her gates. It is hoped that progressive citizens of the community will realize the urgency of the situation and co-operate to their mutual advantage. There are possibilities of extending trade and making Yarmouth a clearing house for export business in fresh and frozen fish gathered from all parts of the province.

A fish caught near Greenland had 28,361,000 eggs inside. Go out and read this to your hens.

THE TARIFF AND RELATED ISSUES

The United States tariff has been operating now for close to four months and there is no denying the fact that its influence upon Canadian exports of fish is marked. Prices in the United States have not yet attained the tariff level, experts say, and it may take months yet before all the contortions of this economic-aerabatic stunt have been gone through, but as things stand there is no longer any doubt as to who, so far, has paid the tariff toll.

At Prince Rupert, B.C., immediately upon the introduction of the tariff, a difference of two cents a pound—the exact duty—developed between salmon and halibut landed by Canadian vessels and similar supplies landed by American bottoms and shipped in bond to American markets.

E. J. Murphy, manager of the cold storage at Liverpool, N.S., states that prices paid to the fishermen on supplies destined for American consumption, have been cut to balance the tariff rate. He cites mackerel as an example, for which fishermen were paid two cents less per pound than in pre-tariff days.

On consignments from the Great Lakes and other interior waters, the United States brokers charge the duty back to the consignor, so that it is paid by the fishermen, and so severe is the blow that business in the so-called coarser varieties is rendered profitless.

If we are to accept the word of experts, prices in the United States are bound to increase with the ultimate result that the actual return to our fishermen will be as great as before, though the duty will be chalked up against us.

This all leads up to the point that we are now paying a heavy toll for the privilege of sending our fish into American markets. At the same time United States fishing vessels on the Atlantic coast are enjoying the privilege of using our ports and getting from them all the accommodation our Canadian vessels get. The fish these American vessels land is coming into direct competition with ours. We are facilitating their production of fish and making production as inexpensive as possible by giving them the convenience of our ports, while on the other hand Canadian vessels are debarred from entering American ports direct from the fishing grounds.

We have been proceeding according to the maxim that it is better to give than to receive. But giving without a degree of reciprocity becomes wearisome. There is no logical reason why American fishing vessels on the Atlantic coast should receive any more than their treaty rights. What has been granted in addition to those rights has been a convenience, but if our cousins desire to have that convenience continued they must reciprocate by extending a few conveniences in our direction. The business left at our ports by these

U. S. vessels that call is a mere bagatelle and should not enter into the discussion at all. Taking as an illustration the supply of bait, if American vessels were deprived of the right to procure bait in our ports, would it not seriously hamper them in their operations? Not that we desire to obstruct them in any way, but simply that we must protect the interests of our own fishermen.

In dealing with the question of American fishing vessels in our ports, and numerous others as well, it must be laid down as a definite principle that the problems of the Atlantic coast are absolutely distinct from those of the Pacific coast. No sweeping arrangement can be made to include the Atlantic and Pacific, any more than there could be a common arrangement for the Pacific coast and the Great Lakes. Because our country happens to be so expansive is no reason why we should govern it as a unit. If it so happened that our territory included the Gulf of Mexico could that, too, be included within the scope of any general policy?

STANDARD PACKAGES

A few months ago Grand Manana fishermen who put up smoked herring for export entered into a voluntary agreement with the Seaboard Trading Company of New York to pack in standardized containers, the ultimate object being to put the trade on a more stable basis and facilitate commerce. This voluntary movement, we understand, is to be reinforced by official action. J. J. Cowie, of the fisheries department at Ottawa, meets the packers of smoked herring at Grand Manana this month with the view establishing and maintaining a standard sized box under the provisions of the Fish Inspection Act.

The move is in the right direction. Although compulsory standardization, in no matter what line, entails temporary inconvenience, its consequences are advantageous to all. Many people dislike to make improvements about their property because of the disturbance involved, though they realize the improvements are necessary. It is the same in this case. There are none so blind who cannot see the trade advantages resulting from standardization, but that restraining influence so effectively styled 'rut' makes some loathe the transition from prevailing to modern practice.

NEW TRADE TREATIES

Undoubtedly the new trade agreements which the Hon. W. S. Fielding made with France and Italy will prove beneficial to Canada, and the minister of finance is to be congratulated upon the successful issue of his European trip. Canada has a considerable

trade with both these countries in fish and, assuming the items are included in the recent conventions, our situation with respect of these markets should be vastly improved.

HOOVER RECOMMENDS CURES

Secretary of Commerce Hoover in his annual report to the United States congress recommends reorganization, and, to as great an extent as possible, fusion, of the government agencies dealing with commerce, mining, manufacturing, shipping, transportation and fisheries. He figures the government may save upwards of \$1,000,000 in administration and many times that amount in efficiency of service.

As regards the fisheries, Mr. Hoover recommends a new code to give the commerce department complete jurisdiction over the fisheries in Alaska to enable the conservation of the salmon industry; laws to prevent the pollution of coastal waters by fuel oil from ships and the many petroleum derivatives used in industry; increased salaries for experts and specialists in the commerce department.

Mr. Hoover considers business in general much improved over a year ago despite the continued wide margin between production costs and retail prices. Some relief, he feels, could be given by readjustment of railway rates in such a fashion as to impose larger burdens upon high priced commodities and lower rates upon primary products. More adequate transportation would be an added relief.

SUPERSTITIONS OF FISHERMEN

"Raconteur", in the "Montreal Gazette", says that fishermen have their own superstitions. He goes on: A new boat must always be launched on a flowing tide, and the skipper's wife should sow barley on board for luck. A white stone in the ballast is unlucky, and you should never ask a fisherman going out where he is going. It is unlucky at sea to say "kirk", "minister," "swine," "salmon," and other words. Fishermen won't walk at night near the scene of a shipwreck, for fear of hearing ghostly voices calling their names as those of the next victims.

PROMISES TO BE RACER

Captain Albert Himmelman is having a fishing vessel built in the McLean shipyard at Mahone, N.S., which, report says, will likely figure in international fishermen contests.

Captains Knicle and Crouse of Lunenburg are having vessels built at Shelburne. Two other vessels were under construction in Smith & Rhuland's yards at Lunenburg, one of which is for Captain Winters. The latter was launched on December 4, and was christened the Panline C. Winters, the ceremony being performed by Miss Muriel Winters, daughter of the skipper. The vessel is 133 feet over all, 26 feet 3 inches beam, and 11 foot hold, and has the outlines of a swift sailer and a model fisherman. Captain Winters expressed himself as being well pleased with the craft.

Another Fisherman in Parliament

*J. G. Robichaud chosen to succeed Senator Turgeon as M.P.
from Gloucester, N.B.*

Another man, practical, and experienced in the fishing industry, enters parliament, in the person of J. G. Robichaud. He was chosen by acclamation on November 20 to represent the county of Gloucester, N. B. in the House of Commons, succeeding Hon O. Turgeon, elevated to the red chamber. Mr. Robichaud is not yet forty years of age, is the youngest man ever chosen to represent Gloucester constituency in parliament and is by far the junior member from the Province of New Brunswick. His record in his native county stamps him as one with progressive ideas, energetic and conscientious. He believes in the fishing industry, sees the great possibility of its development and is determined to lend his assistance to its promotion. With William Duff of Lunenburg to consult and advise with, we may have confidence that the house will be properly and authoritatively informed in fishery matters. The seat of government is one place where the industry has lacked proper representation and it is therefore with gratification that we regard the strengthening of our forces on Parliament Hill.

Gloucester county is essentially a fishing constituency. Her fisheries yield between 17,000,000, and 20,000,000 pounds each year. In 1921 they produced a revenue of \$370,000 to the fishermen, more than ten per cent. of the total fisheries revenue of the province of New Brunswick. The electors displayed excellent judgment in selecting as their representative a man who had first hand knowledge of the shortcomings and requirements of fishermen, and was at the same time splendidly qualified intellectually.

Mr Robichaud was born at Shippegan July 26, 1883, was educated in the elementary schools of the village, graduated from the Provincial Normal School, Fredericton, N. B. in June 1903 and immediately engaged in teaching school, following that profession for five years with credit to himself. No doubt it was the inadequate remuneration of the work which drove him into other fields. In 1908 he entered the service of the Department of Marine & Fisheries at Shippegan in connection with the dogfish reduction plant which the Government opened there. Upon quitting the civil service in 1911 he launched out in business for himself merchandizing fish and farm produce. During his early and later years, as well, he had engaged for periods of varying duration in different branches of the fishing industry, in actual fishing, curing, packing and handling for export. His knowledge of the industry had much to do with his success in business. In 1919 Mr Robichaud established a cold storage plant at Shippegan, and during the last four years he has devoted much attention to the development of the mackerel fleet operating from Lower Gloucester. With four other firms in the same business, he handled nearly two millions pounds of mackerel during the past season, and most of it was frozen in the plants at Shippegan.

Mr Robichaud first entered politics in the municipal

council where his record attracted the attention of his fellow citizens. In 1917 he was elected to the local legislature and was returned in the election of 1920. During the last two sessions of the N. B. legislature he was chairman of the corporations committee.

Mr. Robichaud married, in 1909, Miss Amande Boudreau of Petit Rocher, N. B. Ten children were born of whom nine are still living.

The entire industry will congratulate the new member and wish him success in his career. He has an opportunity to perform a valuable service in influencing the course of fisheries policy. He enters parliament



J. G. ROBICHAUD, M. P.

well equipped to serve his constituency and the industry and we feel that his training and experience guarantee against his lapsing into arm-chair habits, or being beguiled into submission against this better judgment. A member's first session is, as a rule, a first-hand study of parliamentary procedure and etiquette. One must be allowed a session's grace before his stature is estimated.

The Canadian Fishermen wishes Mr. Robichaud the very best of good fortune.

French Trawler Abandoned

The French fishing trawler *Auguste Lebonde*, which was in distress on December 6, 100 miles from Cape Race, was subsequently abandoned and the crew was taken aboard the steamer *Neil Nelson*, bound from Glasgow to Boston.

Foretelling The Fishery

*Sufficient evidence to prove extent of fishery may be ascertained in advance--
Liberal co-operation needed.*

By Dr. A. G. HUNTSMAN

Fisherman's luck is proverbial. Bad seasons frequently alternate with good to the disappointment and loss of the fishermen who come to depend upon a certain kind of catch. Can the character of a fishing season be foretold or the whereabouts of the fish predicted so that the fisherman may govern themselves accordingly?

Slowly and laboriously have the fishermen accumulated a knowledge of the habits of fishes. Some of this knowledge is recorded and common to most people, and the rest is either a local tradition, or is confined more or less to an individual and perishes with him. Never has this knowledge begun to be sufficient. The laws that govern the movements and the abundance of fishes are too complex to be easily understood. Some of the simpler of these laws we know. We do not expect to get mackerel, cod, haddock, and the true herring in fresh water; nor do we look for lobsters in the warm Gulf of Mexico, and for oysters in the cold Hudson bay. The spawning run of shad and of alewives is looked for in our coastal rivers only in the spring, and that of the salmon only in the fall.

Undoubtedly time, energy, and money are being wasted in ventures, which would never be attempted if our knowledge of fishes were what it should be. That knowledge is coming, but only very gradually. As instances of the way in which very technical knowledge has been applied to problems of the fisheries may be given the following.

Dr. Allen of Plymouth, England, found that the growth of certain minute plants in the English Channel depended upon the amount of sunshine in February and March. Knowing that these plants were eaten by small shrimp, and that the latter were food for mackerel, he conceived the idea that the amount of sunshine in February and March of any year might determine the number of mackerel available in the fishery during the month of May. A study of this question from 1902 to 1908 showed a very exact correspondence between the amount of sunshine in February and March and the catch of mackerel in May. It has thus been possible to predict the quantity of mackerel a couple of months in advance.

Dr. Hjort of Norway and his colleagues have been studying the herring, and have found that of those spawned in certain years, an exceptionally large number survive to adult life and form the greater part of the fishermen's catch. 1904 and 1912 were two years producing very large numbers of herring. This knowledge has made it possible for the Norwegians to tell what sizes of herrings in any year will make up the bulk of the catch.

Dr. Le Danois, a Frenchman, has just published an account of investigations in the Bay of Biscay during 1921 and 1922, which enable him to make predictions concerning the tuna, herring, and hake fisheries. He has found that the long-finned tuna (similar to our albacore) to the west of France keeps to the surface waters where the water at 55 fathoms depth is above 57° F., the reason apparently being that only in water of

this character are certain small red shrimps to be found. Such water in the Bay of Biscay was more restricted in 1922 than in 1921, and on this basis he was able to state where only it was worth while looking for these fish.

The outstanding change in the water of the Bay of Biscay during the year Dr. Le Danois finds to be the winter increase in the extent of the cool coastal water of rather low salinity and the summer invasion by the warm strongly saline water of the Atlantic. The latter was very marked in 1921, and, according to his theory, made the coastal waters right into the North Sea to warm and to salt for the herring, whose fishery that winter was a failure. This last summer the Atlantic water did not penetrate so far into the Bay of Biscay, and he has been, therefore, able to predict a good herring fishery for this winter, which is being realized.

The hake (similar to our silver hake) of the coast of Europe provides a very important fishery for England and France, the British landings for the year 1920 amounting to over 40,000 tons. Dr. LeDanois believes that the amount of salt in the water, or the salinity, determines where these fish are to be found, whether the fishery will be more an on-shore or an off-shore one. 1921 was a dry year, and consequently less fresh water was poured into the sea from the rivers. This made the coastal waters of the Bay of Biscay saltier and brought the hake nearer the shore. In 1922 the reverse was the case. The very salt water remained far off-shore, and there alone was the hake fishery successful.

We shall watch with interest the development of these methods of foretelling the fisheries. The results already attained emphasize the importance of our acquiring a detailed knowledge of the physical conditions in our waters, and of the changes they undergo. We will then be finding the reasons for many, otherwise unaccountable, variations in the fisheries. That knowledge is being acquired, but all too slowly. There are needed cruises as far as possible throughout the year over the principal fishing regions to determine the character of the water in relation to the fisheries. The knowledge thus obtained can be applied to the fisheries with a prospect of success in foretelling *only if the fishermen furnish accurate information as to the place, time, and quantities of the various kinds of fish caught.* Without the latter information it would be impossible to connect up the temperature and salinity of the water, and the presence of certain food animals with successful fishing.

The Biological Board has already attained a fair measure of success in this field by proving that the water of the Bay of Fundy is too cold for the successful development of a number of fishes, and that their occurrence and abundance among the various parts of our coast depend upon the situation of warm areas like the southern part of the Gulf of St. Lawrence and also St. Margarets bay. These results will be more fully dealt with on another occasion.

Shipbuilding Revives at Lunenburg

Outlook poor for fishing industry, however--150,000 quintals yet in hands of the fisherman.

Written by P. H. ROSS

The year just ending has been a prosperous one for Lunenburg, N. S. During the war shipbuilding was pushed beyond all reasonable bounds, and at the close it found our capitalists in possession of a large number of three masters and that little unprofitable, as they could not compete with steamers and the Government Merchant Marine. Quite a few of this class were either sold or lost at sea, but too many of them still remain, an unprofitable asset.

But shipbuilding, I am pleased to report, is coming back into its own again. During the latter part of this year there has been a great demand for fishing vessels, and about thirty have been sold to outside parties at good prices. This is certainly good business, as it has created a shortage of fishing vessels and as a natural result has caused the shipyards to make a fresh start. Already many keels have been laid, and during the next three months many vessels will be built, as every shipyard has contracts signed for the best part of the year 1923.

It has therefore been necessary for a number of our fishing skippers to place their orders in Shelburne or other outside places in order to be sure to have schooners ready for the Grand Banks in the month of April.

150,000 Quintals yet Unsold

The outlook today for the fishing industry is not bright. In Europe it was customary to market codfish in the country in which they were caught, but today those countries are so impoverished from the effects of the war, that these places have not the money to purchase the home article. Consequently, France, Portugal, Norway, Sweden, Scotland, and all the fish catching countries are sending their outputs abroad, and the West Indies, and foreign markets where Lunenburg sent her catch are glutted with foreign fish.

Notwithstanding the fact that the total catch of 317,050 quintals, is the largest in the history of our favorite industry, one hundred and fifty thousand quintals remain unsold, representing approximately one million dollars. This shows what a lot of capital is tied up, and the merchants, who have laid up immense stocks of Christmas goods, are feeling it keenly. In Riverport a number of cargoes have been placed aboard the vessels for storage and convenience of shipping, so that in the event of sales being made, there will be no delay in delivery. A few cargoes have been sent to Halifax and stored there in anticipation of sales, while only a few cargoes have been sold.

A prominent fish dealer, who has passed away, always maintained that the third year had to be watched as it was sure to be a failure. While we are not convinced of the truth of this prophecy, the past two years have been years of plenty, and what is in store for the favorite industry of this town is impossible to forecast.

The frozen baiting catch of 47,800 quintals was sold at \$8.00, and the spring catch of 82,300 quintals at \$7.75, making a total of \$1,020,225, which puts our people in a position where they are able to weather

the commercial depressions now upon us. Probably no County in Canada so adapts itself to circumstances as the County of Lunenburg. They blend their different branches of enterprise so well together,—farming, fishing, shipbuilding and lumbering, and, although it is said that it is not well to have too many irons in the fire, certainly our people labor into a form of prosperity which is really marvellous.

While the year 1922 is passing out in this fashion, we are very hopeful, and expect that ere long, money conditions abroad will improve, and that we will again assume our old time prosperity. Our people are industrious, and frugal, and the vast majority of them have bank accounts from which they can draw in time of need.

CENTRAL AFRICA OFFERS MARKET FOR COD

The importance of Central Africa as a market for kippers, pickled herrings, baddocks, and salted cod, is slowly but surely becoming a leading factor in the development of the Dark Continent, especially with fish cured to the African taste."

So says Captain Louis Bowler, the authority on African fishing.

"France, Spain, Norway, and America are keenly alive to the possibilities of this trade, and are devoting their energies to securing the lion's portion. Hitherto transport facilities have hampered a rapid exploitation, but the opening of the great railway trunk lines into the heart of Africa and the construction of branch lines to the ports on the western seaboard it renders the rich resources of that continent open to commerce. Africa can absorb all the British cured salted fish that can be sent there, as well as utilise all its local caught and cured fish."

Salt fish is a necessity to the African, says Captain Bowler, as it supplies both salt and nutriment to the human frame, so essential in the tropics, especially where the daily diet is cereals, rice, plantains, cassava, and yams.

Extensive oyster beds exist, he adds, on the Sierra Leone and Liberian coast; this area could supply at least half as much as was obtained by the U. S. A., which, according to last statistics, was given as 30,000,000 bushels a year, valued at \$15,000,000. Dried oysters are in great demand by West African natives and the sun dried fetch 1s. to 2s. a lb. The principal fish on the Sierra Leone coast are true cod, hake, shad, a species of herring called *bonza*, soles, skate, meagre, blue fish, mackerel, bonito, barracouta, tarpon, tunny, sardines, anchovy, prawns, and crayfish.

The millions who lived in the interior never had the opportunity to purchase sea-fish, smoked or cured, yet "their demand is unlimited, and the supply would afford occupation to tens of thousands of British and Scotch fisher folk."

Our Defects as Visitor Sees Them

Sir Thomas Robinson declares Government must get behind movement to develop Consumption of fish

Sir Thomas Robinson, prominent first man of Grimsby, England, who recently visited the west coast of Canada give an interview before leaving the country and touched upon some interesting points. Among them were:

English and Canadian fisheries were being hurt by the comparatively high re-sale price to the consumer.

Consumption was the key-note to the success of the fishing industry.

Government must lend a hand to develop this, and seek outside markets.

Fish was a natural substitute for meat.

Canadian salmon and halibut supplies may become a thing of the past unless the Government steps in. There should be a close season during spawning months.

There should be a separate Canadian Fisheries Minister.

The new U. S. taxes on Canadian fish imports would to some extent cut down the demand on Canadian markets, but America must still buy fish from Canada, and Americans might force their Government to abolish this tax on fish.

Other points made by Sir Thomas were: "In Canada it seems to me, there is an opportunity for a big increase in the domestic demand. The Canadian do not eat as much fish as they should. I can recall when I first made a trip to America that there were approximately 90,000,000 persons in the United States and a supply of beef for 120,000,000 people. To-day the tables are turned and the apparent supply of beef does not nearly approach the needs of the increased population. Fish is a natural substitute for meat and therefore fisheries must be developed.

"I have just come from the West where I have been seven times during the last twenty years, and I find a great change in the condition of the fishing industry there. There are no longer the large catches of salmon and halibut for which Canada was once famous. The supply is dwindling and bids fair to become a thing of the past unless the Government steps in and does something to prevent the annihilation of these species of fish. It is almost imperative in Canada's case that the Government should enforce a closed season during three months of the year when it would be unlawful for anyone to catch fresh salmon or halibut. It would, of course, be necessary that the same law be enacted in the United States, or else one country would reap a harvest at the expense of the other. This closed season should come during the months of spawning.

"It is a curious fact that during the spawning season the salmon and halibut are most easily caught and at that time the catches are largest, but the quantity is poor. During this season the fish should be protected so that our future supplies will not be destroyed. England has a closed season for salmon from September to February. The largest quantities of halibut are caught off the coast of Iceland, over which waters she has no control."

Competition eases prices

Asked why the prices on canned salmon were easier this year, Sir Thomas replied: "In 1921 the pack of Siberian salmon amounted to approximately 200,000 cases. The pack this year is double that amount, and consequently there is more competition on the market and prices have been eased off slightly. While it is the hope of those engaged in the fishing industry that the reduction in the original cost of canned salmon will enable the retailer to give the public the benefit and consequently increase the demand, I am doubtful if this will take place. Everything possible should be done to see that the price of fish is kept as low as possible for the consumer so as to increase the demand and consequently furnish a market for the large supplies available for Canadian fishermen."

SPAWNING BEDS WELL SEEDED

J. A. Rodd, superintendent of fish culture for Canada, reports that the spawning areas of the Skeena River waters, in which are located the Babine Lake and Lakelse Lake hatcheries have been well seeded this year through a heavy run of sockeye salmon, and that there has been a record large collection of eggs at the two hatcheries which should mean a good return crop four years hence.

Mr. Rodd, who has completed a survey of the district, stated that conditions were found very satisfactory at the three points visited in Central British Columbia. The hatcheries and their surroundings were in exceptionally good condition, and the prospects were favorable indeed. Therefore, if future conditions were favorable, as present appearances would indicate, they would be, there should be a good crop of sockeye salmon four years hence.

To date 8,500,000 sockeye salmon eggs had been collected at the Lakelse hatchery and 6,000,000 at Babine Lake. It was apparent that the plants would be filled to capacity without difficulty. In fact, they could hold only a few more thousand eggs than were in them now. This year there had been twice as many eggs collected at Lakelse hatchery as last year. This meant that there would be double the crop of fry. The collection of eggs at Lakelse had been better this season than in any past year since fish breeding had been established there. The hatchery had undoubtedly improved the run in the entire Lakelse system, including river, lake and tributary creeks.

In addition to the hatchery collections, there were also plenty of fish in the streams to seed them abundantly by natural means. In fact there had possibly been too many fish and natural results might have been better with half the number. As it was, the numbers getting through to the spawning grounds had been so great that they had fought, and the spawn of first runs had been dug up by later runs.

Old Firm Quits "Ads"; Dies Linger Death

LONDON, Jan. 10. — (Star Cable by J. E. Poole Staff Correspondent.) — Day and Martin, the famous manufacturers of shoe blackening, who have been in operation for 150 years, are being sold up. The manager explains that up to 1912 the firm held the leadership in this trade through advertising. Its failure to advertise since resulted in collapse.

Ferguson & Co. Limited
Fergusons Wharf
Halifax, N.S.

Public Address
"Fardings"
All Standard
Codes

9th of Oct. 1922.

The Industrial and Educational Publishing Co., Ltd.,
Gardenvale,
P. Q.

Dear Sirs:-

Yours of the 5th received.

We thought possibly rates would be somewhat lower, but we feel the Canadian Fisherman is a necessity and have decided to renew our advertisement for another season.

Thanking you, we are,

Yours very truly,

FERGUSON & CO., LTD.

Conroy
Dec. 19 22

The Industrial & Educational Publishing Co

Dear Sirs

I am enclosing \$3 for my arrears in the subscription of the Canadian Fisherman and want you to send it right along as I am a Fisherman and everything it contains is of interest

Yours Truly
Ernest A Hardy
Conroy
P.E.I. Can

Please send me receipt for same
E A H

See
What our
Readers and
Advertisers
think of the Canadian Fisherman

Atlantic Industry Has Slow Progress

Industry must look to interior markets and co-operate to guarantee regular and permanent supply

By Colin McKay (in Halifax Chronicle)

Although 69,550 square miles of the best fishing grounds in the world are within easy reach of her ports. Nova Scotia's annual fish harvest is not, in point of quantity, much greater than it was forty years ago. True, the value of the annual catch has increased very notably, but, according to a statement of Mr. Ward Fisher, Chief Fisheries Officer of Eastern Canada, made not long ago, this increase is largely accounted for by advances in prices. The capital invested in the industry has also notably increased, but it may be doubted that the capital invested yields a better average return than it did forty or twenty years ago. The working fishermen however, have achieved a much greater measure of independence and comfort than their fathers of a generation or so ago enjoyed.

In many ways there have been important changes and improvements in the methods of carrying on the industry, but, when all things are considered, it can hardly be considered that the rate of development has been satisfactory. It is possible that the fishing interests have not been as enterprising as they might have been, but to suggest that lack of enterprise has been the major cause of the slow progress of the fishing industry would be as unfair and as stupid as to attempt to argue that lack of enterprise on the part of our wooden shipbuilders was the principal cause of the inability of this Province to keep its house flags flying on great fleets of merchant ships. The revolution in ocean transport following the advent of the tramp steamer, which made it increasingly difficult for the woden sailing ship to earn gilt to decorate her ginger bread scrolls, also produced conditions which made it difficult for the fishing industry of this Province to continue its expansion at a satisfactory rate. Numerous small brigantines, engaged in carrying fish and lumber to the West Indies and other southern ports, began to find it difficult to secure profitable return cargoes, and gradually disappeared from the seas. European fish producing countries became stronger competitors in the markets of the West Indies and Latin America, and at the same time the West Indies, affected by the competition of the growing sugar beet root industry of Europe, had to limit their purchases.

Development Is Needed

Again, Britain and other countries bordering on the North Sea have in the past forty years greatly developed their fisheries, and at various times pushed great quantities of fish into the United States markets, as well as other competitive markets. Finally, Nova Scotia found it difficult to develop the fresh fish business and explore the possibilities of the interior markets of Canada. Up to a few years ago the transportation facilities were unsatisfactory; refrigerator cars were unavailable or very scarce. Properly appointed cold storage plants on the coasts were unknown and ice-houses

inadequate; and few, if any, dealers in the interior cities, possessed facilities for taking care of any considerable consignment of chilled or frozen fish. The Maritime fishing interests were busy trying to adapt their operations to the changing requirements of the foreign markets, and it was not an easy matter to induce fishermen to carry on fishing in the winter months. Of late years Nova Scotia has solved, or partly solved, many of the difficulties of opening a market for fresh fish in interior Canada, but while her fishing interests have been engaged in this work, the fisheries of British Columbia and Ontario have developed at an amazing rate, and offered a new and formidable competition.

These and other considerations help to explain why the Nova Scotia fishing industry has not been able to exploit to greater advantage its proximity to the greatest fishing grounds in the world. The men who carry on the industry have shown enterprise and energy in face of a whole series of difficulties. If they are entitled to any criticism, it is that their enterprise has been too individualistic. Outside of Lunenburg, where co-operation has been adopted with marked success, the fishing interests have only recently begun to realize the importance of co-operation in the solution of common problems and the creation of conditions essential to welfare of the industry as a whole. The Canadian Fisheries Association is a young organization.

The Principal Problems

At present the industry is not worried by the problem of production; given the incentive, production can be increased indefinitely. The principal problems for some time will be those connected with curing fish and developing markets. "Canada produces just as good fish in the raw state as any other country," said recently an official of the Maritime Fish Corporation. "But the fact remains that in many cases our finished products does not compare favorably with finished products of other countries, nor command the same prices." The reason that the Canadian fish does not always command the best prices is undoubtedly the fact that consignments shipped abroad generally represent the cures of diverse firms or fishermen. Some lots are well cured, others indifferent or inferior. The system of inspection recently initiated by the Government which aims at standardizing the finished products, will doubtless produce good results, and help to raise the level of prices, but the condition of its success is a wide general knowledge of the best methods of curing fish. In this the courses of instruction recently provided for by the Murray Government should be of much assistance, for while in some cases the fish curers turn out a finished product equal to the best, in others the results are mediocre. The industry as a whole is necessarily interested in the general improvement of the product, for it will make possible better prices, as the improvement in the grading and inspection of the apples of

the Annapolis Valley enabled the growers to secure better prices.

The Canadian Market

At present the fishing industry, troubled by the uncertainty of foreign markets, is showing a keen interest in the Canadian market, the possibilities of which are indicated by the fact that the consumption of fish in Canada is only 20 pounds per capita per annum, as compared with 6 pounds in Great Britain. To develop the home market is not an easy matter; high transportation costs, long hauls, widely separated cities and towns with comparatively small populations, present more serious problems than the fishing interests of Britain or the United States have to overcome. Nova Scotia fish merchants, bred in the traditions of foreign trade, are not daunted by long distances, but the cost of ocean transport has usually been much less than rail transport. They are, however, no worse off in the matter of rail transport than the Halifax manufacturer who endeavors to dispose of his products in interior Canada.

What British Railways Did

In the last decade or so the Government railway has endeavored to provide facilities for the movement of fresh fish from the Maritimes. But whether that railway has shown as keen an interest in the development of the Atlantic fish trade as the C. P. R. has in the development of the Pacific Coast fish trade, is perhaps a debatable question. Pacific halibut are frequently on sale in the Maritime Provinces; but it may be doubted if Atlantic halibut, a much superior fish, are sold in any quantities in British Columbia. In this connection, and by way of illustrating what a railway may do to develop the fish business, it is worth while calling attention to what British railways have done to develop the fish trade. Not so long ago Grimsby was an insignificant port, doing a little lumber trade with the Baltic, and fitting out a handful of fishing vessels. Then the Great Eastern Railway, recognising its possibilities as a fishing centre, constructed fine granite fishing docks, with spur lines running through the sheds. In a very few years Grimsby became the greatest fish port in the world, a position it still maintains. Express trains carry the fish to London and have the right of way over everything. Of course the railway is double tracked, but even the King's mail which stops at way stations, has to take the sidings to let the fish trains go by.

Inspired by the remarkable results of the enterprise of the Great Eastern at Grimsby, the London and Northwestern Railway dredged out a harbor at Fleetwood on the west coast of England, constructed an up-to-date fishing port, and offered facilities for quick despatch of fish to Billingsgate. In a few years Fleetwood was numbered among the great fishing ports of Europe.

Germany's Object Lessons

Germany before the war offered two or three striking object lessons of the importance of state and railway enterprise in developing the fisheries. About the time Germany decided to create a great navy, the Government began to show a keen interest in the deve-

lopment of the fisheries. Experts were sent to study the methods of catching, curing and marketing fish in other countries; and on their return they proceeded to adopt all the ingenious dispositions they found elsewhere to the special circumstances surrounding the German fisheries. The Government subsidised the construction of ports, with cold storage plants curing establishments, coaling stations and dry docks all arranged with a view to the speedy and economical handling of fish. Trawlers, entering port, discharged their catch, and with a minimum movement, were hauled to the coal shutes, bunkered, supplied with ice, and made ready for sea again. In a few minutes after the fish were landed they could be boxed in ice and carried by moving platforms to the waiting trains a few yards away, all with a minimum expenditure of time and energy. A few years after Gesteinunde was equipped as a modern fishing port it became the greatest fishing centre in the Fatherland, handling one hundred million pounds of fish in a year. Cuxhaven doubled its fish business inside of four years.

Fishery Exhibitions

Under the direction of this committee exhibitions of motor boats and nearly everything else connected with the fisheries were held in various ports. Among other functions, this committee provided facilities enabling fishermen to insure their boats and take out accident policies at the lowest possible rates, while it assisted local societies in providing for loans to fishermen to enable them to purchase boats. It established and directed schools for the instruction of fishermen in the various branches of their calling, and at certain seasons sent out lecturers to give information respecting new developments and processes. Its activities also included almost constant propaganda with a view to extending the markets for fish: it issued pamphlets, conducted press campaigns, and arranged for demonstrations of the best methods of preparing fish for the table. Its officials canvassed the consumption possibilities of inland cities, and then made arrangements to assure that city a constant supply of fish in good condition, an important service upon the effective performance of which the Verein laid great stress.

That is one point on which Canada might learn something from German experience. The problem of assuring inland cities a steady supply of fish in good condition challenges the attention of the fishing industry. Its solution requires co-operative effort; it is a task for the Canadian Fisheries Association. The organ of that Association is now urging the importance of an advertising campaign to increase the demand for fish. That is doubtless a good idea, for the fishing industry is a rather poor advertiser—which may account for some of its trouble. But unfortunately not a few fish shops in inland cities advertise themselves by an odor, which is mostly unnecessary. Again, fish served in popular priced restaurants in inland cities very often have an ineient odor and a bad taste or no taste at all. Montreal ought to be a great fish consuming centre, but the fish served in the ordinary restaurant there leaves much to be desired, and after one fish meal the patron usually takes a month to summon up courage and hardihood to try another.

News Notes From Far and Near

Good Day's Work

The schooner *Nellie Viola*, with a fare of 26,000 establishing a record, and coming back highliner of the fleet, was the result of the one day's fishing which Lockport local fleet has had since the big storm. The other schooners made the following hauls: Gladys Thorburn, 22,000; Optiza, 17,000; Wilfred Snow, 17,000; Julie Opp, 12,000; R. L. MacKenzie, 12,000; Ronald B., 12,000. Only one set was made, giving a total catch of 118,000 pounds as a result.

Boat 'Wound' Herself Under

George Rudolph and Fred Tebo, operating the gasoline fishing boat *George Rudolph* of Newellton, Shelburne county, N.S., had a narrow escape from drowning recently. While dragging for scallops off Digby the drag, operated by a gasoline engine, caught and the boat literally wound herself to bottom. The men were in the water for twenty minutes before they were rescued by Vernon Bent of Digby.

Start Smelt Fishery

The fishermen of Murray Bay, Nova Scotia, who for the first time ventured into the smelt fishery, report a splendid catch, and it is altogether likely that the fishery will be permanent.

Old Clipper Saved

"Glory of the Seas," prince of the old clipper fleet, has just been rescued from the grave. Just as she was on the way to be demolished at Puget Sound, Bostonians purchased her. They will bring her to Boston, renovate her and maintain her as a memorial of the great clipper days of half a century ago. The "Glory of the Seas" was a masterpiece of Donald McKay, builder of clipper ships, who was a native of, Shelburne County, N.S.

Would Have Canada Pay \$50,000,000

Canada and Newfoundland have been squabbling for the past fifteen years over the Labrador Boundary line. Now the suggestion is made that the Ancient Colony will relinquish all claims previously advanced if Canada will assume her national debt, which is around \$50,000,000. A Montreal paper suggests that if one-tenth the amount were involved there would be a reasonable chance of accepting the proposal. But \$50,000,000 is \$50,000,000.

Says Noah Wasn't Sailor

A renowned Egyptologist declares that Noah's Ark was not a ship but a pyramid. He has been employed at research work for thirty-five years and insists that recent discoveries prove that the ark of Noah was the great pyramid of Cheops in Egypt. Call in the psychic medium and consult the old gentleman himself. Perhaps we may find that Jonah wasn't really swallowed by a whale, at all, perhaps it was an elephant or a hippo.

Radio for Fishermen

The radiophone is becoming a serious menace to the safety of the herring off the Swedish coast. The fishermen out at sea soon will be told from the Gothenburg radio central the exact location of the herring schools. This unique service, which will tend to eliminate wasteful waiting on the part of fishermen, and will doubtless mean a considerable increase in the catches of herring, is the newest commercial use to which the wireless telephone will be put in Sweden, according to plans just completed.

While merchant vessels have for some time been required by law to carry wireless equipment, the smaller fishing vessels have hitherto operated without systems of communication with the land. They will now receive weather reports, forecasts and news, as well as the radio tips regarding the appearance of the herring.

Plans are on foot to distribute news in Sweden by radio telephone. Experiments are being made from Stockholm as a centre.

Were Stripping Spawning Beds

Inspector William Griffith, of the Fish and Game Protective Society of the Province of Quebec, recently returned from a trip to the northern lakes, in which he made the largest cleanup of trout poachers that has been made since the beginning of the close season. In the course of six days spent in the district, around Lac Saccome, covering about forty miles through the rough country, he caught fourteen lumbermen poaching on the spawning beds of preserve waters.

They were fishing through the ice on the spawning beds, and getting hundreds of hungry fish that had settled down for spawning, freezing them, and putting them away in sacks for future eating. The majority of the offenders were fined, five or six being let off on suspended sentence, owing to their extreme poverty.

Must Spent Winter In Ice

The seven schooners of the herring fishing fleet which are frozen in the ice of the Bay of Islands, Newfoundland, must stay there until spring, says a Curling, N. F., dispatch.

The Canadian government steamer *Stanley*, an ice-breaker, sent there to free them failed in all efforts to open a way to them on December 28. As there was no indication of probable success, it was announced that the attempt to liberate the vessels was being abandoned.

Three of the schooners are Canadian, two of them American, the *Judique* of Bucksport, Me., and *Aviator* of this port, and two from Newfoundland. The schooners have about 10,000 pounds of herring on board.

German Fishing Fleet Bigger

The German trawling fleet is much larger than it was before the war, numbering some 400 vessels. One of the latest models, operating from Geestemunde, has a carrying capacity of 140 tons of fish, it is said.

Eight-hour sea day stopped

The French government has abrogated the law adopted in 1919 for an eight-hour-day at sea.

Germany bans Lobsters

The government of Germany has prohibited the importation of lobsters as part of its policy of restricting the consumption of luxuries.

Had Rough Trip

The fishing schooner E. P. Theriault, Captain Bernard Bonnanfant, arrived recently at Yarmouth, N. S. with 14,000 bushels of salt from Turks Island, after experiencing extremely rough weather. Captain Bonnanfant reports the vessel sailed from Salt Bay on November 16 and the following day encountered a fresh gale from the northwest which he later found was the beginning of a series of terrific blows which followed the vessel the entire trip.

On November 27th the vessel ran into what Capt. Bonnanfant termed the worst storm he has ever encountered in his seafaring career. It lasted all of that day and the following day. The vessel was kept before it and at times her decks were almost completely under water. For the crew to go aft of the schooner heavy planks were lashed crosswise on the schooner from rail to rail, and others leading from those to fore and aft of the vessel. These were still across the main deck which for days was under water, when the schooner reached this port.

The schooner was also short of provisions and the greatest amount of any staple that the steward had on hand was a quarter of a barrel of flour.

Hull Trawlers on Grand Banks

The Earl Kitchener and the King's Grey, two trawlers from Hull, England, which recently made a trip to the Grand Banks, returned to their home port after a ten weeks' trip. The owners refused to make a statement regarding the success of the venture but it is understood that each had about 100 tons of salt cod on board. It is said the quality of the fish was good though they were small in size. First prices ranged from fifteen to eighteen pounds per ton.

Lunenburg Loses Good Citizen

In the death of Capt. Abraham Smith, which occurred early in December, Lunenburg loses one of its best citizens. Capt. Smith was a brother of the late W. C. Smith, of the firm of W. C. Smith & Co., Ltd., which has done a great deal to advance the fishing industry of Lunenburg. He was one of the promoters of the firm of W. C. Smith & Co., Ltd., and had been a director since its organization in 1899, and contributed greatly to the success of the business. On the death of his brother, the late W. C. Smith, he was appointed president of the firm, which office he held until his death. He was also a member of the municipal council, district No. 1, for many years and by his great business ability and integrity he was a strong actor in the municipal life of the county.

Not Salmon, Hydroplane

A report from Cardiff, Wales, tells of a salmon that leaped out of the water, over the head of a laborer on a raft and landed seven feet behind him, ultimately to fall a victim to the workman's hammer. The reporter forgot to state the style of motor with which the creature was equipped.

Visiting French Islands

M. Sarrault, minister of the colonies in the French cabinet, is visiting St. Pierre and Miquelon, to get acquainted with conditions, etc., in the French islands off Newfoundland. He denies that the government has considered or will consider the ceding of colonies to liquidate war debts. M. Sarrault will inquire into the alleged sale of coturaband liquor and declares that if any abuses are discovered they will be stopped.

Newfoundland has good Year

Sir Richard Squires, premier of Newfoundland, states that the colony has enjoyed material improvement in trade conditions during 1922. The revenue for the year was greater than during the last two years despite material tax reduction in 1922.

Warships Protects Fishermen

Great Britain has a warship stationed on the Murmansk coast to protect fishing vessels. The Russian government has extended the territorial limit to twelve miles which the British refuse to recognize. Such a policy would close off 3,000 square miles of fishing grounds which, in practice, are used by British and Norwegians chiefly.

Get Fish to Fish Hungry

Larger selling markets, improved merchandizing methods and economies of operation are necessary to rescue the New England fishing industry from its present depression, Louis Radcliffe, a representative of the United States bureau of fisheries, told the House appropriations committee when the latter was considering appropriations for the bureau for 1924. The problem is chiefly one of getting fish to the fish hungry, Mr. Radcliffe declared.

Fishermen Towed to Port

Two vessels of the Lockeport fishing fleet, the Nellie J. Banks, 35 tons, and the Abel O., 24 tons, which went ashore there during a gale on December 28 have arrived here in tow for extensive repairs. The Banks lost her rudder, parts of her bulwarks and rigging, and her mainmast. The Abel lost her bowsprit and parts of her railing and rigging. Both were leaking badly.

Damaged by Fire

The tern schooner ClanMcLean, ready to sail for Porto Rico with a cargo of dried fish, had a narrow escape from total destruction by fire at a dock in Lunenburg the middle of December.

St. John Harbour Leases Abegging

Fishermen in the vicinity seem to be totally discouraged - - - Charlotte men concur in sardine protection policy

by THOMAS O'LEANY

The annual sale of fishing privileges in St. John Harbour, held here on January second by public auction, as is the custom, was attended by a large number of fishermen and other citizens. The mayor and other members of the common council were present.

Lack of that keen competition which characterized the sales of former years, was noticeable, and although the total receipts, exceeded the receipts for 1922 by \$744, the total was far short of the annual revenue which was devised from 1916 to 1920, inclusive.

It is evident that the fishermen are dubious about investing their capital, time and labor in a venture which last year amounted to a disastrous gamble, and which, under present conditions and regulations, promises no bright future.

This year's sale brought a return of \$4,133.30, while other annual sales totalled as follows: 1922, \$3,388.45; 1921-\$5,191.85; 1920, \$18,570.65; 1919, \$11,044.10; 1918, \$12,644.40; 1917, \$8,314.50; 1916, \$5,251.20; 1915, \$1,802.80; 1914, \$2,159.85.

Salmon, gaspereaux and sardine-herring are the fish on which the holders of the leases depend for a return on their money, and last year the respective catches were far below normal.

Gaspereaux fishing was particularly bad, in that a phenomenal scarcity of that species occurred.

Shad was an important item in the local catch until the federal authorities put on a ban for a period of years.

Want Sardine Industry Protected

Charlotte County fishermen are heartily in accord with the fishermen of St. John in the movement towards protection of the sardine-herring industry from the gamble to which it has been reduced by the methods of the American packers, according to advice from Charlotte regarding fisheries in Passamaquoddy Bay.

A prominent Charlotte County fisherman recently pointed out that the weirmen of Charlotte have, from time to time, petitioned the federal authorities to assist the sardine-herring industry by placing a minimum fee per hogshead on the fish or to have the weir license controlled by a committee composed of government officials and weir owners, so that a fair price might be maintained for the catch.

Charlotte County weir owners condemn the tactics of the American packers who, during the heavy run of sardine-herring in August and September, force down the price for Canadian fish, get our catch at ridiculously low prices and convert into fertilizer what they are unable to pack.

The use of Canadian fish for fertilizer is prohibited in Canada, but the destruction of Canadian fisheries goes on through the American plants.

Protection for the schools of sardine-herring which visit Passamaquoddy Bay is asked for, on the ground that the fish are steadily becoming scarcer.

Several hundred people are reported to have left the Charlotte County fisheries' area last year and more will

follow, it is alleged by residents of that County, unless the government afford some prompt, effective measure of relief to the sardine-herring industry.

Control of the Canadian sardine-herring industry, by Americans, with its merciless depression of price, its ruthless disregard of the destructive tendency to our fisheries through the use of our fish fertilizer and its general ill effect and discouragement to the fishermen, all is rapidly bringing about disaster in two ways: First, in reducing the supply; and secondly, in driving the fishermen out of their calling.

U. S. Buy all our Fresh Lobsters

The lobster buyers of the United States have easily outbid local buyers and have taken practically the whole of the St. John and Charlotte county catches to date.

Recently a St. John county fisherman sold a barrel of live lobsters in Boston for \$94.00 while Boston is selling at the rate of sixty or seventy cents a pound.

Live lobsters have brought as high as fifty-eight cents a pound in Grand Manan and some of the lobster fishermen have already earned upwards of \$1,200 for the season. Grand Manan is reported to have shipped to the United States markets during the opening week of the lobster fishing season \$75,000 worth of lobsters.

A Charlotte County resident recently criticized the lobster fishing regulations as follows:—

"A number of years ago the fishermen asked for a ten and a half inch length for lobsters and obtained it and for a number of years lived up to that regulation, so that lobsters increased in number. Then the Government licensed the empounding of lobsters, opening St John County to the nine inch size. This gave lobster buyers an opportunity to bring short lobsters to St John County and pick up on the way the nine inch lobsters from Charlotte.

"Had the Government officials watched the short lobster catch, and compelled the empounder to give a strict account of the number of lobsters held in pound at the close of the season there would not have been lobster fishing throughout the year, and the taking of short lobsters would have been prevented.

"The opening of St. John County to the inch size was a mistake as it opened a way for Charlotte County to sell all sizes of lobsters, and to-day the fishermen hold the Government officials responsible for the poor state of the lobster fisheries."

St. John County fishermen in the exposed sections have taken in their traps owing to the prevalence of high winds and severe storms along the coast and have suspended operations until March next. So far the high price obtained for the catch has counterbalanced the comparatively small harvest and the early winter season has been characterized, as a financial success.

(To be continued on next page)

Build up Demand, says Boutilier

"It takes an acre of land to support two sheep or one ox. On the other hand one acre on the fishing banks will often yield ten times this amount of food."

In these words Mr. Arthur Boutilier, President of the National Fish Co., summed up the importance of Canada's fisheries as a source of food supply.

"Furthermore there are 400,000 people in Canada directly dependent upon the fisheries. And yet our annual per capita of fish consumption is only 21 lbs. Great Britain, on the other hand, consumes an average of 62 lbs., also three times as much as we do. Could we raise our consumption to that amount we would at the same time lower immensely our cost of living and increase the amount of employment throughout the Dominion.

"There is no question about the supply, it is exhaustless. On her West and East Coasts, Canada flanks two of the three great world fisheries. Down from the Arctic every year flows a great glacial current carrying with it a detritus that is deposited on the Banks. The St. Lawrence River and the Gulf Stream assist in this fertilizing process which annually renews the fertility of the ocean floor."

What Two Trawlers Can Do

"And as for catching the fish, two large modern trawlers, such as our Venosta and Lemberg, both equipped with wireless, can catch in a day more fish than the Maritime Provinces consume in a week. Additions to this trawler fleet would mean additions in the number of men employed and the amount of good food enjoyed. For the trawler has the advantage of insuring a continuous supply of fresh fish as it is on the banks whatever the weather. Moreover, it doesn't make inroads on the shore supply of fish, consisting of the immature fish that must be allowed to grow up if our fisheries are not to be depleted. Another advantage the trawler possesses is that it can take the fish

(Continued from previous page)

Pearl Essence Plant to be Moved

It is reported that a "pearl essence" plant now located on the island of Grand Manan will soon be moved to Eastport. The plant has been manufacturing various articles resembling pearl, including buttons and handles for forks and knives. Clam and scallop shells which abound along the shores of the Bay of Fundy and Passamaquoddy Bay are used in making the articles, which are coated with "pearl essence" made from fish scales.

Smelt Kept off Shore

Smelt fishing was not very successful in Shediac N. B. during December as the fish remained off shore, despite favorable tides.

In the Miramichi section, the smelt fishing has developed very satisfactorily.

alive out of the water and ice them immediately, instead of allowing them to deteriorate, as they must while carrying them to shore without being iced by crafts not so well equipped.

"The only problem then, since the problem of supply has been so well settled, is to build up the demand. I have personally eaten a pound of fish a day on the average for years past, because I have learned to like fish.

"I learnt because I was enticed with good cooking and in this my experience confirms that of people in Europe."—**Truro News.**

AMERICAN FISHERIES SOCIETY

The fifty-second annual meeting of the American Fisheries Society was held in Madison, Wis., September 6, 7 and 8 when about fifty members answered the roll.

A large number of papers were read and discussed during the meeting, those of most interest to the Pacific Coast being as follows: "Safeguarding the Runs of Pacific Salmon," by John N. Cobb, director College of Fisheries, University of Washington; "The Problem of Marine Fish Culture," by C. M. Breder, of the Aquarium, New York; "Adjustment of Environment vs. Stocking to Increase Productivity of Fish Life," by Ernest O. Brown, New York; "Investigation in the Preservation of Fish Nets and Lines," by Harden F. Taylor and Arthur W. Wells, U. S. Bureau of Fisheries; "A New and Practical Device for Transporting Live Fish," by E. C. Fearnow, U. S. Bureau of Fisheries; "When are Fish Best for Use as Food," by Dr. Edward E. Prince, Ottawa, Ont.; "Pollution of Inland Streams," by Max Hart, State Fish Commissioner, Richmond, Va.; and "Problems of the Commercial Fisheries from Producer to Consumer," by J. H. Matthews.

The following officers were elected for the ensuing year: President, Glen C. Leach, Washington, D. C.; vice-president, Geo. C. Embury, Cornell University; executive secretary, Ward T. Bower, U. S. Bureau of Fisheries, Washington, D. C.; recording secretary, Thos. B. Pope, Milwaukee, Wis.; treasurer, Arthur L. Millett, Boston, Mass. Vice-presidents of divisions are as follows: Fish Culture, Chas. O. Hayford, Haekettstown, N. J.; Aquatic Biology, Dr. E. A. Birge, Madison, Wis.; Commercial Fisheries, Gardner Poole, Boston, Mass.; Angling John P. Woods, St. Louis, Mo.; Protection and Legislation, H. V. Vickers, Jr., Baltimore, Md.

The executive committee elected: Eben W. Cobb, chairman, St. Paul, Minn.; John W. Titecomb, Edw. E. Prince, A. E. Alberts, Geo. Shiras, 3rd, and John N. Cobb. The committee on foreign relations consists of Fred. C. Wolcott, M. L. Alexander, W. C. Adams, and Judd Quinn; and the committee on relations with national and state governments, Nathan R. Bulles, Geo. H. Rapsey, E. D. Chambers, A. L. Millett, and Max D. Hart.

Review of N. S. Cured Fish Trade

The following review of the export trade in salted and pickled fish from Nova Scotia is from the official organ of the Halifax Board of Trade, "The Commercial News":

Dry Fish Supplies. — It is now possible to fairly well size up the available supplies of dry fish. There is no doubt that the total catches are fully up to the average of pre-war figures. This refers to all fish producing countries, with the exception of Norway where the catch was somewhat under the average. The Lunenburg catch has been the largest in the history of the trade, totaling 300,000 quintals—about 25,000 quintals over 1921. The Nova Scotia shore catch, as dried for export, has been very disappointing—probably the smallest on record. This catch, however, in recent years is a small factor, as the bulk of the codfish caught on our shores for some ten years has been pickle cured and sold in a green state to the United States.

There has been much confusion in regard to the prices paid for dry fish. The Lunenburg heavy salted Bank codfish, usually considered inferior to Newfoundland cure, has up to the present sold at prices ruling \$1.50 per qtl. above St. John's, Newfoundland, prices on Shore cure, and owing to the fact that there has been a good demand in markets requiring the heavy salted article, and also owing to bad weather conditions preventing any large supplies being put on the market at one time, exporters have been able to market practically all of the 120,000 quintals, representing the catch of the first two trips of the Lunenburg fleet, with a fair margin of profit. There is now left on exporters' hands about 20,000 quintals of the catches just referred to, and in the hands of the Lunenburg fish makers the entire summer catch of about 180,000 quintals. In the face of lower prices in Newfoundland, and the fact that conditions in the consuming countries of Europe and South America have gone from bad to worse, it would appear that the price of Lunenburg cure would have to materially decline. The market opened at \$8.00 delivered Lunenburg and last reported sales were at \$7.65, whereas Newfoundland Bank fish is now being offered delivered Halifax at \$6.50 per qtl. It is thought that the price of Lunenburg cure will have to come down to this figure, if not \$6.00.

[*Editor's note:— Newfoundland bank fish is said to have sold recently as low as \$450.*]

The Gaspé Coast catch will be a good average, estimated at 100,000 quintals, a considerable proportion of which has been marketed in Naples with a good profit. The price to the fishermen on the Gaspé Coast for good quality has been \$7.00 per qtl., or 50c. to \$1.00 per qtl. over Newfoundland prices. The buying price on the Gaspé Coast has recently been reduced \$1.00 per quintal.

Newfoundland Quality Down

Newfoundland has had a good average catch, but the quality is much under the average owing mostly to bad weather conditions. Owing to adverse exchange and the poverty of the people in the consuming markets of Europe and South America, the outlook for

dryfish is decidedly discouraging. Greece, which usually takes 100,000 to 150,000 qtls., is not likely to take anything. In Portugal conditions are extremely adverse. There is a big demand for codfish but the ruinous rate of exchange makes the business almost impossible. As a result many Oporto cargoes are being offered on the Halifax market. The very low exchange in Brazil prevents any profitable business in that country. In view of the bad outlook prices in Newfoundland have recently fallen 50c. per qtl., or from \$6.00 and \$6.50 to \$5.50 and \$6.00 paid to the fishermen in the outports, and the same reduction in St. John's, Newfoundland. It is considered that Nova Scotia exporters are in a better position than Newfoundland, as it is thought that there will be a continued good demand in the West India markets for Lunenburg cure, as well as for large and medium Shore quality. It must be admitted that the rather encouraging outlook of last spring for a normal dry fish export trade, has quite disappeared. Very little improvement can be looked for until the extremely adverse exchange in Portugal, Italy, Spain and South America is considerably improved.

Pickled Fish

Never in the history of the trade has there been such a stagnation in the marketing of pickled fish as during this season. Notwithstanding extremely low prices, the West India demand is very limited. Herring are selling below the cost of production. The West Indies are being supplied with Newfoundland cure. Owing to the low value very few herring are being packed in Nova Scotia. Prices are also low in spring mackerel. It would appear that consumers are giving up the use of pickled fish. This notwithstanding in recent years there has been an improvement in packages and quality.

The new American tariff imposes 1½c. per lb. on dry and pickled fish not in barrels, and \$2.00 per bbl. on mackerel, herring, etc. It is considered that the American consumer will pay practically all of this with the exception of the duty on pickle cured codfish as used for the boneless fish trade, which must result in part, at least, of the duty being paid by the Canadian producer.

FRENCH FISHERY APPROPRIATIONS

French fishery appropriations scheduled for the year total 94,000,000 francs. The expenditure is tabulated under three heads — the fishing fleet, the fishing ports and various works, including refrigeration. For new construction under the first head 40,000,000 francs is allotted. Various amounts are set apart for development of fishing ports while the aggregate engagements respecting the Lorient establishment are nearly 27,000,000 francs. The amount for the refrigerating establishment at St. Pierre is \$1,125,000 to which is added for the payment in Francs at the colony, 465,242 francs, and for cork sent from France, 1,002,776 francs.

OPERATING COST

The house organ of the Atlantic Coast Fisheries comments pertinently on operating costs in the fishing industry, using Canadian statistics for the purpose. It says: "In the year 1900 the total capital invested in the Canadian Fisheries was \$10,990,125. This includes canning and curing establishments, vessels, nets, freezers, etc. The total value of the catch was \$21,557,639. For a dollar of capital investment the fisherman received approximately two dollars in product. Twenty years later the capital investment was \$50,405,478 and the value of the fisheries was \$59,241,339. Therefore, for each dollar invested the fisherman received a gross return of a little less than one dollar in product. The figures mark the tendency in the direction of growing operating costs and diminished returns. This tendency is by no means confined to the fishing industry, but runs through practically every branch of commercial activity. At present there is an upward trend in commodity prices, and a somewhat downward movement in labor costs — all of which is highly favorable in the direction of better returns to the fisherman.

INCREASED P. E. I. OYSTERS OUTPUT

Charlottetown, Prince Edward Island. — It is estimated that about 5,000 barrels of oysters will be packed on Prince Edward Island this year before the season closes, an increase of 1,300 barrels over 1921. The demand is good this year, the price ranging from \$6 to \$8 per barrel. Some fishermen have already landed fifty barrels each.

NOVEMBER FISHERIES YIELD

During the month of November the total quantity of sea fish landed on both the Atlantic and Pacific coasts was 451,792 cwts. compared with 487,542 cwts. in the same period last year. The value of the catch in first hands was \$1,301,831, compared with \$1,332,116 in the previous November.

There was a total catch of 61,931 cwts. of cod, haddock, hake and pollock, during the month, compared with 55,781 cwts. in the same period of 1921. The catch of haddock was more than double that of November 1921.

6,374 cwts. of mackerel were landed compared with 3,299 in the previous November. This brings the total catch for the year up to 246,705 cwts. compared with 145,154 cwts. in the same period of 1921.

The new season for lobster fishing opened in the Bay of Fundy during the month. There were 2,594 cwts. taken compared with 3,014 cwts. in November last year. The decrease in the catch was mainly due to the stormy weather which prevailed.

The catch of oysters was slightly greater, and that of smelts about half of that taken in November last year.

On the Pacific coast the catch of salmon showed a good increase from 62,004 cwts. to 101,859 cwts.

The catch of pilchards increased from 1,149 cwts. in November 1921, to 5,488 cwts.

The catch of pilechards increased from 1,149 cwts. in November 1921, to 5,488 cwts.

Halibut landed shows a decrease from 31,331 cwts. to 23,818 cwts.

National Fishing Equipment Exposition to be held here*Army Base Pier, Boston, Mass*

A National Fishing Equipment Exposition is to be held at the Army Base Pier, Boston, Mass., March 26 to April 7. It is expected that there will be two hundred exhibits of supplies and equipment used by fishermen, boats and vessels. A demonstration craft is to

be moored at the pier for the more effective display of engines and other mechanical equipment. The exposition is exciting considerable interest and there will, no doubt, be a large number of visitors.

Pointers for the Retailer

By H. M. NICKERSON

The fresh fish trade from small beginnings has become a large and still rapidly growing branch of the whole business. The huckster stall of former year supplying local needs, has given place to an extensive retail traffic as well as to a heavy volume of wholesale dealings by long distance shipment from direct landings and cold storage depots.

The retail store is still the local mart, but of far better type and more elaborate fixings. The larger establishments have developed a regular system of keeping and handling, which leaves little or no room for improvement. These of course are in populous centres, attracting crowds of customers, and moving quickly the daily fresh supplies. In such places all methods and appliances are necessarily of the most modern kind, and the dressing of the display windows has become a fine art. A great deal can be done in the same way to make the smaller shops put on a pleasanter aspect and thereby increase their sales. The following suggestions may be of service where the business is new and of limited extent comparatively.

In putting the interior of the shop in first-class order a two-fold object must be steadily kept in view,—the preservation of the perishable goods and their presentation to the public in the most attractive manner. To be kept comfortably cool at all times is the first requisite for the entire room space. It is better not to have the shop front facing the noonday sun; but as this cannot always be regulated by choice, the trays, cases, and open containers should be placed at a slight distance from the windows, and yet in such a position that the light may have full effect in setting to advantage the looks of the fish and distinguishing the various species. A specially shaded niche in the whole exhibit should be assigned to live shellfish—lobsters, crabs, clams, quahaugs, scallops, cockles, mussels, oysters and the like.

Keep Fish Cool and Protected

Most of the exhibits should be kept on ice and under glass in practically air tight containers. In this the fish will longest retain its firmness and flavor. Some of the showcases now are fitted with a simple method of refrigeration. The apparatus consists of a coil or two connected with the pans through which the brine is passed. The recent innovation of chilled packing is coming into quite common use. It will doubtless be adopted to some extent, not only at the points of production and shipment, but also where any considerable quantity of fresh fish is kept for sale.

The window display is largely a matter of taste and good judgment. The desired effect does not depend altogether on any particular rule, but may be left to the discretion of the dealer, or the skill of the dresser, as far as details are concerned. Certain things, however, must have the same attention in all cases in order to make the appearance of the window draw the crowd. Inside space should also be arranged for striking display; but sections of the window may be made to appear like bits of the natural haunts of the fish—green moss in patches to imitate marine fungi, fragments of coral or bottom-gravel, like those in aquarium cases; but above all the samples should have cards attached, naming the species and marking the price. This method has been employed with great success in Chicago and other western cities. It performs an important educational function by acquainting the purchaser with the various kinds of fish, and by calling his attention to lots for which a speedy sale is desirable. For the most taking features of an inside show, the fish may be placed on raised-edge metal covered tables, in sunken tile tables, in porcelain pans, or miniature aquariums, the latter chiefly for windows. As a rule department store displays and blabeling furnish good models for the special trade in any locality.

Filleted Fish Offers Many Advantages

Filleted fish have lately become popular in high-class trade, the purchaser being spared the disagreeable work at home of heading, gutting, dressing, etc. But the carriage of round fish from the coast to the retailer, the waste and labour infilleting, are added to the price. Of late months "one of the most revolutionary methods of fish marketing" has been brought to a successful issue, and a great future is forecasted for it. Instead of leaving the filleting to be done by the retailer, some of the Boston producers prepare the fillets, especially haddocks, and are shipping them to the distributing agencies in a manner that is certain to increase the consumption of fish. Only the last caught and large fish are used, and the fillets are wrapped individually in a sheet of vegetable parchment paper. They are packed in round tin containers, holding about 30 lbs., and the container is packed in a square wooden box and well iced. The appeal of this method to the butcher and grocer, who is often the retailer merely to please his customers, is strong, as it removes the trouble and nuisance of cleaning the fish. It puts fish in

the class of package goods, for all that has to be done is to take the wrapped fillet from the tins and weight it. Then to the housewife it is most attractive. The white meat shows through the transparent wrapping: it is clean, sanitary, boneless, and ready for the pot or pan. It practically sells itself. The time is coming when a large variety of fish, some even "a drug on the market," will be filleted at the ports and distributed as described. One of the best innovations is the wrapping of the fish in non-soluble vegetable parchment—a paper which admits of the product retaining its original juices and "sea tang," prevents decomposition, and permits of the package being handled without leaving a fishy odour on the hands.

With reference to the use of parchment paper, it may be said that the Dobbins Packing Company, Petersburg, Alaska, has invented a device for lining cans with Paterson parchment paper. A 10" circle of paper is used and placed in the cans effectually preventing the contents from coming into contact with the tin; it is specially valuable in packing lobsters, shrimp, and crab.

Says Canada Still Owes Eastern Fisherman

Editor 'Canadian Fishermen:'

The proposal to divert the fishing bounty to some other purpose is not regarded with favor by the Maritimes. On the contrary it has aroused no small resentment in the larger fishing circles, as might be expected. It is even rumored that steps will be taken to put the department on guard against what is justly considered as an encroachment on fishermen's rights.

The chief argument for stopping the annual payment of the so-called bounty, and devoting the money in a lump sum to any large inland undertaking, seems to be that the individual shares are so small they never can stimulate activity among boat or vessel fishermen, a mere drop in the bucket that does no good and never would be missed.

But that is entirely aside from the point. It ignores the fact that the allotment to each boatman, \$5.30 at present, is actually his due, and neither a subsidy on the one hand nor a charity dole on the other. It is well to remember how it originated, and what fund furnishes the pittance which is now begrudged, seemingly by some infant industry.

The Canadian government leased the inshore fishing grounds and let out all port privileges to the New London halibuters who made good use of the opportunity. The rental was \$4,500,000 for the period of twelve years, and the award was paid at the expiration of the term, 1877. That was in the nature of an indemnity for damage to the Atlantic fishermen's preserves, and the use of his national privileges; but the money was spent in improving navigation on the lakes, which was robbing Peter to bribe Paul, not to pay him. Four years afterwards, two Nova Scotia commoners, Capt. John Lovitt, Yarmouth, and Mr. J. G. Eisenhauer, Lunenburg, made a determined set on Sir John A. Macdonald's administration for a share of that indemnity, and the wise old premier conceded the point on this demand from the Queen's opposition. From 1882 till the present time the interest on the award roughly \$160,000, has been paid yearly. In strict justice the whole appropriation should come to the boat fishermen, and those of Nova Scotia alone, for had it not been for the two gentlemen commoners from our province, the award might have all gone into the Great Lakes or some other sinking fund.

Small as each man's quota may be, to deprive him of it would be rank official robbery. Because a workman has been poorly rewarded for a certain loss, would it be the decent thing to pick his pocket of the paltry amount? Every fisherman who has a new boat built pays on it a sales-tax of about \$5.00 in addition to the whole cost. The bounty just squares the account. Takes that away, and he is so much out of pocket, while the vessel owner gets a builder's drawback on the new craft, and takes stores out of bond thus evading the burdens of the "national policy." That part might be overhauled.

In despising the day of small things in bounty distribution, you keep in mind only the item and not the increment. The yearly allocation to Nova Scotia is about \$100,000, or nearly two-thirds the total disbursement. Forty years have elapsed since the funding order went into effect, and Nova Scotia's receipt for that period has been \$4,000,000, or \$1,000,000 for ten

years. I do not believe our representatives at the capital would deem their several ridings, or the province as a whole, rich enough to let that stipend slip through their fingers, meagre as it might appear to the millionaires.

I infer that if the sum were handsomely increased, the demand to stop payment would cease. Then here is the chance: The indemnity was paid by the United States in 1878. The bounty act dates from 1882. For the four years' interim, interest is morally if not legally due. I insist that the claim for it has a dual principle of right. At the ordinary bank rate the interest would be \$640,000. At my instigation two years ago, both the Nova Scotia government and that of Prince Edward Island adopted a resolution formulating the claim and urging recognition thereof by the federal powers. On a change of the national ministry, those provinces ceased to press the point, probably lest they might embarrass the government. Now it is incumbent on "The Canadian Fisherman" to enter appearance as proctor for the Atlantic fisher folk, and get the yearly outlay for their benefit and behoof raised to respectable proportions, so that it be no longer the butt for ridicule in any quarter whatever.

M. H. Nickerson

ATLANTIC SALMON IN B. C. WATERS

Referring to recent stories about the successful transplanting of Atlantic salmon in the waters of the Pacific, Major L. C. Rattray of Sahtlam, Duncan, B. C. contributes some very valuable and exceedingly interesting information. He writes that in March, 1913, he caught a fresh run Atlantic salmon (*salmo salar*) of 7 lbs. In the spring of 1914 he saw none; from 1915 to 1920 he was away; in 1921 he took many Springs and Steelheads angling, but no Atlantic salmon.

In March of 1922 he took two specimens of *salmo salar* of 9 lbs. and 8 lbs., both fresh run females, taken with salmon fly, and lost another owing to a broken hook; also took a spent female, well recovered, on her way to the sea.

"This proves," he says, "that some had entered the Cowichan River in the season of 1921. There is little doubt that this salmon, the most valuable commercially and for sporting purposes of all fish, could be established in this river. Once this was done, other points near this Coast could be supplied with fry in large numbers."

STRANGE SEA MONSTER

The tidal waves which recently devastated parts of the coast of Chile, cast upon the beach at the same time a strange denizen of the deep whose like has not been seen in these waters in many years. It had the body of a whale, but with a head and extremities resembling those of a turtle. After examination scientists came to the conclusion that it belonged to the family of "Balaenidae" cetaceans, inhabiting the South Pacific waters.

Alginic acid obtained from sea-weed promises to become an important commercial product for use in the preparation of waterproof fabrics.

To Study Fish Life of Ontario

University of Toronto launches upon biological programme---Nipigon Lake chosen for initial Work

Limnobiology — ever hear about that?

It is the study of life forms as found in water, the "Limno" part of the combination coming from the Greek word "Limne," a lake, marsh or pool.

It is brought to the front by a very practical development in research work by the university here.

The Department of Biology of the University of Toronto has entered upon a definite programme for the investigation of fishery problems in the Province of Ontario. The work is under the direction of Dr. B. A. Bensley, head of the Department, and the field and laboratory work is in charge of Dr. W. A. Clemens, Assistant Professor of Limnobiology. Various members of the staffs in Biology and in the Royal Ontario Museum of Zoology are taking part. The title "Ontario Fisheries Research Laboratory" is being used to indicate the character of the work.

Nipigon First Link

Lake Nipigon, the first of the chain of Great Lakes, was chosen for the initial investigations, and during the past two summers field parties have carried out operations there. The immediate purpose of the work is to obtain scientific data in regard to the fish of the lake in respect to economic and conservational problems.

Experiments concerning the relative abundance, movements, and size of various commercial species of fish are being conducted by Mr. J. R. Dymond of the Royal Ontario Museum in which he is co-operate with Dr. W. A. Clemens, and Mr. W. J. K. Harkness and Mr. Shelley Logies, artists at the Royal Ontario Museum, of Zoology.

Examine Food Supply

A careful investigation of the food supply of fisheries is being made by Mr. F. B. Adamstone, assisted by Mr. N. K. Bigelow and Mr. H. H. MacKay and also Mr. A. C. Berry, of the Provincial Department of Public Health.

Certain fish, especially whitefish and sturgeon, feed on food found at the bottom of the water such as snails and caevae; while the young of all species and also ciseoes, feed upon minute organisms found floating through the water.

Examination of both types of food is being made.

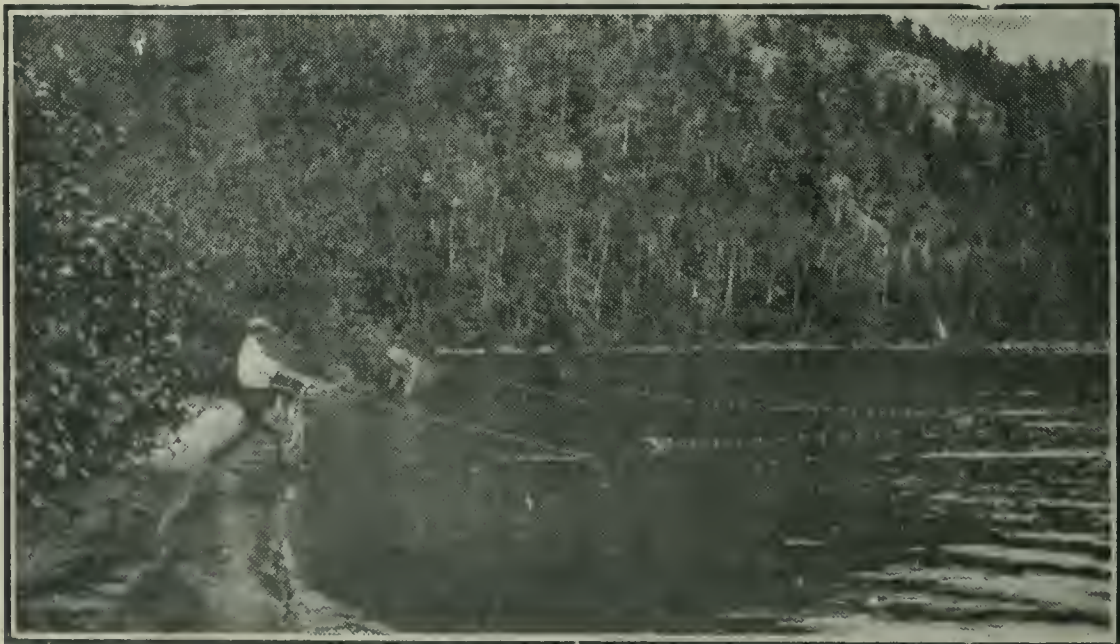
By means of a pulley a small dredge is let down to the bed of the lake. Then a weight called a messenger is let down the pulley line and strikes the dredge, causing it to close, but in doing so it serapes along the ground, and when pulled up, closed, contains 81 square inches of the surface botton, to be examined at convenience, by aid of the microscope.

The same method is followed in getting the floating food, save that a silk net which sifts through the water at any desired depth is used in plaece of the dredge.

The temperature of the water is also carefully recorded, which is found to maintain, in its lower depths, an almost even temperature of 40 degrees Fahrenheit.

Of Commercial Value

"Basic data are thus being obtained in an isolated body of water, whose natural condition have been little disturbed, and the study is preliminary to the investigation of the larger bodies forming the Great



Operating a seine, Lake Nipigon.



Investigators, Lake Nipigon, 1922
 Left to right — Messrs. Dymond, Harkness, Clemena, Logier, Bigelow, Berry, Adamstone,
 Joe Polle (Indian).

Lakes," explained a gentleman deeply interested in the prosecution of this research.

"In some instances the economic importance and direct application of the results of the studies is clearly evident, as for example in the case of sturgeon propagation. In other instances perhaps they are not so apparent, and a few examples may be given.

Rapid Increase in Size

"The determination of the rate of growth of a species of fish will indicate the size when it can be most profitably marketed, since there is a period in the life of a fish when it usually increases rapidly in weight."

"The size and age at which a species first spawns is important in determining the minimum size to be taken for market purposes. The studies of the food

supply in a body of water indicate the suitability of that body for various kinds of fish.

Must Have Proper Food

"For example, a lake with a poor crop of bottom materials will not be productive of bottom-feeding fish, such as sturgeon and white-fish. When the factors which produce abundant bottom organisms are understood, it may be possible to do something towards making certain water areas more productive.

"The microscopic plants and animals are so important as food for the young of all species of fish that the facts concerning the occurrence and distribution of these materials are fundamental to the successful planting of the output of our hatcheries."



Part of the fishing fleet on Lake Nipigon.

Ontario Waters are Well Stocked

Realizing the tremendous asset Ontario has in her commercial and recreative fishery resources, the Department of Fish and Game, under Hon. Harry Mills, will more than triple next season its last year's distribution of fish fry and fingerlings.

Throughout the coming season there will be available from the various Government hatcheries the great total of 443,375,500 fry from fish of various kinds, which will be used to restock fishery waters of the Province which have been, perhaps, depleted both by commercial enterprise and fishermen seeking sport and recreation. During the last season the department felt that it was doing good work in distributing 155,000,000 fry.

That the policy of artificial restocking of fish waters is efficacious is vouched for by department officials who have to do with that branch of Provincial work. While there is, of course, no actual means of exact determination of the extent of increase in the Province's finny population, Lake Nipigon is quoted as affording an example readily apparent.

Although huge quantities of whitefish have been taken from Nipigon during the past season, Government officials say that there is apparently no diminution in the number of fish remaining.

Records of Hatcheries

The hatching records achieved during the past year by the five Government hatcheries maintained for the propagation of the various of game and commercial

various species of game and commercial fish are given fish are given by the Department as follows:

Normandale Hatchery, 125,000,000 whitefish; Mount Pleasant Hatchery, 1,000,000 salmon trout and 160,000 speckled trout; Sault Ste. Marie Hatchery, 81,080,000 whitefish, 13,342,000 salmon trout and 1,000,000 speckled trout; Port Arthur Hatchery, 58,615,000 whitefish, 7,050,000 salmon trout; Fort Frances Hatchery, 41,715,000 whitefish. In addition to these amounts, spawn which are not yet hatched are estimated to produce 20,000,000 herring, 90,000,000 pickerel, 2,000,000 speckled trout, 1,000,000 rainbow trout, 500,000 steel head salmon, 913,500 bass fry. All of these figures are subject to a 25 per cent discount, which is allowed for unfertile eggs.

Of Great Commercial Value

Although the preservation of Ontario's continent-wide playground facilities is perhaps the main object in the propagation of these vast quantities of fish life, there is a big commercial aspect to the proposition. Last year, for purposes of sale, 36,444,372 pounds of fish were taken from Ontario waters, the value being \$2,656,775.

One big problem with which the department is confronted, and with which it has been wrestling for some seasons, is how to propagate artificially the lordly sturgeon. The difficulties have not only been in connection with the spawn and fry preservation, but with the time required for natural growth.

Problems of the Erie Fishermen

The annual meeting of the Lake Erie Fishermen's Association was called by the president, Arthur S. Brown, January 16, 17 and 18 at St. Thomas, Ont. In notifying the members, Mr. Brown states quite clearly why it is necessary for Erie fishermen to attend. He says in part:

"As you already know, the federal patrol has been taken off and the international line is left to the mercy of our American cousins. It was hard enough to keep them back with the patrol; imagine what it will be when left wide open to them. Another matter which will interest you is, an officer of the federal government has asked me to give reasons why the hatcheries on Lake Erie should not be discontinued for economic reasons. There is also movement to cut out fishing in July and August. There are also several other things of great importance that will be brought up at the convention.

"When you consider that you, as fishermen, pay into the treasury of the province of Ontario, the tidy little sum of fifty thousand dollars or more for the privilege of fishing in Lake Erie and receive practically nothing in return (except the privilege) it should make you stop and enquire whether you are getting an equal break with your Provincial brother, the farmer, the fruit grower, the miner, all of whom have schools and colleges for the education and advancement of the young men (and old men if they wish) so that they

may better prepared to look after their different lines of business. All this is paid for by the Province with the assistance of you and me and others.

"But tell me this, can you look over the whole province of Ontario and see one college or little school house where a poor fisherman can send his son to be educated so that he may be better prepared to take care of the fish business? No, there is none, and it does not look as if there ever will be.

"Now, gentlemen, I am appealing to you as true fishermen to come out and make an effort yourself. Don't leave it to others, help push this business along and help get ourselves into the position that is ours, and if we work, we will get it. If something is not done immediately, you might just as well get out of the business."

ERIE FISH PLANT DESTROYED

Port Burwell, Ontario. Fire destroyed the tug "Melrose", a fish house and a freezing plant, all owned by Van Order & Davis, on December 14. Nets and gear owned by the fishermen will total a loss of \$60,000. The fire occurred during a forty-mile-an-hour gale.

Norway's catch of cod fish this year reached a total of 47,900,000, setting a new high record.

BOOTH MAN "RELIANCE" VICTIMS

Among the four victims of the catastrophe in Lake Superior on December 13, when the tug *Reliance* was wrecked in a storm, was Captain John McPherson, for thirty-five years associated with the Booth Fisheries Canadian Company, Limited. The *Reliance* went a ground off the Lizard Islands in a furious storm and Captain McPherson, along with three other passengers, was washed from the deck as efforts were being made to launch life boats in the high seas.

Captain McPherson was widely known, through his long service in the industry, his agreeable personality and his abundant knowledge of conditions about Lake Superior. At the time of his death, and for years before, he was superintendent of the Lake Superior enterprises of the Booth concern. He had been up the lake dropping off supplies for the company's ice harvesters and was returning to his home when he met his death. He was known to many tourists in the region of Lake Superior. Being a keen observer he accumulated extensive knowledge of the country and was able to plan for prospective visitors ideal holiday trips and excursions and advise them as to camping places which were removed from the lanes of traffic. Since his death the offices of the Booth company have received many sympathetic letters and they bear wonderful testimony to the universal popularity of the man.

It is going to be a hard job to replace Captain McPherson in the company's staff. In addition to his wide knowledge and great experience he was an expert twine man and superintended the mending of the company's nets and the replenishing of supplies during winter in preparation for the coming year. He leaves a widow, two sons and a daughter, all grown.

INTERNATIONAL FISHERY INVESTIGATION

The International Committee on Marine Fisheries Investigations held its fourth meeting in Washington on November 10, the members present being William A. Found and Dr. A. G. Huntsman, representing Canada, and Drs. H. F. Moore, R. E. Coker, and H. B. Bigelow, representing the United States. Dr. J. Playfair McMurriek, of the Canadian delegation, and Dr. James Davies, the Newfoundland delegate, were unable to attend.

The permanent organization of the committee was completed by the election of Doctor Moore as permanent chairman, Doctor Huntsman having been elected permanent secretary at the meeting in Montreal in May. It was announced that the French Government, by reason of its investigations incident to the fishery on the Grand Banks from the Islands of St. Pierre and Miquelon, was interested in the work of the Committee and would apply for representation.

The records of current drift-bottles released by Canada and the United States on the coast north and east of Sandy Hook were discussed, and the preparation of a report assigned to a committee consisting of Messrs. Huntsman and Bigelow.

Plans were made for the initiation during the coming spring, of experiments in tagging cod, haddock, and other commercial species of importance in the fisheries of Canada and New England, and tentative arrangements were made for the conduct of other investigations of these fish. The committee adjourned to meet in Toronto in May.

SOCKEYE SALMON IN LAKE ONTARIO

Very satisfactory results have been secured in the transplanting of spring salmon from British Columbia to the eastern waters of Canada, according to a statement made by Alexander Johnston, Deputy Minister of Marine and Fisheries. Each year since 1919, the department has transferred eggs of spring salmon from British Columbia to the Dominion Government hatchery at Thurlow on the Bay of Quinte, near Belleville, Ont. These eggs were hatched out during the winter and in the early spring, each year, were distributed in suitable tributaries of Lake Ontario.

Late in the autumn of 1922, a four-year-old salmon, weighing fifteen pounds, was caught in the eastern end of Lake Ontario. This is one of the indications which the department has that these fish have thriven in Lake Ontario and that the species may soon be found all over the St. Lawrence waterways from Lake Ontario to the Atlantic ocean.

To those unfamiliar with fish culture the Department makes the explanation that the salmon is a "homing" fish. This means that the salmon are always hatched in fresh water streams leading to the ocean. The salmon live for one or more years in the fresh water and then go out to the ocean, where they attain their maturity; but however far they go, they always return at the proper time to deposit their eggs in the stream in which they themselves were hatched, or were distributed as fry from the hatcheries.

Thus it is expected that these salmon will in a few years be passing up and down the St. Lawrence according to their life migration and that the St. Lawrence and its tributaries will thus be the home of a very valuable fish both from the standpoint of food supply and pleasure for the sportsman.

The Department of Marine and Fisheries is naturally gratified with the success of its experiment.

ECONOMY THE WATCHWORD

A. H. Whitman, of Robin, Jones and Whitman, asked for his opinion as to best thing Nova Scotia could do for 1923, said:

"I consider the best thing we can do for Nova Scotia in the New Year is to preach and, what is more important, practice Economy. The prosperity of the war period brought about a spirit of extravagance and reckless expenditure that, to my mind, is the cause of much of the financial trouble that has brought hardship, if not bankruptcy, to many concerns and individuals. I would put down the motor cars as the chief villain in the piece. Excess in our pleasure along with luxurious food and clothing are clung to until some other pocket is compelled to meet the bills. Few indeed can plead "Not Guilty". The world is many billions poorer from Germany's lust for power. Spending will not make up the war losses. Those that bankrupt themselves by not having a balance on the right side pile up the war burden of taxation on the thrifty. An united effort towards thrift will make and keep Nova Scotians prosperous and happy."

What Mr. Whitman says is true, but it must be remembered that parsimony is not necessarily economy. One may spend money liberally and be economical. Economy is the wise expenditure of money.

B. C. Salmon Situation Analyzed

Mr Babcock explains why it is annual pack is bearing up---Increased pack of cheaper varieties

John P. Badcock, commissioner of Fisheries for British Columbia, writing recently in criticism of an article appearing in the "Colonist" of Vancouver, tells the editor:

I read with considerable astonishment the editorial in your issue of the 1st inst., on the salmon industry. Most of the statements therein are so at variance with the facts, and I have for so many years been officially assigned to a study of the salmon fisheries of the Province, that I will appreciate your affording me the space to deal briefly with the subject.

The salmon fisheries of the Province have been one of our greatest food assets, and one of our great industries. The salmon fishery of the Fraser was once the greatest fishery of the world. It is no longer a great fishery. As a salmon producer it is now outranked by the Skeena and Rivers Inlet. Where formerly there were thirty canneries engaged on the Fraser and several thousand fishery boats were employed annually, this year there were but seven canneries and but twelve hundred boats operated. Most of the canneries on the Fraser are valueless today because the main runs of salmon to that river have been destroyed.

It is unquestionably true, as you state, that salmon conservation depends upon the number of salmon that are permitted to spawn, a sufficient number must reach the beds or the run will diminish. In order to insure the abundant seeding of the spawning beds closed seasons are necessary. If the closed times are not of sufficient duration to enable a sufficient number of salmon to reach the beds, if there is too much fishing, the runs will decline, just as they have declined on the Fraser. The House of Commons Fisheries Commission that investigated the salmon fisheries of the Province this year, like those that sat in the Province in 1905-7, 1908, 1910, 1917 and 1918, reported to the Government in Ottawa that too many fish were being caught in the Fraser, and that too few fish were permitted to spawn, and recommended that the fish be given greater protection. The Commission of 1922 has recommended that sockeye fishing on the Fraser be closed for five years, conditional upon the State of Washington providing a similar period for her waters through which the sockeye seeking the Fraser must pass.

You state that if their recommendation is 'put into effect' that there will be a heavy falling off in fishery production in the Province'.

Fraser Sockeye Yield Small

Let us examine this statement. The entire pack of the province in 1922 totalled 1,290,326 cases. Of that amount the Fraser produced but 140,570 cases — a little over 10 per cent. The pack of sockeye on the Fraser, this year was 51,850 cases, or but 4 per cent. of the total pack for the whole Province, hence had the Fraser been closed to sockeye fishing this year it would have reduced the total pack of the province but 4 per cent. Does any one in the province believe that a four per cent. loss would have occasioned "a heavy falling off in the fishery production of the province" or that "much capital

would have remained idle" or that it "may mean that B. C. will loose its markets"?

As to conditions in Hell's Gate Canyon on the Fraser, you suggest that "the removal of the barrier which prevents so many fish getting beyond Hell's Gate canyon on their way to the spawning beds is largely responsible for the present conditions".

Much has been said and written of conditions in Hell's Gate canyon. It has been stated that "the river's channel in that canyon is still blocked by rock that was deposited during railroad construction and the great slide of 1913", and that "the channel has never been cleaned out properly and that the upward migration of fish is considerably hampered yet by the slide". After twenty-one years of continuous observation of conditions in that canyon I am fully convinced that the few salmon that reach there now have no more difficulty in negotiating the rapids than was experienced by the vast numbers that reached there previous to the slide of all the salmon that reach there.

Chief Inspectors of Fisheries Cunningham and Motherwell, Engineer McHugh and Fishery Overseer Scott of the Dominion Fishery service in the Province, have devoted close attention to conditions at Hell's Gate since 1913, and all of them have repeatedly stated that the salmon have not been unduly delayed there and that the channel has been fully restored. Any engineer that visits the canyon can easily determine that the rock in the channel at Hell's Gate is bed rock and not rock thrown into the river. It is possible that by blasting out the rock on the east side and thus widening the channel some hundred or more yards, might afford the fish an easier passage than is now afforded, but there is danger that the widening of the channel might create conditions which would make it far more difficult for the fish than is now the case. The work of clearing the channel was undertaken upon plans agreed upon at a conference at Hell's Gate of seven of the best known engineers on the coast. It was done on a plus cost basis and the work was checked by capable engineers representing both the province and the dominion, and by the Chief Inspector of Fisheries for the Dominion and its engineer and myself.

Can Negotiate Rapids

With few exceptions the salmon that have reached Hell's Gate canyon since 1914, like those that reached there previous to 1913, have passed through the rapids by travelling close to the rock wall on the right or west side. Few salmon can, or ever have negotiated the rapids on the left side. The wall on both sides is bed rock and not rock thrown into the channel. At no time this year, or in any year since 1914, have salmon in numbers been seen in any of the eddies a quarter of a mile below Hell's Gate. If the run in any year had been unduly delayed — been blocked — the fish would have massed in the eddies for a considerable distance below the gate, just as they were for many miles below in 1913. The Washington State Board of Fisheries sent an agent to Hell's Gate canyon this year and he reported 'that the fish had little difficulty in negotiating the west side

of the rapids at Hell's Gate". There is no occasion to improve conditions at Hell's Gate. The channel there is not blocked. The fish that have reached there since 1914 have passed through. Conditions in the canyon since 1914 have in no way been responsible for the failure of the fish to reach the spawning beds above. Very few fish have reached the canyon in any year since 1914. Their numbers grow less every year because too many fish are being caught.



Salmon on Spawning Grounds.

Bigger Percentages Pink and Chum

It is true, as you state, that the total pack this year is the fourth largest ever made in the province. That statement becomes less impressive when we examine the quality of the pack. Of the 1,290,326 cases packed

this year 840,183 cases or 60 per cent. of the pack consisted of pink and chum salmon. These two species were seldom packed previous to 1910. Though of excellent grade and a prime article of food, because of a lack of color and oil, they are much less in demand than sockeye. The combined pack of pink and chum salmon in 1921, because of a lack of demand was but 163,419 cases. It is common knowledge that the value of our annual pack depends upon the size of the sockeye pack. Up to a few years ago upwards of 90 percent of our total pack consisted of sockeye. If sockeye are permitted to reach the beds they will seed them, their young will feed themselves, furnish their own transportation to and from their feeding and maturing ranges in the open sea. The sockeye themselves will do all the work necessary to produce a crop worth \$30,000,000 annually provided a sufficient number are permitted to reach the spawning beds annually. To help to produce this desirable result the commission of 1922 recommended the closing of the Fraser to sockeye fishing for five years.

In conclusion:— the sockeye fishery of the Fraser River has not produced an average crop of over \$1,000,000 during the past six years. It has and still will, under regulations, produce a crop valued at \$30,000,000.

With these facts in mind are there any business man in the Province, outside of the few who are directly interested in the immediate gain that can still be gleaned from the vanishing sockeye salmon of that river, prepared to advocate and support the continued catching, and the certain and complete destruction of the sockeye of the Fraser?

Yours truly,

Halibut Treaty Soon, is Promise

*Action on Duff report is deferred - - - Licenses to Orientals cut again--
Other B. C. news*

Progress is being made, Ottawa reports, in negotiations with the United States for a treaty for the protection of the Pacific halibut fishery, and there is every indication that such a treaty will be consummated in the near future. It is gratifying to learn that official correspondence has developed to this stage. It cannot bring results too quickly for those who have the future of the fishery at heart.

Orientals' Licenses Cut Again

As the British Columbia special fisheries commission has not yet submitted its final report, and as this will not be available until after parliament convenes, it has been decided that no action will be taken on the recommendations contained in the commission's interim report that would affect the fishing season of 1923. The departmental reduction in license to naturalized Orientals that was decided upon before the commission was appointed, will remain effective for the present year. This reduction is as follows:

Salmon trolling licenses:

33 1-3% of the number issued to naturalized Orientals in 1921. As a similar reduction was made last year this is tantamount to a reduction of 50% on the number issued to such fishermen in 1922.

Salmon Gill net licenses:

Districts 1 and 3 reduction of 15% on the number issued in 1922.

District no. 2-

Skeena River	10%
Naas River	10%
Rivers Inlet	50%
Smiths Inlet	50%
Rest of District	15%

On all other licenses in all districts, 15%.

Decrease in Salmon Exports

A marked decrease in the export of canned salmon during November, 1922, as compared with November of last year is shown by returns from the external trade branch of the Dominion Bureau of Statistics Ottawa. In November this year only 17,576 hundredweight was exported, as against 50,793 hundredweight in November, 1921. In October, 1922, exports of this product amounted to 58,062 hundredweight, as compared with 107,103 hundredweight in October, 1921. The value of the canned salmon exported in November this year was \$290,283, as compared with \$673,298 in November, 1921; \$711,994 in October, 1922, and \$1,491,634 in October, 1921.

Action on Duff Report Deferred

Definite action on the recommendations contained in the preliminary report of the Duff commission on British Columbia fisheries published recently, is not, it is thought, likely to be taken for some time at any rate, says an Ottawa dispatch. Recently Robert C. Gosse, of Vancouver, representing the British Columbia Cannery Association, was in Ottawa presenting the cannery point of view in connection with the recommendations of the commission, and by appointment, he also met William Duff, M. P. for Lunenburg, N. S., chairman of the commission, and L. H. Martell, M. P. for Hanats. N. S. eastern member of the commission. Mr. Gosse left for Vancouver later and the packers, it is understood, are to be given an opportunity to present further details before final action is taken.

The main report of the Duff commission is expected to be submitted shortly, but before final decisions are reached by the commission, it is authoritatively stated, all parties interested will be given opportunity to present such observations as they may care to make concerning the commission's preliminary report, or otherwise.

Reports by the commission, both preliminary and final, are likely to receive considerable airing during the coming session of Parliament. All the members of the commission are members of Parliament and will probably press for speedy action along the lines of the commission's findings. Mr. Duff, when questioned on the point by a Canadian Press representative, declared that the members of the commission expected that its report, whether preliminary or final, would be "favorably received."

Another Dogfish Plant

A new corporation, known as the Ferphos Fish Products, Ltd., has lately been organized at Victoria, B. C. with the object of establishing a dogfish reduction plant at Skidegate, Queen Charlotte Islands, the site of the ill-fated fishery venture started some years ago by Sir George Doughty. Those principally interested are S. T. Hankey, a Victoria lawyer, and E. G. Henshall of the Henshall Fish Products, Ltd., of Sooke Harbor, B. C., which has been producing fish by-products in a small way for the past year or two. It is stated that a process invented by Mr. Henshall will be used, by which the oil can be more easily extracted than by previous methods, and the fishy smell eradicated. It is said that the lecithin of the dogfish, hitherto a cause of difficulty in reduction, has been turned to account in the production of a preservative shingle stain.

U. S. Tariff Hits Prince Rupert

Jan. 4.—Fishermen at Prince Rupert, B. C. recently passed a resolution asking the federal Government to negotiate with the United States Government with a view to reciprocity in the fresh fish trade. Should negotiations to this end fail, it is asked that the Government impose a port tonnage tax of two cents a pound on American fish landed in Canadian ports to offset the new United States duty.

A proposal that this port be barred to American fishermen was not entertained.

Good Fish Service from Prince Rupert

From the Pacific coast to the Atlantic coast in less than a week is the service which is given to certain fresh fish by the Canadian National Express Company. With its transportation and delivery supervised day and night, except Sunday night, from two to ten cars of this fresh fish are shipped out of Prince Rupert B. C., for distribution in Eastern Canada and the United States. Each car averages 20,000 pounds and the fish is practically halibut with some salmon.

Besides Canadian destinations of Montreal and Toronto, fish is sent to Chicago, St. Paul, Boston and New York, for distribution to other cities. It is given passenger train service the refrigerator cars being placed between passenger cars and the locomotive. Boston and New York assignments pass through Montreal Shipments leaving Prince Rupert on Monday night arrive in Boston and New York for the following Monday's market. Ice facilities during summer time are kept up all along the line.

Shipments are heavier during summer. During last August 113 cars of fresh fish went out by express from Prince Rupert. Up to the 13th of December, 47 carloads had been handled. The fish is caught up in the Alaskan waters, brought into Prince Rupert by the fishing schooners and sold by auction.

Paid Duty to Can Chums

The Sanitary Fish Co, Anacortes, is believed to be the only Puget Sound cannery that put up B. C. chums last year, paying the import duty of 2 cents a pound, imposed by the Fordney-McCumber measure.

Popularizing Pilchards

Grosse-Miller Ltd of Vancouver has lately inaugurated a campaign to popularize canned pilchards. Prizes are being offered school children who submit the best answers to the question; What are Pilchards?"

Impressed by Haddock Fillet Trade

Stephen Chase, sr, accompanied by Stephen Chase, jr, both of Seattle, have returned home after a business trip east. They expressed themselves as much impressed by the business in haddock fillets in several Atlantic ports.

Net Season was Extended

Salmon net fishing in the Fraser River, which has been prohibited from November 6 to December 31, was this year permitted up to November 20.

Propose Salmon Protection Laws

Fixing of salmon prices by arbitration, abolition of all traps and seines after Jan. 1, 1925, regulation of the number of canneries along the coast and abolition of commercial fishing in the Columbia River above the mouth of the Sandy River are included in a program of legislation to be sought in Oregon and Washington, according to announcement recently by Dr. Thomas W. Rose, chairman of the Salmon Protective League of Oregon and Washington.

Puget Sound Pack

It is estimated that the Puget sound salmon pack for the year 1922 aggregated 237,479 cases. Of this the sockeye amounted to 47,414 cases; chum 58,349; silver, 106,596. The balance, 25,075 cases, consisted mainly of king, with a few pinks. The chum salmon were late making their appearance and a large proportion escaped to the spawning grounds.

Good Run of Sockeye at Kennedy Lake

The deputy-minister of Marine and Fisheries reports that the Kennedy Lake area on the west coast of Vancouver Island is in splendid condition, as is evidenced by the number of sockeye that reached the spawning grounds during the present season. Over nine million sockeye eggs were taken without difficulty and sufficient parent fish were left to adequately seed the spawning areas. The cannery which draws from this area also put up 5,500 cases of sockeye, which is the second largest pack in its history.

Why Salmon is Pink

Men of science were long puzzled to know why the various salmon and trout have red or pink flesh. Now they believe that the colour comes from the food that they eat. All of the salmon family are particularly fond of shellfish; and trout eagerly feed on fresh-water shrimps. It is well known that when lobsters, prawns, and shrimps are cooked the flesh turns pink; similarly the process of digestion turns shellfish pink. When a shrimp is found in the stomach of a salmon or a trout the gastric juices of the fish have turned it almost as red or pink as if it had been boiled. Therefore, even if we had no definite proof, we might believe that the colour of the flesh of salmon and trout results from the considerable quantities of various small shellfish that the fishes eat.

But there is definite proof. Several years ago Professor Leger, of the Piscicultural Laboratory at Grenoble, France, made experiments with trout to determine what gave their flesh its colour. He separated the eggs from one trout in two lots and hatched them in different troughs. He fed one lot of young fish exclusively on fresh-water shrimps; to the other lot he gave no shrimps whatever. At the end of the second year the trout that had fed on shrimps had salmon coloured flesh, but the flesh of the other trout was perfectly white.

MORE PROFIT FROM RESEARCH

Lewis Radcliffe, assistant in charge of fishery industries, speaking recently before the U. S. Fisheries Convention, called attention to need of the industry to capitalize more heavily on the fruits of Government research and to give serious consideration to means for accomplishing this purpose in order that appropriations used for such work might yield a larger return on the investment.

Harden F. Taylor discussed the results achieved in the preservation of nets. Fishermen were very much interested in the results attained and freely questioned the speaker on different phases of the subject.

L. T. Hopkinson referred to his work on fresh and frozen fish marketing and some of the means whereby the trade might increase the consumption of these commodities.

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Steam Steering Gears.

We want every fishing tug now steered by hand to have one of the celebrated DAKE steam steering gears.

It saves time, trouble, worry and delays, safeguards the tug against many unavoidable accidents and eliminates the consequent items of damage expense and repairs.

The DAKE steering gear is safe; simple to operate and reliable. No mechanical skill required to operate it. Noiseless fabric driving pinions impart smooth running qualities. Combined hand or steam steering at your will. Takes up less room than the hand wheel.

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WIRE US YOUR PROPOSITIONS PLEASE. RATES ALWAYS AVAILABLE.

A Real Surprise Package

"Theres one thing you can always be sure about," says that interesting character Bindle, "an' that is, no matter what you think a woman's goin' to do, she's bound to give you a bit of a surprise."

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Hub: "I suppose the poor old man was too feeble to hold out any longer."



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THE CANADIAN FISHERMAN

Official Organ of the Canadian Fisheries Association
A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada,
and Technical Education of those engaged in the Industry.

VOL. X

GARDENVALE, P. Q., FEBRUARY 1923

No. 2

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Published on the 17th of each month. Changes of advertisements must be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication, these will be paid for at our regular rate.

The Industrial & Educational Publishing Co. Limited

J. J. Harpell, President and Managing Director
GARDEN CITY PRESS, Gardenvale, Que.
Telegrams and Express Sto. Anne de Bellevue, Que.

Eastern Manager, A. S. Christie, Gardenvale, Que.
Western Manager, H. W. Thompson, Aladdin Building,
208 King St. W., Adelaide 3310

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TO VESSEL OWNERS:

Dear Sirs:-

During this past year, which has been one of unexampled depression in the shipping and shipbuilding industries, the balance sheets of two concerns, one a shipowning firm operating only motor vessels, and the other a shipbuilding establishment engaged exclusively on motor ship construction, are especially noteworthy.

The shipowners in question (The East Asiatic Co.) were enabled to pay 20% on their capital, while the shipbuilders referred to (Burmeister & Wain) distributed 15% to their shareholders.

The Central Council for Economic Information estimates that 12½% of British, 40% of American and 22% of Italian owned merchant vessels are laid up. That is, out of 32,674,000 tons of ships, nearly 8 million tons are idle. Scandinavia, which has the greatest proportion of motor ships, has a very small laid up tonnage, and not a single motor ship is idle.

The second-hand tonnage market is glutted with ships at very low prices, but it is rare for a motor vessel to be offered at all and the holding price is invariably comparatively high.

The motor ship is in its swaddling clothes so far as Canada is concerned, but we believe the above facts are so pregnant in meaning to the shipbuilder and shipowner, that they need little emphasis.

They point to the advisability of the shipowner restricting his new tonnage to motor vessels and even to the conversion of his present fleet to oil engined vessels.

To the shipbuilder in the present period of adolescence they point to the desirability of carefully investigating the present position of the oil engine industry, with a view to using the most attractive engine offering having regard to the service required.

Yours faithfully,

THE CRUDE OIL ENGINE CO., OF CANADA.

The five letters of which the above is the first, will appear each month by month. If however you would like to study them together and at once please write us for copies.

KEEP THIS

:-: EDITORIAL :-:

JAS. H. CONLON, Editor

SMUT EVIL OVERCOME?

Has science shown the way to overcome the smut or blackening in canned lobster? A report recently made by Dr. F. C. Harrison and Dr. E. G. Hood, as a result of protracted investigation and experiment, a summary of which appears in this issue of the "Canadian Fisherman," would seem to so indicate. If the recommendations laid down in the report are faithfully applied by lobster canners there is every reason to expect that the smut will cease to be a problem to the industry and a serious annual economic loss will be avoided.

It is estimated that the lobster pack of any year is totally consumed within eighteen months, so it is essential for the successful marketing of the commodity that it remain in good condition for a year and a half. By applying sanitary canning methods and by adding acetic of citric acid to the pickle in fixed proportion, the experimenters have been able to can lobster that is perfectly marketable in eighteen months' time. As an indication of the improvement in the pack that may be effected hereafter, the investigators compared the regular factory pack with their own experimental pack and at the end of eighteen months results were as follows:

Factory pack — cans: very bad, black all over top; general appearance of meat: slight to bad discoloration, meat unmarketable; pickle: slight discoloration; linings: badly discolored.

Experimental acid pack—cans: 75 percent free, and 25 percent with a "trace" of discoloration on cap; general appearance of meat: clean and marketable; pickle: clear; linings, free from discoloration.

These results were typical of all intermediate monthly inspections and show conclusively the beneficial results obtained by using acid in the pickle.

The acid tins, from the commercial point of view, gave marketable lobster in all cases where sterilization had been effected, whereas in the normal factory pack, the lobster was not marketable, except as second grade, and in many cases was unfit for food.

Combined with the acid addition to the pickle, it is pointed out as essential that complete sterilization is effected, and the report urges the substitution of the present boiling vat in favor of the pressure cooker. It relieves the erroneous impression that the retort is

an expensive piece of equipment. It is not. It may be had in all sizes, suitable for any conditions, and may be operated without increased cost.

The report is of extreme economic value and we hope it will be distributed widespread before the spring canning season opens. It is trusted, too, that canners will see the wisdom of adopting suggestions voluntarily. The improvement of the pack is to their obvious advantage. One packer recently made the statement that the smut trouble at the present time occasions a loss, conservatively estimated, of fifty cents per case, or about \$75,000 on the yearly output. It was stated, too, that if methods were devised which would render it possible to can lobsters so that they would keep their color, flavor and texture for a year or eighteen months, it would increase the value by at least \$4 per case, or \$600,000 on an annual output of 150,000 cases. Thus one may estimate that the total annual loss to the lobster industry comes to approximately \$700,000. And this is no mean item when one considers that the lobster pack yielded in 1921, \$3,107,426 on an output of 137,607 cases.

As we have said, the report gives promise of eliminating what has been a menace to the lobster industry. There is nothing in the series of recommendations which does not seem practical of adoption. In other words it would seem just as easy and little more costly to can in the ideal fashion on a scientific basis, than to pursue less sanitary and slovenly methods. Where it means \$700,000 to the canners, there is logical ground for assuming that they will fall in line.

LOBSTERS COMMISSIONS

Something serious is wrong with the laws and regulations governing lobster fishing in the maritime provinces. They are a source of endless dissatisfaction to lobster fishermen themselves, and practical suggestions for improving the situation are so numerous and so diversified that a cure for one district is plague to another. The wrangling and confusion as to whether or not fall fishing should be allowed in the southwest of Nova Scotia last year presented a practical illustration of the diversity of views. Mr. Cowie was sent from the department at Ottawa to investigate the situation. As a consequence it is reported that a commission will be appointed this year to again explore the whole lobster situation and en-

deavor to put the fishery on a more systematic basis with due consideration for the permanency of the valuable crustacean and also for the well-being of the fishermen.

It is hoped, however, that the appointment of a royal commission will be not simply the finding of a scapegoat to lift responsibility from where it rightly belongs. If it is to be an honest effort to improve matters, a commission is to be highly commended and we, and the Canadian Fisheries Association, will do our share to help. But if it proves to be a measure to palliate fishermen and put them off, it will not retain our sympathy.

Royal commissions have investigated the lobster question in the past and their work has come to naught. The first commission was named thirty-six years ago, in 1887. There was another in 1889, a third in 1894, followed by a most extensive inquiry in 1898. In 1903 a commission to investigate the sardine situation in the Bay of Fundy extended the scope of its work to include also the lobster and its geographical field as far as the Magdalen Islands. In 1909 a select standing committee of the House of Commons made extensive inquiries and the following year appointed Dr. Wakeham to hold sittings in each county. The well-remembered commission of 1912-13 was really the eighth body in twenty-five years to study the problems of the lobster industry and it cannot be said with honesty that due profit was realized from their labors. Excuse was always found for not making their recommendations effective, or for making them insipid modifications of the original.

Is it proposed to set up a new commission to make reports for new pigeon-holes? If so, things had better be allowed to stand in abeyance. But if the authorities intend to stand behind the commission to make its recommendations effective, we welcome the idea. The personnel of such a commission, assuming that it will be named, should demand assurance on this point before expending time and energy.

In the fishing industry, at least, our experience in the past has been — too many commissions and too little action. What we want now are commissions, where they are necessary, but we want them invariably followed by constructive action.

WHAT ERIE FISHERMEN WANT

At their recent convention, the Lake Erie Fishermen's Association asked for relief from the excessive taxation put upon their members by provincial authorities. They are asked to pay ten times more for a fishing license than their American competitors fishing in Lake Erie, with the addition of a royalty of \$5 a ton above a season's catch of seventy-five tons. Fishermen on the Canadian shore market their fish in the United States. As things stand their cost of production is incomparably higher than that of the U. S.

fishermen and since September last they have been further handicapped by a cent-a-pound duty on fish going into the States. In view of that burden we think Erie fishermen are not unreasonable in requesting relief, and we feel that the Toronto government is not unreasonable enough to deny it.

The convention also asked for the appointment of a dominion-provincial commission to investigate a bevy of Erie fishery problems. This, no doubt, would be productive of good results. It would bring the two fishery authorities before the fishermen at the same time and make it possible to clear up several irksome issues.

The Ontario government was asked to patrol the border line in the lake to keep U. S. fishermen in check as they are disposed to "play off-side" when not under official observation. What Toronto's answer will be to that remains to be seen as it seems there is a bit of uncertainty whether the patrolling of the line is a provincial or a federal obligation. However, it is now up to Toronto to discuss the point with Ottawa. It will not satisfy fishermen this spring to simply announce that the onus of responsibility has not been placed. What they are concerned with, is having the line patrolled and their fisheries protected. They should not be made the victims of provincial-federal juggling.

OUT OF THE LINE OF VISION

During the last three or four years we have had occasion and opportunity to scrutinize the effectiveness of our system of distributing fish throughout the country. Frequently we have observed that fish shipments from the coast go to inland centres for circulation among the population within a comparatively small radius of these centres. Our producers have an eye only to the concentrated population and little or no effort has been spent in attempting to solve the problem of supplying the less populous parts of our country.

One could quite readily understand the difficulty of supplying remote districts in the far interior, but when centres located practically at the base of supply are fish-starved, there is something in our system which needs attention. We have a report from the city of Fredericton, the capital of New Brunswick, which is illuminating. This centre has a population of about 8,500 people. It is located on the St. John river, eighty to ninety miles from the Bay of Fundy, and has steamship communication with St. John, except in winter. It has rail communication with St. John, via two roads, it is linked with Miramichi points and is connected with fresh fish distributing points in Nova Scotia via the Transcontinental with transfer at Chatham. Across the river is Marysville with considerable population and within a comparatively small radius are communities of size. One would imagine Frederic-

ton to be an ideal market. But observe what our informant, one whose business it is to note these things, remarks:

"With reference to your letter of recent date. Mr. Ernest Howe only remained in the fish business a few months. Tingley & Lee have been out of business for more than three years, and the Hygienic Fish Market changed hands several times and finally closed. Fredericton is now without a fish market. The above firms all stated that they were unable to get a satisfactory supply of fish."

This is but one of numerous cases throughout the maritime provinces and eastern Quebec. As things stand there is no organization of any sort to seek a solution. Each producer and distributor is on his own drive. There is an urgent need for increased local consumption of fish to replace markets lost abroad by topsy-turvy exchange. No one can perform miracles. Are producers waiting for someone to wave a magic wand? The "maritimes" offer a market of close to a million people. If they eat their quota of twenty pounds per capita it is only because in fishing communities they make fish a staple.

A million people wanting fish! Stores eighty miles from salt water closed for lack of fish to sell! Possibly if the industry shows a disposition to thoroughly supply this territory, the government will lend a more sympathetic ear to a campaign to stimulate a greater fish appetite. As things stand in the "maritimes" and eastern Quebec the industry is not satisfying the present appetite, and to attempt to stimulate it would only tend to make people more wrathful at the unavailability of fish which is caught, figuratively, by their next door neighbors.

HOME NEWS FROM ABROAD

The "Fishing News" of Aberdeen, Scotland, has the following to say about fishery development in the Province of New Brunswick and our only regret is that it is a bit mythical:

"Fishing forms the basis of an important industry in New Brunswick, and one which is doubtless capable of considerable development through the application of skill and science. Motor engines have transformed the fishermen's job in the last few years. Short courses in the principles, care and repair of these were given during the past year in 40 communities by an itinerant instructor, who went from place to place carrying his teaching kit of drawings and models with him. It is interesting to note, in this connection, that the Province of New Brunswick allocates a certain sum for the purpose of educating and helping her fishermen."

Now that all this has been said about the lovely eastern province, someone may be shamed into action to justify it.

PISCATORIAL PARAGRAPHS

An American paper, referring to Hon. J. E. Perreault, speaks of him as minister of "Wines and Solemnization". It should have added "and Miseries."

Speaking recently in Parliament, William Duff, M. P. made it abundantly clear to inquisitive western farmers that the \$5,000 grant to the fishermen's race was a wise expenditure as it encouraged the building of improved fishing craft.

WHAT TRADE TREATIES MEAN TO INDUSTRY

A press report from San Francisco says:

"Alaska Packers Paying Dividend. — Jan. 17. After two successive years of unsuccessful operation, during which all dividends had to be met from the reserve fund, the Alaska Packers Association achieved a net profit of \$993,767 from last year's operations, according to the annual report of President William Timson.

"A good United States and Australian market is the reason given for the good showing."

It is to be hoped that the minister of Trade and Commerce will ultimately achieve success in his endeavor to secure a preferential tariff on Canadian goods going into Australia. His first attack has not been a success, but the time was not propitious as the commonwealth was in the throes of political disturbance. The preferential tariff between Canada and France, recently renewed by Hon. W. S. Fielding and Ernest Lapointe, has been the salvation of the British Columbia industry for several years past, but at present large stocks of British Columbia salmon are unsold owing to the low purchasing value of the French franc.

A good many people are inclined to regard these trade treaties in an academic way. The writer is not as familiar with other industries as with fishing, but as they apply to the marketing of fish, they have been of vital economic importance. When negotiations are being carried on is the time for our industry to insure the inclusion of fishery products among favored commodities. Let us hope that Hon. Mr. Robb will make a second offensive on Australia this year.

FUSION OF VHAY CONCERNS

W. J. Vhay and those associated with him in business at Detroit, Mich., have, heretofore, been running two concerns, namely, Vhay Fisheries Company, who have been acting as jobbers of all kinds of smoked, canned and salt fish, selling to the larger retailers and W. J. Vhay has also been personally conducting a brokerage business catering to the jobbers and chain stores. The business of the two concerns has now been amalgamated under the name of W. J. Vhay & Co. which sells only to the large buyers who re-sell to the retail trade.

The company is extending its territory throughout the United States and has established connections which enable it to handle with despatch and satisfaction all kinds of fish products. The firm will handle, also, such products as canned fruit which require much the same distributing organization. The principal line, however, will continue to be fish. The firm's connection with the food business dates back to 1865 when the business was established by the father of Mr. Vhay. The many business acquaintances of Mr. Vhay will wish him every success in expanding his operations.

Federal Aid Would Boom Sardine Industry

BY THOMAS O'LEARY

With the memory of the disaster of last year forming a black background and with future prospects appearing bleak under present conditions, some local sardine-herring fishermen this winter, under weather conditions never before experienced by the present generation for extreme cold, are toiling at the docks endeavoring to accumulate sufficient funds again to engage in the hazardous gamble of sardine fishing. The irony of conditions over which they have no control has tested the fishermen most acutely this winter in that they have been compelled to unload large quantities of Norwegian sardines and other grades of fish, thus assisting in making all the more difficult their own welfare in the present year.

On the face of it it is evident that the contention put forward in the "Canadian Fisherman" that something should be done by the Government to better conditions under which Canadian sardine fishermen operate, is amply justified, when our own men have to handle a foreign product in order to make a living.

A member of the firm of Connors Bros., who are the only concern in Canada to-day operating a sardine factory, stated recently that the sardine-herring industry will be greatly benefited by federal assistance in the developing of the Canadian market and in the advertising of Canadian fish. Connors Bros. plant at Black's Harbour, N. B., occupies more than an acre of land and the town has a population of 800 during the packing season. In thirty years the Connors plant has been built up to its present capacity of 1500 cases a day from a small shed 20 ft. x 40 ft.

The factory operates from May until November, employing from 300 to 500 hands, and exports to New Zealand, Australia, South Africa, the West Indies, South America and to various points in Canada.

The Black's Harbour factory puts up the usual grades of sardines including fish packed in olive oil and the Connors' fish of that grade are said to compare

favorably with the Norwegian and French pack. Connors manufacture their own containers, all work being done by machinery, and their labels are printed in Canada. They import the tin plate and oil.

A recent report indicates that heavy damages have been caused in the past few weeks to sardine herring weirs along the shores of the Bay of Fundy and Passamaquoddy Bay by storms and by ice. This may prove very serious to some weir owners as they may not be able to restore their weirs for early spring fishing.

Wart Smelt Season Extended

Ward Fisher of Halifax, Chief Inspector of the Dept. of Fisheries, Maritime Division, is in New Brunswick investigating the smelt fishing situation. Fishermen of Westmoreland, Kent and Northumberland Counties have petitioned the Dept. of Fisheries to extend the present fishing season which is due to close soon. Unfavorable weather conditions and especially the heavy snow fall have made fishing operations very difficult.

The following is the value of the exports of fish from the Miramichi to the United States in 1922, according to a statement issued by R. A. N. Jarvis, American Consular Agent at Newcastle:

Aleurves (Pickled)	134,180 lbs.	\$ 14,911.00
Bass, (fresh)	3,699 "	678.00
Cod and Haddock (fresh)	2,750 "	121.00
Cod and Haddock (salted or cured)	288,575 "	22,664.00
Eels, (fresh)	38,629 "	2,843.00
Clams (canned)	22,230 "	8,010.00
Herring (fresh)	40,500 "	2,200.00
Lobsters (canned)	52,491 "	40,940.00
Maackerel (fresh)	1,246,762 "	99,634.00
Salmon (fresh)	86,506 "	17,002.00
Shad (fresh)	11,955 "	1,434.00
Smelts (fresh)	3,443,295 "	469,503.00
Sword Fish (fresh)	6,136 "	491.00
Cod Fish Oil	3,413 gals.	1,497.00

Industry on Up-Grade Once More

The industry will be interested in learning that the landed value of our fishery products in 1922 was nearly eight percent greater than the previous year. A recent statement kindly furnished to the "Canadian Fisherman" by the fisheries department, Ottawa, shows that the landed value of our fish products last year was \$20,963,234, as compared with \$19,440,547 the year before. It will be noted that these values are "landed values," or the value placed on the fish when first landed. The value of our fisheries is usually expressed in terms of "marketed value", so one must be careful not to be confused. The "marketed value" of our fish products in 1921 was around \$35,000,000, and the marketed value in 1922, when the figures are available, will indicate approximately the same percentage of increase as is found in the "landed value,"

It will be recalled that in 1921 there was a slump in the value of our fisheries production of thirty per cent as compared with 1920, so that last year we recovered about twenty percent of the loss of 1921. During the Fall of last year the prospects were even brighter than this, but, unfortunately, the closing period of the year was not a prosperous one. It is gratifying, however, that we are on the upgrade again and the industry in general will take heart. There is much to look forward to this year. There is the prospect of improved exchange abroad and there are indications on the horizon of an intensive campaign to increase the domestic consumption of fresh and other varieties of fish at home,

Antidote for Lobster Smut Found

Investigator put up experimental [pail] that was opened in first-class condition after eighteen months

An extremely valuable report on the discoloration, smut or blackening of canned lobster has been submitted to the honorary council for scientific and industrial research by Dr. F. C. Harrison, principal of Macdonald College, and Dr. E. G. Hood, who were commissioned by the research council to study the question and propose remedies. The report is now in the hands of the King's printer and should be available for circulation before the spring packing begins.

The chief features of the report are:

A large proportion of the discoloration is due to chemical causes (75 to 90 percent); the balance to bacterial causes.

Sanitary conditions of packing and thorough sterilization will remove causes of bacterial discoloration.

By the use of an acid pickle, acetic or citric, chemical discoloration may be eliminated so that the lobster meat can be packed as first quality lobster.

The report strongly advises the use of retorts, and remarks that "the present method of boiling resulting in lack of sterilization is the outstanding feature of the methods used by lobsters packers", adding that "although this was so apparent, yet the imperfection of the methods did not explain altogether the trouble known as smut or discoloration."

Following herewith is a summary of the results obtained from experiments, and also a series of recommendations based on the findings of the investigators.

Summary of Experimental Results

- All theories advanced by lobsters packers as to the cause of discoloration, blackening and smut have been investigated by experimental methods.
- The results of our experiments have led to certain definite results as to the causes and prevention of discoloration.
- The use of heavy tin plate does not prevent discoloration but may delay it.
- A good quality of tin plate is necessary for lobster cans—at least 2½ lbs. of tin to the box of plate.
- The best packs investigated have been put up in the so-called "sanitary" can.
- The enamel or lacquered can shows no improvement over a good quality sanitary can with parchment lining.
- Tight seams are necessary with lobster cans to avoid entrance of air and consequent formation of rust, followed by blackening.
- Flux, rosin, or soldering preparation have no appreciable effect in discoloration.
- Parchment linings with a good quantity of tin plate are better than enamel cans, improving the general appearance and quality of the lobster.
- Canning of dead lobster produces typical discoloration.
- Decayed meat, whether in the small or out on tables, or in cans, increases the amount of discoloration.
- In warm weather delay in handling of meat invariably results in blackening.
- Where lobster blood is not carefully washed from the meat, blue black discoloration follows the pack.
- Leg and arm meat discolorizes more readily than claw and tail meat.
- Discoloration is not influenced by the percentage of salt or fresh water pickle.
- More pickle aids in sterilization, about a half more than is at present used.
- In closing cans, a top with paper gasket is better than a top with a raw edge.
- Cans defective in manufacture will result in a complete loss of product.
- Sterilization by 2-4 hours boiling at 212°F. is not sufficient to kill all bacteria that may be present, consequently a larger portion of boiled cans shows discoloration caused by the growth of bacteria. Some bacteria found in sea water, lobster, etc., are killed only by nine hours continuous boiling.
- The amount of discoloration in the meat and cans of fall pack lobster is much less than that of the spring pack.
- Discoloration, blackening or smut is of two kinds,—chemical and bacterial.
- In processed lobster, chemical discoloration accounts for 85 to 90% of affected cans.
- In boiled lobster, chemical discoloration accounts for about 75% of affected cans.
- Sea water or well water from near shore or from unsanitary surroundings will cause trouble to the canner.
- Unsanitary conditions in and around the factory, dirty floors, tables, and utensils, results in increased numbers of bacteria, which get into the meat or cans and cause discoloration or other troubles, resulting in a poor product and lower value.
- Cleanliness of employees, especially of those handling meat, is necessary for the same reason as in 25. Caps for confining the hair, clean aprons clean hands and nails, and clean habits are absolutely necessary in a factory dealing with human food.
- By the use of acid pickle, chemical discoloration may be eliminated so that the lobster meat can be marketed as first quality lobster.
- Different types of containers have been tested,—glass, zinc tops, etc. Glass is impracticable for small factories. The zinc top has merit and experiments concerning its use are in progress.

Recommendations for Packing Lobster

General.

The lobster factory should be suitably located, substantially built, well lighted, and easily cleaned.

The ceiling and walls should be whitewashed yearly with a good mixture that will stick to the wood. It may be necessary however to suspend cheese cloth over working and packing tables to prevent any material dropping from the ceiling.

The floor should be of cement or of good close fitting lumber, with sufficient slope to drain readily. The drain should be accessible, to facilitate cleaning, and with a good fall. Dirty water should be conducted well away from the factory.

The tables may be of wood covered with galvanized iron or zinc, sloped to facilitate drainage and washing.

Sinks and utensils should be preferably of white enamelled ware.

Abundant water of good quality, either salt or fresh, should be available for washing. An elevated tank with hose connection will facilitate washing down. Some factories use steam from a hose for the final cleaning of floor, tables and utensils. This is an excellent practice. A proper bin should be supplied for refuse, shells, etc., and emptied daily.

The boiling vat should be located in the factory, and may be heated by steam or by fire.

All lobster and parts should be removed after each boiling.

Special

The lobster, from the time it is landed until it is processed, should be handled as quickly as possible. After landing and weighing, they should be dumped at once into boiling sea water. Whilst no definite time can be stated, owing to variations in size, about 10-15 minutes boiling, or until claws shake off readily. Small lobsters do not need such a long boiling.

On removal from the boiler, the lobsters are placed on the cooling tables, and as soon as they can be handled, they are divided into:—

1. Body with walking legs;
2. Tail; and
3. The claws and arms.

The body is thrown out, in some factories the legs are removed and passed through rollers to remove the meat. This leg meat is sometimes packed with tails and claws, but as it more quickly decomposes, this practice is not recommended. If used, leg meat should be packed by itself.

The tail meat is removed from the shell with a three pronged steel fork.

The claws and arms are cracked open with a small chopper.

The above operations are usually performed by men or boys, the subsequent operations are carried out, as a rule, by women.

The tail meat is then cleaned and washed. Several changes of water should be used.

The claw meat is cleaned and coagulated blood removed and washed in several changes of water—like-wise the short arm meat.

Final Washing in Acid Water

The final washing of "all meat" should be in acid water containing one ounce of acid (acetic or citric) to the gallon of clean fresh water.

The meat is now ready for packing.

Cans, previously lined with clean parchment paper,

are placed on the tables. The meat is packed in the usual manner and weighed.

One and a half measures of acid pickle should be poured into each can.

This pickle is made with clean fresh or salt water, 3 to 6 per cent. of salt may be added, and to each gallon 2 ounces of either glacial acetic acid or citric acid must be added. If no acid washing of meat has been done, use 3 ounces of acid to the gallon of pickle.

Paper is then folded in, top adjusted, and reamed on with the machine.

The cans are then transferred to the retort, and processed immediately.

In no case allow cans to accumulate; better to process often with small loads than to delay until retort is full.

The retort should be heated to allow the contained air to escape. A full jet of steam should escape before closing pet cock.

Heat to 10½-12 pounds, or 240° F. to 245° F. for 35 minutes, for quarter pound cans.

Heat to 19-12 pounds, or 240° F. to 245° F. for 45 minutes, for half pound cans.

At the end of the various periods of time, turn off steam, or remove heat, open pet cock, and when pressure is reduced open retort, remove and cool cans.

After cooling, the cans should be inspected for leaks, defects, etc.

Cans should be stored on their sides in a cool place.

Details of Acid Mixture

Referring particularly to the mixture of acid in the pickle, the report says:

Chemical discoloration is more frequent than discoloration brought about by bacteria. An estimate of the relative importance of each would give about 75 percent chemical and 25 percent bacterial in cans which have been boiled, and 85 to 90 percent chemical and 15 to 10 percent bacterial in cans which have been processed.

Therefore, we consider blackening or discoloration largely a chemical phenomenon, due to the peculiar nature of protein substances which give off hydrogen sulphide when heated in presence of an alkali (properly speaking, in low hydrogen-ion concentration.)

Numerous experiments have been made with various acids a different percentage of acid.

We selected acids that would not be objectionable from a hygienic point of view and which would not interfere with the palatability of the canned lobster.

The two acids finally selected were the vinegar acid, known as acetic acid, and a fruit acid, known as citric.

Vinegar consists of a 2 to 4 percent solution of acetic acid and this is known as a dressing in most cases when lobster is prepared for the table.

Citric acid is found in lemons, oranges and other fruits known as "citrous" from the presence of this acid in considerable quantity, and it is regarded as a harmless acid.

We have used varying percentages of both these acids and our experiments show that a 2 percent solution of either of them is effective in the prevention of discoloration.

Acetic acid is a liquid and must be bought in the form known as "glacial acetic acid." In buying acetic acid, none but glacial acetic acid should be accepted. As a test, this acid crystallizes in the bottle at temperature below 55° F. Acid which does not conform to this test is not glacial. To melt the crystals keep in a warm room, or immerse the bottle in warm water.

When added to the pickle, three ounces of acid should be added to each gallon of pickle. Glacial acetic acid costs about fifty cents a pound.

Citric acid is a white crystal. Three ounces should be added to each gallon of pickle, and thoroughly stirred until all the crystals are dissolved. Commercial citric acid should be bought, costing about ninety cents a pound.

For the sake of convenience, a three-ounce measure for the acetic acid, or a three ounce weight for the citric acid, and a gallon crock should be available.

This acid pickle should be made fresh for each day's use and kept in a glazed earthenware crock.

Use of Retort, Pressure Cooker or Processor

Speaking of present methods employed, the report says:

Of the methods used in lobster packing, the operation of boiling in the can is not sufficient to insure sterilization, for it must be remembered that the necessary feature of all canning is the destruction of all bacteria by means of heat, and if this is not done trouble must be expected in one form or another... A retort which enables high temperature to be obtained will permit the packer to be sure that he can kill not only the bacteria that may be present, but also the resistant bodies which they form and which are known as spores. In fact the whole problem as regards sterilization is to know the time and temperature needed to destroy the most resistant bacteria. Not until lobster packers understand this part of the problem will they be sure that their pack is free of living bacteria.

The report resumes:

The retort, pressure cooker or processor is an outfit for cooking with steam under pressure. It must be sufficiently well constructed to give strength and durability, and be fitted with a steam gauge which gives both temperature and pressure. This gauge records a maximum pressure of 30 pounds, giving a temperature of 274° F. This maximum pressure, however, is not necessary for packing lobster, which requires a pressure of 10 to 12 pounds, giving a temperature of 240° to 245° F.

Many packers are under the impression that these retorts are expensive and only useful in large factories. This is not the case. Retorts can be purchased of any size, suitable for the needs of the smaller packer, or even the wants of the household. They can be heated with a Primus burner, or can be placed on a stove.

The report gives illustrations of three sizes, the smallest 12 inches in diameter, and eighteen inches high, holds a hundred four ounce cans, this giving a capacity per day of ten hours of 800 to 900 cans.

The cost of this retort complete with primus burner and stand is \$50.00; without the burner the retort costs \$20.00.

The next larger size has a capacity of 1,500 four ounce cans per day and costs, with burner, \$70; without burner, \$36.

The largest size illustrated has a capacity of 4,000 four ounce tins per day and costs, with burner, \$128.00.

In addition to these outfits, larger ones, with fire box beneath, or connected with a steam boiler, may be bought.

The operation of a retort is simple. Sufficient water is poured in, the burner is lighted, the cans are put in a basket and lowered into the retort, and the cover is then placed in position and clamped down.

The pet cock is opened in order to let out all the contained air, and it is kept open until a continuous jet

of steam escapes. This is most important... As soon as steam is up close the pet cock, the pressure increases to the desired point, and the weight on the lever is then adjusted so that the steam escapes by the safety valve, keeping pressure and temperature at the required level for the requisite length of time. At the expiration of the time, the pet cock is opened, the heat turned off, and as soon as the pressure is removed, the lid may be opened and the cans taken out and cooled.

For the processing of lobsters, we recommend a pressure of 10½ pounds, or a temperature of 240° F. for 35 minutes. A few degrees more will do no harm, but the temperature must not be reduced, and the cans must be kept at 240° F. for the full 35 minutes.

GROUND FISH CAUGHT, SALTED AND DRIED 1921 AND 1922

Following are the comparative figures for ground-fish landings on the Atlantic coast for 1921 and 1922, together with their values, and the quantity of green salted and dried fish manufactured:

		Quantity Cwt	Value
Cod	1921	2,033,699	\$3,693,201
	1922	2,276,840	4,354,046
	1921	175,320	(green salted)
	1921	472,559	(dried)
	1922	149,375	(green salted)
	1922	589,701	(dried)
Haddock	1921	269,222	474,149
	1922	295,111	519,364
	1921	12,507	(green salted)
	1921	11,864	(dried)
	1922	8,577	(green salted)
	1922	15,826	(dried)
Hake & Cusk	1921	102,166	71,596
	1922	259,500	191,520
	1921	22,641	(green salted)
	1921	12,489	(dried)
	1922	67,007	(green salted)
	1922	30,930	(dried)
Pollock	1921	134,407	116,524
	1922	153,706	125,766
	1921	18,592	(green salted)
	1921	29,741	(dried)
	1922	34,556	(green salted)
	1922	21,452	(dried)

WHAT BOSTON SURVEY DISCLOSED

L. T. Hopkinson, recently associated with the Bureau of Fisheries at Washington, completed a survey of the fish business in Boston before quitting the civil service. Among other things he found that only one per cent of the fish landed there found its way to Canadian markets. He also observed that eighty percent of the fish trade in Boston is in six species, namely, cod, haddock, halibut, mackerel, swordfish and lobsters. Fifty-four others species made up the twenty percent balance.

The Difference

"If you tell a man anything it goes in at one ear and out of the other," she remarked.

"And if you tell a woman anything" he countered, "it goes in at both ears and out of her mouth."—Good Hardware.

News Notes From Far and Near

New Racer at Chester

The frame of the new fishermen being built at Chester, N.S., is completed. It is expected the schooner will take the water in March and qualify for the races this fall. Much is expected of the new vessel.

Bounty Payments this Year

Provision has been made in an order-in-council approved for the payment of bounties to owners of Canadian fishing vessels and to fishermen as follows: To owners of vessels, one dollar per registered ton, not to exceed a total of \$80 per vessel, and to vessel fishermen \$6.95 each. Boat fishermen complying with the regulations will receive \$5.35 each and boat owners one dollar per boat.

10 Cents on the Dollar

The Gorton-Pew Fisheries Company of Gloucester owes 115 banks and banking houses \$1,381,031.55 on notes, according to a report of creditors' claims filed in the United States Equity court in Boston by Henry J. Guild and Arthur J. Santry, receivers. The total present indebtedness of the company is \$1,406,231.55, the report says. Judge Anderson issued an order allowing the request of the receivers that they be allowed to distribute \$140,623.16 as a 10 per cent. payment on the principal of the debts. The receivers say they have \$321,000 cash on hand, all of which is not required as working capital. They will pay the 10 per cent. out of this fund.

Ducks Killed By Oil

Sea ducks are dying in hundreds along the shores of Seal Island. Other points on this coast are strewn with their carcasses. The cause of the epidemic of death among the ducks has not been definitely explained, but it is a significant fact that all the dead birds seem to have a coating of something resembling crude oil. It is thought possible that ships passing this way have dumped great quantities of oil into the sea, and the ducks, alighting in it, found it fatal. The same report comes from Cape Sable Island.

Halibut at 91 Cents a Pound

A small quantity brought to the Boston market recently by the steam trawler Saturn, Capt. John Hayes, brought the highest price ever paid for halibut at the Boston market to any vessel. One of the firms took the entire lot of 370 pounds at 91 cents per pound. The Saturn therefore realized nearly \$350 on this part of the catch alone. About all of this halibut is intended for hotel trade and none will be available to small consumers.

Reinforces Action of Ice

As the result of its use in experiments in the preservation of fish, particularly from the deep-sea grounds, a great deal of interest has been aroused in England in the claims made for ice made with Salunol, the product of a special mixture of salt in union with oxygen, which, it is claimed, reinforces the preserving power of salt by its powerful germicidal action.

900 Smelt Licenses

More than 900 smelt fishing licenses were sold on the Miramichi, N. B., during the winter.

Annual Exodus

Fishermen from Nova Scotia are already arriving at Gloucester to take up the spring fishing.

Centenarian Youth

A study of the ear drums and scales, which has been carried on for many years, proves that at 100 years a halibut is only in its infancy, and may have many generations of ancestors still swimming around the northern banks. Halibut does not reproduce until 12 years of age.

Cold Storage for North Sydney

A company has been organized at North Sydney, for the construction of a cold storage plant as the fishermen of Cape Breton, have been seriously handicapped by a lack of proper cold storage facilities. Work of construction of the plant is now under way and it is expected that the plant will be ready for business in the early spring. The machinery and equipment will be of the most modern type for refrigerating purposes. The plant was designed by M. J. Palson of Gloucester, one of the best known architects and builders of cold storage plants in America, Mr. Palson having built plants all the way from Newfoundland to Florida. He is also financially interested in the North Sydney proposition.

Boston Receipts 1922

Receipts at Boston for 1922 were 119,314,071 pounds, 5,500,000 pounds ahead of 1921. There were 2,573 arrivals. In 1921, 2,713 arrivals brought in 113,774,110 pounds of fresh fish.

Staggers into Port

Leaking at the rate of 5000 strokes an hour, her rails forced almost under by the heavy weight of ice, formed by flying spray, her rudder useless, schr. Elizabeth Howard, Capt. Daniel McDonald, limped into Gloucester on January 27, bringing a tale of a battle with the elements which made even the hardened waterfront habitues open their eyes as the story of the 80 hours struggle to keep the schooner afloat was told.

Rescue in Gale

Five members of the crew of the fifteen ton off-shore Liverpool fisherman Ida M. Cunningham, which failed to return to her home port recently, were rescued about sixty miles south of Halifax January 14 by the Canadian Pacific liner Metagama, bound from St. John to Glasgow. The rescue was effected in a northwest gale and high sea. The Cunningham lost her sails and the auxiliary power was disabled.

"Twin Lights" Disappear

The passing of the twin lights which, for several generations have warned mariners rounding Cape Cod, was formally announced by the lighthouse bureau.

LOST SAILS AND GEAR

Having lost several of her sails, some deck gear and a dory in gales off Halifax, the two-masted schooner James W. Parker arrived at Halifax, January 17 from Fortune Bay, Newfoundland, with a load of frozen herring for the National Fish Company.

RESCUED IN NICK OF TIME

The tale of an heroic rescue at sea and of a desperate battle with the elements to keep a sinking vessel afloat until help arrived, was told when the steamship Empress of Scotland arrived at New York with Captain Aaron Kearley and his crew of five of the tiny schooner Clintonia, of Lunenburg, N. S. The rescue was effected January 27.

Totally helpless in a terrific storm, the Clintonia, bound for Halifax from Fortune Bay, Newfoundland, was in a sinking condition when it was sighted by the Empress. Captain James Gillies, the liner's commander, was compelled to abandon the lifeboat in which the schooner's crew was rescued, because of the heavy seas.

"For three days and nights we had manned the pumps," Captain Kearley said. "We had given up hope and were completely exhausted when we sighted the steamer. We hoisted the distress signal, but even after we were sighted, did not believe that we could be saved before my ship sank."

SALMON APPEAR IN STRANGE PLACE

Egerton, Pietou, N. B., Feb. 17th, 1923.

Editor "Canadian Fisherman."

Last year, 1922, I was surprised to learn that salmon were in Mill Brook, at Knoydart. This is a small brook near the county line, Pietou East, in fact. The line crosses the brook about a mile from the mouth and the greater part of the brook is in Antigonish Co.

Formerly the banks of the brook and the surrounding country were well wooded but the trees have been cut away years ago; except small wood lots.

The brook is almost dry through the summer months and the mouth, where it empties into salt water, is closed at times by a beach of small loose stones.

A number of reliable persons saw the salmon, all very large fish, and as far as I could learn they were not disturbed.

No fish have been seen there for fifty years, or longer, and the people who live along the banks have never known a salmon to enter the brook a any time.

The question naturally arises, was this brook the place where the fish were deposited as spawn years ago? Have they waited so many years to enter this brook to spawn?

I would like to give this brook all possible attention in the season of 1923, to find out if they spawned there and I will be glad of any assistance in identifying any small fish, found in the brook, as I am not very familiar with the younger forms of salmon life.

With the unusual rainfall of 1922 there was plenty of water but the fact of the fish going up the brook, unless they were spawned there, does not agree with the present theory regarding salmon, and I must leave that part of the problem with men more learned and better versed in the study of salmon.

MORE ABOUT NET PRESERVATIVES

In our last issue we spoke of experiments conducted by the Bureau of Fisheries at Washington to discover the most effective and most practical net preservative. The bureau was convinced that copper oleate treatment produced the best general results. Since then the test lines placed in sea water at Woods Hole, Mass., and in fresh water at Put in Bay Ohio, have, on being returned and tested, further increased our knowledge of the behavior of lines under the influence of various preservatives.

On the lines from Woods Hole copper oleate continues to be one of the best preservatives of tensile strength, without undue increase in stiffness and weight. Copper paint preserves tensile strength well, but samples treated with it wear out under abrasion with great rapidity. A new combination—that is, copper oleate and coal tar combined—tried for the first time in these two series, has shown a very high efficiency. One set of samples was treated with a mixture of equal parts of coal tar and a solution of 1 pound of copper oleate in 1 gallon of benzol; the other set was treated first with the copper oleate in gasoline, then coal tar. These samples held up in tensile strength as well as those treated with copper paint and wear very much better under the abrasion tests. Where nets are subject to severe conditions of exposure for long periods and where stiffness and increased weight are not especially objectionable those combinations seem to be highly suitable.

In the fresh water at Put in Bay, Ohio, the copper oleate on cotton lines is far less encouraging than it was in salt water; the copper oleate without binder seems to dissolve out from the thread. When combined with tar, however, it gives excellent preservation. On cotton lines the Dutch method was better than copper oleate. On linen lines copper oleate gave best results.

Since the publication of a resumé of this work in fishery trade journals a keen interest has been evident on all sides. Two companies are interested in manufacturing and supplying the new materials proposed by the bureau.

Under the circumstances it seems advisable to admonish those interested that while copper oleate, under experimental conditions, has shown very gratifying results and carries with it very few objectionable characteristics, yet it has its limitations. In the concentrations recommended it contains only a very small proportion of copper, and, unaided it can not protect lines indefinitely. It must either be applied more heavily, or else applications should be repeated at intervals if lines are expected to stand very hard conditions. At the present time it seems more advisable to recommend repeating the application at convenient intervals for all classes of gear.

The discovery of this new preserving material can not serve to relieve the fisherman of the duty of caring for his nets by washing, driving, and treating them as often as the service demands.

Billingsgate vs Paris

Eight hundred tons of cod is an average day's handling at Billingsgate, London, while 200 tons is a big day's handling in the Paris markets.

Annual Convention of Erie Fishermen

Important Resolutions Adopted Bearing upon Hardships which Government Puts upon Industry in Ontario

Resolutions adopted:

That the Government be requested to make license fees payable as follows: one-fifth of the fee to accompany the application and the balance to be paid not later than June 15th.

That the Government be requested to cancel all Royalty fees for the year 1922 and that, in future, licenses be granted at the present rates and without any royalty fees on tonnage.

That, inasmuch as the Federal Government has taken off the patrol boats on Lake Erie the Ontario Government be requested to be prepared to patrol the international boundary at the opening of the fishing season.

That the Federal and Provincial Governments be requested to appoint a joint Commission to investigate the whole fishing industry on Lake Erie and to confer with the American authorities with a view to uniform regulation of the fisheries.

That the Fisheries Department of Ontario be segregated from the Mines Department and a Deputy Minister of Fisheries be appointed.

That the Fisheries Department of Canada be separated from the Marine Department and a deputy minister of fisheries appointed.

That the Government be requested to make a grant of \$500 to this Association.

The eighth annual convention of the Lake Erie Fishermen's Association has come and gone, but it leaves in its wake many important decisions and a reinvigorated organization. The pound and gill net fishermen of the Erie shore gathered at St. Thomas, Ont. on January 16, 17 and 18. The attendance was much larger than the previous year, everyone was in good spirit and the discussions, both in executive and in general assembly, while not lacking interest, were harmonious and fruitful. The whole situation when President A. S. Brown adjourned the convention Thursday afternoon was indicative of a healthy organization and much may be expected from it in the course of the next twelvemonth.

Executive meetings were held on the afternoon of Jan. 16 and the following morning, at which resolutions were prepared for the open meetings on the afternoons of Jan. 17 and 18. The executive meetings were well attended and there was a marked tendency on the part of both the pound and the gill net fishermen to sink past differences and co-operate for the general weal.

The annual meeting on Wednesday afternoon was held in city hall, where the delegates were welcomed to the city by the Mayor of St. Thomas and the president of the Chamber of Commerce. Following, there were brief speeches by H. McKillop, M.P., for West

Elgin and Alex. Wallace, M.P., for Norfolk, both of whom stressed the necessity of co-operation and harmony and promised to lend their weight to secure the adoption of the convention's policies.

Co-operative Marketing

F. C. Hart, in charge of the marketing and co-operative branch of the provincial department of agriculture, represented Hon. Manning Doherty, who he said, was unable to attend. He spoke most interestingly on a very timely subject — the co-operative marketing of fish. He did not speak specifically of the fishing industry but he explained in detail what had been accomplished by applying the principle of co-operative buying and selling to agricultural pursuits. He spoke of the improved quality of the product, enlarged markets and better returns to the individual as striking results, and he cited specific cases, such as that of the raisin growers of California. A few years ago raisins were a drug on the market. In fact land in California with raisin vines was considered less valuable than bare land, and sold for a lesser price. Co-operation among raisin growers in recent years has absolutely altered the complexion of the industry. At the recent Christmas season the producers had not a single package of raisins to sell.

As to the length to which co-operative effort may be carried, Mr. Hart instanced one or two selling stunts that had been carried out with unqualified success, which could hardly be handled by any individual. During the late summer of 1922 a heat wave struck the middle west and it was moving gradually eastward. The office of the co-operated orange growers immediately procured from the meteorological department at Washington a copy of a chart indicating the movement of the wave so far and its probable future course. On the strength of the latter, the orange producers moved earloads of their fruit just ahead of the heat wave. As soon as the heat came the demand for oranges jumped and the supply was on hand to adequately care for it.

Mr. Hart, while he admitted having no intimate knowledge of the fishing industry, could not understand why the principle of co-operation should not be applied to fish marketing with equal success. Co-operation makes it possible to avoid glutting a market and suffering low and unprofitable returns. It builds up the machinery to obtain access to the best markets, to supply them thoroughly, but not to the extent of glut, and, also, to develop new markets and enable producers to increase their output. No doubt there were features of the fish trade which would necessitate a small adjustment of the arrangement as applied to other industries, but these alterations would come automatically as the plan developed.

Lake Erie Co-Operation

Mr. Hart was interested in learning of the Lake Erie Fishermen's Co-operative Association, which was organized early in 1922. On behalf of Hon. Mr. Doherty he stated that the provincial department of agriculture would do all in its power to assist the organization and he promised to attend a meeting of the directors of the body which is being held February 20 to consider the taking over of a large freezing plant and cold storage warehouse at Windsor.

Mr. Hart's remarks were to the point and just at present, when fishermen are being encouraged to market through a central agency, his impartial evidence should have an extremely good effect.

G. H. Rapsay, superintendent of fisheries at Toronto, struck an optimistic note in his brief address. He advised the sinking of all selfish and petty differences in facing the important issues now before the association and the industry at large. With harmony among fishermen he felt that his department would accede to ninety-five percent of their requests. A few of the problems were extremely difficult, however, and might require perseverance and compromise.

He was followed by A. McLeod, superintendent of fish hatcheries operated by the Ontario government. He drew attention to the fact that there were more fish taken from Lake Erie than from any body of water in American in proportion to its size. He thought that the fishermen should give some thought to the conservation of fish as well as to the catching. In the last three years he had never heard a fisherman say anything about the conservation of fish. That problem had been left to other hands.

"Any fair-minded man will know that the fishing is not as good now as a few years ago," he declared. The taking out of immature fish was one of the worst causes of this depletion, he continued, advising the association to pay more attention to the conservation and propagation of fish as well as to the catching of them.

Barwell says a Few Things

The speeches up to this stage were by visitors to the convention. When C. W. Barwell of Port Dover was called upon he instituted a discussion of the fishermen's problems and handicaps. He declared the fishing industry in Ontario was too heavily taxed. While our cousins on the other shore of Lake Erie were paying \$25 a year, our fishermen were paying \$200 plus a royalty of \$5 a ton on every ton of fish taken over seventy-five. Furthermore Canadian fishermen had a cent-a-pound duty to contend with, so that they are at a serious disadvantage in competing in American markets where the great majority of our fish is shipped. He strongly advocated the removal of the royalty tax to enable fishermen to overcome the U. S. tariff.

Mr. Barwell called attention to a presidential circular which pointed out that there was danger that hatcheries in Ontario operated by the federal government would be closed. Mr. Brown verified this, stating that he had received a communication from J. A. Rodd, dominion superintendent of fish culture, asking the Lake Erie Fishermen's Association to show cause why federal hatcheries operating in Ontario should not be closed.

To do away with the hatcheries, Mr. Barwell commented, would be like taking coals from the fire that heats your home.

Captain P. Robinson was called upon by the chairman to speak on the question of protecting the international line in Lake Erie. Captain Robinson, because he had been in charge of the patrol service operated by the federal government until some months ago, hesitated to discuss the issue and it was only from an impersonal viewpoint that he would do so. He intimated that after the withdrawal of the patrol boats Americans were fishing in our waters and were even so close to our shores that they talked with our fishermen. He considered it essential for the protection of the fisheries of Lake Erie that the line be patrolled and pointed to the futility of artificial propagation if outsiders are permitted to make inroads upon our resources. He strongly urged that action be taken to restore the patrol and warned the association not to relax a mite of effort until that end had been accom-



A. S. Brown, again president

plished. He felt they needed the protection and that they were entitled to it.

Benefits of National Union

Jas. H. Conlon, secretary of the Canadian Fisheries Association and editor of its official organ, the Canadian Fisherman spoke of his interest in co-operative marketing, and drew the attention of the meeting to another form of co-operation on a broader plane. There were certain interests common to fishermen throughout Canada which could not be protected or directed by the commercial industry without close agreement and understanding. Among other things he mentioned the tariff and he intimated that with the co-operation of all, there might be some improvement in the tariff situation before the next annual gathering. He also spoke of the question of patrolling international waters and suggested the necessity of a conference among conflicting administrative authorities to secure a definite understanding regarding respective responsibilities and privileges.

Mr. Conlon expressed pleasure that the association had renewed its affiliation with the Canadian Fisheries Association and said that next year he hoped to make the Erie body a full-fledged branch of the association. He drew attention to the Canadian Fisherman, the official organ of the Canadian Fisheries Association, and pointed out that it was also the official organ of Erie fishermen. He asked them to regard it as such and

to keep it so posted on current matters that it may reflect truthfully and honestly the Erie viewpoint.

In concluding, the speaker extended felicitations from the executive of the parent body. He reminded the gathering that the annual convention of the C.F.A. was to be held in Montreal in May and asked each and every one to lay plans to enable them to attend. There was bound to be discussion on momentous issues.

Officers Elected

The election of officers resulted in the choice for president again falling upon A. S. Brown of Kingsville who has creditably occupied the post for several successive years. H. A. Short of Port Stanley was re-elected secretary-treasurer as a tribute to his invaluable services in the past. Hon. Harry Mills, minister of fisheries in the Ontario Government, was re-elected honorary president of the association, and A. E. Ponsford, of this city, honorary vice-president.

The executive committee for 1923 was appointed as follows: A. E. Crewe, Merlin; W. D. Bates, Ridgetown; H. Goodison, Cedar Springs; Ed. Koehler, Wallace-town; W. F. Kolbe, Port Dover; B. T. Westcott; Kingsville; H. Hales, Dutton; A. B. Hoover, Nanticoke; J. W. Grubb, Leamington; W. P. Conway, Pelee Island; George Van Order, Port Burwell; George Oldrieve, St. Thomas; W. H. Wheeler, Selkirk; Charles Ross, Dunnville; A. G. Anderson, Port Dover; William Koehler, Ridgetown.

The grievance committee for the year is: A. E. Crewe, chairman; Essex, A. G. Westcott and W. P. Conway; Kent, A. E. Crewe and W. Koehler; Elgin, Ed. Koehler and G. Oldrieve; Norfolk, G. Van Order and C. W. Barwell; Haldimand, A. B. Hoover, and Charles Ross.

Advisory Committee: H. Dromgole, A. E. Crewe, A. B. Hoover, C. W. Barwell, W. D. Bates and George Van Order.

Many Attend Banquet

Between eighty and one hundred attended the annual banquet in the evening in the dining hall of the Grand Central Hotel. Three federal members, several members of the local legislature, the mayor of St. Thomas and the vice-president of the Chamber of Commerce were among the guests. Good-natured entertainers from the Kiwanis Club provided vocal and piano selections during the evening and conducted lively choruses. Brief speeches, all of a more or less humorous nature, were made during the evening, the speakers being called upon by President Brown who occupied the chair. There were toasts to the kind, Canada, the province, the sister province of Quebec, our guests.

A large number at the banquet adjourned from the Grand Central to the home of A. E. Ponsford, honorary vice-president of the Association, where Mr. Ponsford proved himself a splendid host. Since the inception of the Lake Erie Fishermen's Association, Mr. Ponsford has been a moving factor and has constantly endeavored to stimulate life and vigor in the body. His success in this respect is as marked as his success in his business pursuits and the fishermen of Erie must be thankful that they have a man of the Ponsford stamp taking an interest in them.

Resolutions Adopted

Another executive meeting was held Thursday morning to complete preparations for the final general meeting in the afternoon. At the latter meeting the resolutions were unanimously endorsed.

The removal of the federal patrol service from Lake Erie, which has been strongly protested by the Canadian Fishermen in the lake, resulted in the passing of a resolution requesting the Ontario government to take over the patrol duty on the international boundary on the lake next season.

In protest of what is regarded as an unjust levy in the form of a royal tax of \$5 per ton on every ton caught by a license holder over seventy-five tons, a resolution was adopted requesting the provincial government to cancel all royalty fees for 1923 and that fishing licenses in future be granted at the present rate but without royalty fees on tonnage.

A resolution was passed requesting the federal government to separate the fisheries department from the marine and to appoint a deputy minister of fisheries to administer it.

A similar resolution was adopted requesting the provincial government to segregate the fisheries department from the fish and game branch and appoint a deputy minister to administer its affairs exclusively.

The holding of the association's regatta was also given consideration and a committee was appointed to select a location for this year's event and to make preliminary preparations in connection with the staging of the tug race for The Free Press trophy. In this connection a resolution was passed, asking the annual provincial grant of \$500 be resumed this year. The grant was not made last year.

In order that the payment of license fees might not work hardship on the fishermen the following resolution was passed: That the Ontario Government be requested to make licenses payable as follows: One-fifth of the fees to accompany the application and the balance to be paid not later than June 15.

Among the speakers who addressed the meeting this afternoon were Malcolm McVicar, M. L. A. for East Elgin; Joseph Oridland, M. L. A., South Norfolk, and George Sewell, M. L. A., North Norfolk.

The committee who will present the Convention's resolutions to the Government consists of President A. S. Brown, of Kingsville; Vice-president, Reeve Harry Dromgole, of Dunwich; O. W. Barwell of Port Burwell; Secretary-treasurer H. A. Short, of Port Stanley, and G. Vanorder.

Notes of the Convention

George Vanorder doesn't like his appetite to be commented upon, especially in the presence of the hotel manager. Nothing to be ashamed of, George. It's an accomplishment, even should you pay a bit more than the regulars.

We wonder if any of our friends caught a glimpse of George and Worme in conference in the lobby. Someone said Worme had a telescope to observe George's lip movements.

Art. Brown has a grip on the association like Tommy Church has on Toronto, like Mederie has on Montreal, like Dempsey has on the heavyweight crown. In fact he's inseparable from the association.

C. W. Barwell is a wonder. He is the revolving centre of two spheres. When a spirit of levity is required he is there with the goods, and when sound wisdom is required in defining policies he has it to give. He's a man the association could ill afford to lose.

Someone at the convention was heard to remark: "Co-operation may come and co-operation may go but BATES goes on forever."

As a collector did you ever see anyone to beat Hoover? He's got it down to a fine art. On a membership boosting campaign we'd guarantee he would produce results.

The "forty-niners" sure did stick to their job.

C. B. Worme, the genial representative of the National Net and Twine Company, while the guest at an evening assembly at the home of A. E. Ponsford, father of the Lake Erie Fisherman's Association, was inspired by the muse, as follows:

A Fisherman's Prayer

Lord let me catch a school of fish
 So big that even I,
 When telling of it afterwards,
 Shall have no cause to lie.
 And let the weather be so nice
 That I can ship them without ice;
 Find me a buyer who'll pay freight
 And furnish boxes free
 And then, Lord, put the prices up
 And I'll contented be.

Nothing in Report

"There is positively no intention, insofar as this department is concerned, to discontinue the operation of our hatcheries in Ontario," said W. A. Found, assistant deputy minister of fisheries at Ottawa when asked to explain the reason for the agitation among the fishermen of the Great Lakes. Both Mr. Found and J. A. Rodd, superintendent of fish culture, were at a loss to know where the report originated. It is believed that it grew from an opinion expressed by some of the fishermen that the department might take such action to be consistent with the policy adopted in the province of Quebec. In 1922 when the federal authorities turned over to the provincial authorities the administration of the Quebec fisheries it also turned over hatcheries.

Want Life-Saving Stations

At the joint meeting of the committees of the City Council and the Board of Trade, which were appointed to prepare recommendations to the Government for the establishment of life-saving stations on the north shore of Lake Superior, there will be taken up the suggestion of the Board of Trade that an investigator be sent up from Ottawa to get first-hand information on the actual situation before submitting their recommendations.

It was the general opinion of the board that Ottawa was too far away for the authorities there to have the right conception of the actual conditions here and the dangerous situation on Lake Superior as it is at present.

It was the feeling of the Board of Trade that the recent disasters of the lighthouse tender Lambton and the tug Reliance should be brought to bear forcefully in making recommendations for the life-saving stations on Lake Superior. The United States Government is maintaining life-saving stations on the south shore of the lake.

ERIE FISHERMEN CO-OPERATING

In the spring of 1922 certain members of the Lake Erie Fishermen's Association, formed an organization for the co-operative marketing of their fish. During the first twelve months, despite the disappointment and inconvenience of being denied the use of cold storage facilities upon which they were depending, the company handled no less than 1,090,000 pounds of fish. Abe Danto, the aggressive manager, considered the year's showing most encouraging. The experience thus far is very encouraging to the Erie fishermen and at the recent convention in St. Thomas plans were announced for the taking over of a cold storage and all fishermen were invited to participate in the scheme. A. S. Brown, of Kingsville, and Harry Dromgole, of Wallacetown are the moving figures in the enterprise.

Windsor has been selected as the headquarters of the organization, because of its proximity to the Detroit market, and the fact that a modernly equipped cold storage is available there. It is the intention to build a market for fresh, cured and canned fish. Upon learning that Ontario consumes less than two percent of the fish she produces, enterprising individuals drafted pretentious plans to thoroughly supply the markets of Ontario with local fish. Present plans included an extensive advertising campaign and there was some suggestion that the "co-operative" may operate retail stores, as well, to guarantee a good commodity to the public, and at the same time to reserve to the fishermen themselves any legitimate profit from the merchandizing of their commodity.

It is trusted that the enterprise will succeed and that fishermen will give it the support it deserves. Control of the situation has too long rested in the purchasing markets. It is time fishermen themselves took the throttle.

Port Stanley Harbor Improvements

A strong effort will be made on February 22 by the various bodies, both municipal and private, interested in the port of Port Stanley, Ontario, to have the long sought-for improvement made to the harbor of that port.

A large deputation consisting of representatives from the London and the St. Thomas city councils, the Middlesex and Elgin county councils, the Port Stanley village, the Lake Erie Fishing Company, the shipping, milling and coal interests using the port, the London and St. Thomas chambers of commerce, and the London and Port Stanley railway commission, will wait upon Hon. J. H. King, M.D., Minister of Public Works, in an effort to interest him in a grievance that has been hanging ever since 1900.

Shipping of fish caught in Lakes Winnipeg and Winnipegosis has commenced to Boston and New York markets. Manitoba white fish is becoming increasingly popular in the east, and, although shipments have been made in previous years, it is stated that the present one is by far the largest.

THREE WASHED OVERBOARD

Antoine Dias was drowned, and two others narrowly escaped the same fate, when the trio, members of the crew of schr. Louise B. Marshall, Capt. Matthew Sears of this port, were washed from the deck of the schooner in a heavy gale on January 4.

The Life-Saver and His Work

Sketch of Captain Lewis Wilkinson, twenty-six years at Pelee Section, typical of the class

No more romantic work nor more humane service can be found among the extremely diversified 'jobs' or 'positions' of the civil service of Canada, than that of the official life-saver. And at the same time there is none who gets so little publicity, so little recognition of service, and so little pecuniary reward.

As is usually the case with all men who spend their lives on the sea and by the sea, the life-saver is an extremely conservative individual. He can see little of the heroic in his accomplishments. In saving lives he is simply performing his duty and being so constantly on the job he loses his 'news sense', as the city editor of a newspaper would put it, or his sense of proportion. His work, as far as he is concerned, may be characterized in only two ways: duty and neglect of duty.

This absolute innocence of 'ego' reminds the writer of an acquaintance of his, and an occasional contributor of the columns of the 'Canadian Fisherman', about whom the following story is told. During the war he was an officer on a steamer crossing the Atlantic. One of the deckhands jumped overboard in a rough sea. Our friend jumped overboard and with much difficulty, rescued him from a watery grave. The two were finally brought on deck, the deckhand little the worse for his experience, but our friend puffing like a porpoise. The latter immediately turned to and gave the drenched deckhand such a threshing that he was off duty for a spell, and he swore that if he tried to repeat his stunt of jumping overboard he would knock the life out of him. When the steamer landed other officers of the crew related what our friend had done and when the latter was asked for information, he flared up with anger. His only impulse was to go forward and give the 'damn fool' another licking.

The point of the story is that our friend couldn't see any particular virtue in his own action but he could see the fault in the deckhand's.

This panegyric to the life-saver is the result of our meeting with a typical representative of the species—

brawny, nut brown, horny-handed skipper who turned up at the recent convention of the Lake Erie Fisherman's Association at St. Thomas. Captain Lewis Wilkinson of Leamington, who watches over the destiny of the seaman and fisherman at the treacherous Point Pelee, Lake Erie, was not a conspicuous member of the gathering. In fact the only reason he was there was because his friend, Jimmie Grubb, forced him into coming.

Twenty-six Years in Service

It is twenty-six years since Captain Wilkinson entered the life-saving service at Point Pelee, the most dangerous part of all the Great Lakes. The point runs due north and south and from the end of the point there extends a bar about three miles long reaching to what is known as the Old Dummy Light. At the extreme end of this the current is strong and treacherous. When the water is placid the bar is exposed but the least sea covers it and makes it a hidden menace to marine traffic. Vessels passing this district in unfair weather must watch their p's and q's and the crew of life-savers at Pelee Point must also be on the alert.

For the first three years Wilkinson was alone on the job, more or less, but twenty-three years ago he was made captain and he now has a crew of eight men, including himself. The beach is patrolled day and night by a member of the crew and twice a week the entire crew is put through rowing exercises. Unfortunately the station is not modernly equipped. The life boat is still propelled by oar. A year or two ago two young men were drowned off the point before the boat could be rowed to them. Even that fact did not have the effect of furnishing improved equipment, and probably no action will be taken until the people of the district who look to the station for protection make an insistent demand for improvement.

Captain Wilkinson's first experience at the station was when he went to the rescue of a sailing vessel, the



Captain Wilkinson and his life-saving crew



Captain Lewis Wilkinson

Grace G. Trilby, many years ago. At that time he had no boat and he saved the lives of three men by wading out to the wreck. This was before the station was made permanent. There were six in the crew but Wilkinson was unable to save the other three. His next journey of mercy was to the Anchor liner Conemaugh with twenty-two of a crew. Wilkinson made three trips with the life boat and saved them all. The same day, twelve miles from Leamington Dock the steamer Chauncey Hulbert got in trouble and Wilkinson saved thirteen more lives. From the Eric Edna, a fishing tug, five more were rescued.

During his career of twenty-six years Captain Wilkinson has gone to no fewer than forty-five wrecks, not all of which were badly damaged, however. The lives saved have never been checked. But that, too, is an item, that one of the ilk seldom counts. He talks in vessels, apparently agreeing with Kipling, that

“The game is more than the player of the game.
The ship is more than the crew.”

Lake Erie Notes

While the lake is still in the grip of the frost king and the opening of the fishing season considerably in the future there is an awakening along the water front, and fishermen are engaged in getting ready for the season's work. They anticipate a better year for the industry than the one recently closed, and there are signs that such will be the case. It is hoped that a benevolent government will come to the aid of our fishermen in the way of withdrawing entirely the five dollars per ton royalty, which always has seemed an unnecessary evil, and also a substantial reduction in the license fee of \$250 which is ten times higher than the United States fishermen have to pay.

There is a dream of co-operation among the fishermen and a hope of assistance from the Government in the way of establishing fish stores in every municipality, wherein fish would be properly received, properly cared for, and properly presented to the public. With such assistance there is little doubt that the great province of Ontario, whose lakes and rivers are so prolific in fish life, would become a great fish consuming country.

An idea is on foot to establish a co-operative cold storage, which no doubt will be beneficial to all concerned, but as yet this is only an idea in its primary stage, and more can be said about it as it develops.

Now that the federal house is in session at Ottawa and the provincial house also in session at Toronto, let us hope that in the wash, and back wash, and undercurrents of politics our legislators will not overlook the fact that under their jurisdiction is a vast natural resource, largely in an undeveloped state, that requires protection and nourishment.

Fishermen of Lake Erie, of Ontario, and of Canada get on your thinking caps. Think, think, think, and let your thoughts co-operate with your fellow worker; forget not that in the time of stress of the world war you proved yourselves men of character, ability, and tenacity of purpose, and your industry will come into its own.

Supply Restricted

Fresh fish from Lakes Manitoba and Winnipeg and lakes farther west is eaten every day in Chicago, and thousands of pounds more would be bought if it were not for restrictions, an expert from the United States has told Winnipeg and Selkirk fishermen. Americans prefer Canadian fish to their own, and white-fish caught in Lake Manitoba is the most popular of all, according to this expert. Safeguards for the preservation of fish are recommended by him. He says, however that restrictions prevent the extreme development of the export fish trade for no matter how ready foreign markets may be to absorb more fish they can only get a maximum of 3,000,000 pounds out of Lake Winnipeg, for instance. Shipment of fresh fish to various United States centres, including Chicago, was begun two or three years ago and has been very popular. The fish are not frozen, but kept fresh, being rushed from the net to the shore for immediate shipment.

Lake Superior Fishery Regulations

At a recent meeting of the Board of Trade at Sault Ste. Marie, Ont., the secretary was instructed to write the Hon. Harry Mills, at Toronto, telling him that the action taken by the provincial fisheries department last year in connection with the issuing of fishing licenses in the territory of Lake Superior had worked out satisfactorily and that the board of trade hoped nothing would induce the department to recede from the move it had taken. In 1922 the department reduced the number of licenses issued to the Booth Fisheries Ltd., of Canada to operate gill nets and pound nets in Lake Superior. Persons familiar with the situation state that it is debatable whether local fishermen have profited to the extent they expected as a result of limiting Booth operations. However, that company accepted the limitation with good grace. It has a reputation as regards its respect for fishery laws and regulations and the assistance it renders administrative authorities, of which others may well be envious.

Biography of a Finnan Haddie

By ROY WHYNATCHT

If all the finnan haddies that were manufactured last fall and will be eaten in Canada during fall and winter, could be revived in the spring and started off in a straight line at intervals of four feet from a point on the shores of Nova Scotia, the van of this unique procession would be in England some time before the rear had departed from our eastern province; and if, at this juncture, they were halted and an arc described northward and westward with Nova Scotia as the base, the fan would barely miss the North Pole and afterward find itself on the island of Vancouver! Practically these haddies are being packed and shipped in fifteen pound boxes (some in 30's) with an outside measurement of $22\frac{1}{2} \times 12\frac{3}{4} \times 3\frac{3}{4}$ inches. If the season's packages could be piled flatly one upon another, four-fifths of them would never deteriorate while in that position for they would be naturally frozen solid as the pile would be approximately twenty-five miles high. Such is the present size of the Canadian finnan haddie industry which, with the first regular frosts, begins its annual activity, bringing an appreciated variety of diet to Canadian homes from the Atlantic to the Pacific where, however, the commodity is generally but little known beyond the fact that it comes from the sea.

Finnan haddies do not grow; they are manufactured. Who should be credited with the invention of the process? Apparently nobody, for it is said to have been purely accidental and to have originated in the following manner. About five generations ago, in the fishing village of Findon on the East coast of Scotland, there occurred a fire which, with the ambition common to its kind, paid no respect to a fisherman's storehouse in which were piled a quantity of lightly pickled, split haddocks. After the conflagration the unburned ones were salvaged and found to be singularly appetising. The villagers then treated freshly caught haddocks to the pickling and a less costly smoking process, by hanging them in the chimneys over peat fires, and soon a demand grew for "Findon Haddocks" which rapidly spread all over Great Britain.

Brought Art to Canada

The art of curing them came over to Canada in the year 1856 with a sturdy and courageous Scotchman named John Austin who, with his family of ten, started out hopefully from the town of Findhorn, on the Moray Firth, for the Land of the Maple where they arrived in due time at St. John, N. B. They found that the new land proved to be anything but partial, however, and that it demanded much of its latest settlers. Mr. Austin, with a natural desire to dwell near the sea, spent two very unprofitable years in St. John, after which a combination of seemingly fateful circumstances led him across the Bay of Fundy to settle permanently on the shores of the beautiful Digby Basin. Here he discovered there was an abundance of haddock and right then, in the spring of 1859, began the Canadian finnan haddie industry. But oh! the struggle it had in its infancy. Its original personnel was Mr. Austin's family, some of whom manned his fishing fleet which

consisted of one tiny homemade trawler, propelled by manpower with an auxiliary of an improvised sail and with trawl snoods made of horse hair, while the others endeavored to effect the curing and distribution of the catch with less equipment even than was commanded by the production department. After struggling along for two seasons in this manner, the industry had its first labor strike (clearly unprovoked by capital,) for an important section of it, in the person of son Robert became discouraged at the apparently useless struggle, refused to carry on any longer and ran away from home. In the spring of 1860 Mr. Austin, assisted by a few public-spirited gentlemen of Digby, succeeded in placing an exhibit in the Nova Scotia Provincial Exhibition at Halifax for which, of course, he received the blue ribbon, and which effected an immediate boost in the demand. But he was still far ahead of his time for they could not be properly distributed as the Do-



Trawlers take haddock wholesale

minion Government, fortunately or unfortunately, had not invested heavily in railways at that time. And so the fight to overcome undeveloped natural surroundings was continued until the first casualty came to the development forces when their chief succumbed, before he was sixty years of age, to the continued buffetings of destiny. The fruits of his consistent courage and persistent effort, however, did not die for at this critical juncture Robert returned home and truly emulated his worthy father by assuming the responsibility of the industry's future development. Robert, no doubt, had many difficulties to overcome, but time was pulling for him and his business developed with the country. Encouraged by this success, he took an important step forward and established, on Digby Neck, Canada's first haddie canning factory.

Once the industry was fairly started, it took firm root and developed rapidly, for the Nova Scotia fishermen, with true Canadian adaptability, soon grasped and applied the many essential details involved in converting the elusive Atlantic haddock into the now well known, palatable finnan haddie. Many of these essentials would doubtless cause the uninitiated to wonder and the toilers of the sea themselves to retrospect, for down on the coast they are more born to the profession

than made. They acquire very early in life the ability to foretell the weather, upon which accomplishment they sometimes stake their very lives; they know instinctively the kind of craft to construct in which they may best wrestle with the elements; the most convincing arguments, from the haddock's viewpoint, with which to lure the invisible denizens of the deep, and how to treat the sea's harvest so that it may render its maximum benefit to mankind.

Process Begins Aboard Ship

From the moment the haddock leaves the sea it is operated on until it finally reaches the finnan haddie stage. These operations begin on the vessel, motor boat or steam trawler, where they start with the flash of a sharp knife along the haddock's belly, followed by a quick scoop of the next man's hand and, before the bewildered fish has time to realize it, his guts are gone. After the evisceration he is given a cold shower bath and stowed away in crushed ice until his arrival at the receiving plant, where more sharp knives and expert operators are waiting to pounce upon him. Here he is treated to a cold tub, beheaded, split out flat right down to his tail, the black skin removed from the inside of his belly, part of his back bone taken out, and what is left of him finally drops into a tub of pickle from which in due time, he is removed, strung up on a rod and placed in the smoke house. Next day he is released from the smoke barrage and given an opportunity to cool off before being packed into the neat little fifteen and thirty pound boxes in which he rides to market. The boxes are sort of graduation robes for not until he is ready for them is he a full-fledged haddie of but half his ocean weight and possessing much more food value per cubic inch than most meats and other fish.

Limitless Potential Haddies

If every person in Canada ate ten times as many haddies as they do not at present, the fishermen of the Maritime Provinces could produce the goods. It would keep many of them from emigrating to the United States where they fish from Boston and Gloucester and incidentally, help the Yankee in their efforts to capture the International Fishing Schooner Trophy. They would naturally be glad to continue fishing from Nova Scotia in preference to Massachusetts, if the Canadian demand for their product warranted the increased production. The greatest fishing grounds in the world lie off our shores, the finest fishermen in the world spring from our soil, so that the industry's expansion depends solely and entirely upon the popularity of its product. The popularity of the product depends upon its worth which, in turn, is governed by the treatment a fish receives from the time it lands on the deck of the ocean vessel to the time it reaches the inland dining-room and accordingly makes a good or bad impression upon its consumer. This principle applies to every fish and to every consumer. If principle applies to every fish and to every consumer. If he likes the haddie as he should, he will likely order another within a few days; if he does not like it, it is probably not his fault and certainly not the haddock's but most likely any one or more of the following too frequent happenings which tend to retard the growth of the industry:

(a) Careless and unintelligent handling by a diminishing minority of our fishermen.

(b) Inexperienced curing with inadequate facilities.
(c) Rough handling and sudden changes of temperature during transportation.
(d) Keeping qualities abused by wholesaler or retailer.

(e) Improperly cooked.
These five points are thought to be the chief stumbling blocks and therefore warrant a thoughtful review.

Early Dressing Essential

(a) Haddock, as any other fish, should be dressed as soon as possible after being caught and should then be iced and kept from shifting or moving about by specially constructed partitions, which are installed at present in our modern vessels and trawlers, thus preventing the fish from sustaining bruises. In the smaller shore boats, in which these accessories are not practical, they are not so important as these boats are out but a few hours at a time. They should land them, however, as quickly as tides and weather conditions permit, to a point where proper care can be given them. The trawler crews are usually well trained in earing for their catches; the vessel crews vary and depend much on the attitude of their skippers; while the shore fishermen generally do the best they can, but a scattered few of them are situated so far from receiving centres that it is not always possible for them to make the best of their catches. There is no doubt but that our fishermen generally are becoming more intelligent, chiefly through the efforts and co-operation of the larger producing companies, and right here is splendid opportunity for the government fishery officers along and sympathetic co-operation with the fishermen, with as much ambition to elevating the general standard of our sea products as to the rigid enforcement of federal laws.

Curing Preferred

(b) The proper curing of finnan haddies is an accomplishment which has been perfected throughout generations. To make a good haddie requires experience as well as much care and attention, especially in the pickling and smoking. The fish must be split evenly, smoothly and uniformly, and only after long practice with natural adaptability, can one become expert at this job. The fish are then pickled for a length of time depending on their condition and size. The pickle is made with varying quantities of the different grades of salt and its strength is governed by the season of the year and the particular flavor desired. The smoke houses should be spacious and airy with many conveniently adjusted ventilators, and the tiers of fish are hung alternately, one above the other, so that the smoke may circulate freely to the entire surface of every fish. While the houses are filled their ventilators must be under constant observation to be adjusted with changing winds and atmospheric temperatures. The fish should be dried over hard wood fires from four to eight hours and the smoke then generated by the application of rock maple or beech saw dust. This process should be completed in from four to ten hours, according to the plan of the smoke house, the season of the year, and the probable time to elapse before consumption. They are then removed from the smoke house and hung up in a light, airy, natural or artificial cooling room for a few hours, after which they are ready to be packed and shipped.

What Good Transportation Means

(c) The transportation companies are becoming pretty well acquainted with the requirements of shipments of fresh and mildly cured fish, such as that under consideration. But there are always those odd individuals, especially in large organizations, who care not how much midnight oil they cause to be burned in the claims department, nor how much worry they give the shippers and consignees of the goods they handle. They unwittingly take the edge off a good many Friday dinners by stowing a crate of ploughs up in the bow of the steamship and piling a hundred boxes of mild-cured haddies alongside the boiler room, or by loading them next the steam pipes in a heated express car. Sometimes a few of these freight and express handlers seem even to expend extra energy in creating the wild entertainment of seeing the sides and covers fly off these packages. However, it is a relief to know that, in recent years, these extreme occurrences have become very rare.

Keeping Qualities Abused

(d) It matters little how well haddies are cured when they are held by wholesalers or retailers for perhaps a week in a warm, damp or musty warehouse or storeroom. There should seldom be any need of holding this line for more than a few days, as fresh supplies are always available at short notice after their need is anticipated, and once the demand is gauged, they can best be obtained by placing a standing order with the producers or the wholesalers who, on this system of booking, have a better chance of anticipating their requirements. Throughout the fall and winter an artificial cold storage is not necessary to the successful handling of this line, but if one is available it might act as a guarantee against a sudden rise of temperature in the event of unexpected warm weather. Freezing does not detract from their flavor if they are kept frozen until ready for consumption and then slowly defrosted, and in many cases it is distinctly advantageous. A large portion of our haddies go right across the conti-



In specially built houses the haddock are hung up and submitted to the smoking process which imparts that delicious flavor

ment. These are frozen as soon as eured and whenever shipment is desired they are loaded in precooled refrigerator cars, which are re-iced regularly en route, keeping their contents at an even temperature until they reach their destination and are transferred again to cold storage. This has been accomplished very successfully in our warmest weather, so that it is comparatively easy during the fall and winter. The prejudice against frozen fish has been created by those who are uninformed as to its treatment. The defrosting is just as important as the freezing and should be done slowly either by submersion in cold water or by placing it in a dish in a refrigerator or on a piece of ice. The important point in defrosting is procrastination — the more lingering the process the better the subsequent meal. The dealers should bear in mind the one thing worse than sudden defrosting is repeated freezing and thawing; once it is frozen, it should not be permitted to let up until it is ready to be cooked.

Role of the Cook

(c) The cooking is the final operation responsible for making or marring a good meal, and all the energy and care expended on the haddie before it gets to the kitchen may be dissipated by its falling into the hands of an incompetent cook. There are many excellent and convenient ways of preparing them for the table — boiling, broiling, baking, creaming, etc., and the following two recipes are given to guide the inexperienced. The smaller fish are more adapted to boiling than the larger ones and they may be prepared for breakfasts and light luncheons by simply pouring over them, in a deep dish, some boiling water in which they are allowed to simmer from ten to twenty minutes, according to their size, then drained well, put in the oven for a minute and served with buttered toast. A large fish may be prepared for dinner as follows:— Trim off the napes and tail so that it will lie flat, face up, in a large frying or roasting pan. Add a pint of milk and a piece of butter. Sprinkle with nutmeg. Cover pan to keep fish from becoming hard or tough and put into hot oven for about half an hour. When baked, place haddie on a hot platter. Thicken pan juices with flour, into which stir the finely chopped whites of two hard-boiled eggs. Pour the sauce on the fish, over the surface of which pulverize the yolks of the two hard-boiled eggs. Decorate with parsley and sliced lemon and serve.

The present volume of the industry is substantial assurance of the general popularity enjoyed by this commodity, and it may be considered remarkable that it grew from its slender and struggling infancy to its present prosperous and robust proportions unassisted by any comprehensive advertising campaign. In some occult manner the demand spread from one town to another until it has covered the Dominion; now it is enjoying practically regular annual growth in Canada and has made a considerable impression across the entire length of our southern border, which may or may not be arrested by the severe tariff legislation recently enacted by the United States. Thus has the industry developed, characteristically Canadian in its early efforts and subsequent spontaneous growth, giving regular employment to thousands of our maritime population on sea and on land, and furnishing the whole country with a limitless supply of one of most desirable and convenient forms of sea food.

WHADDYA THINKS O' THIS ?

(Halifax Herald)

It is not often that a ship can boast of replenishing its larder with fresh meat while at sea, but a story comes from Rose Blanche, Newfoundland, that is worth a place in local marine chronicles.

It is said that, on a certain Saturday, not over long ago, but during the closed season for big game in Cape Breton, a famous skipper and fish killer, of Rose Blanche, had an experience which made him more popular if not more famous among his kind. When they were about a mile of Money Point light he sent his men in dories to set the trawls for the day's fishing. He and his "boy" were left aboard. A dialogue ensued.

"Wha's got for dinner?" he enquired of the boy.

"Biled beef and duff, sir."

"Salt junk! salt junk, ever and anon. O for a gutfull of good fried vension once more, wid plenty a tadies and hungins!"

"Aye, aye, sir, and a mouthfull o'grog before it to what th' appetite."

"Must be helva tide where that win'ward buoy is; look, he nearly goes under at times."

"T'ha's no buoy, sir; more like somebody's lost their dog overboard, and h's swimmin' fer us."

The skipper pondered a minute. "Dog be dauged! Han's I me gun; that's a deer if ever I seed one."

"We ain't got no shot sir."

"Darn! chuck up that engine then, we might get him wid a boathook."

The slow but powerful ehugehug of the heavy-duty ten horse Hubbard, plus a heavy ten-foot boat hook. The deer dodged artfully for ten minutes, then succumbed and soon was made small meat of.

The revenue cutter Grib had an unpleasant habit of being over inquisitive. Chance might send it to Money Point Light, so the skipper decided to make a feast-day of the following Sunday. He gave away about ninety pounds to his dozen or so to brother skippers and men whom he trusted with the secret.

The skin was consigned to the deep heavily weighed.

Sunday came; all were content only the boy, who mourned the fine horns that went into the briny.

The Silent Partner

"Does you' take this woman for thy lawfully wedded wife?" asked the colored parson, glancing at the diminutive, watery-eyed, bow-legged bridegroom, who stood beside two hundred and ten pounds of feminine assurance.

"Ah takes nothin'" gloomily responded the bridegroom. "Ah's bein' tooked."

Cruel

Mrs. Brown: "Yer nin't lookin' too happy today, Mrs. Jones. What's up?"

Mrs. Jones: "Wha't's up? Jones has been promising all the week to take me and Billy to see Charlie Chaplin, and this morning, half an hour ago, just as we was getting ready, his strike was declared off, and he had to go back to work. That's wha't's up!"

A Short-Cut Shipping Route

Proposal to Move Fish from Southwest Nova Scotia to Canadian Interior via Portland, Maine

By M. H. NICKERSON

Quite recently the word went out from official Ottawa, as a matter of rueful surprise, that the fish markets of the Canadian interior were being largely supplied by imports from the United States. It was no news to me, for I had often seen shipments of sea-fish sent out from Boston and Portland billed to the inland consuming centres of the dominion. I was thus led to enquire, and learned that in such cases there was an arrangement with the Canadian customs to refund to the shippers ninety-nine percent of the statutory tariff on such alien imports. Two years ago, the manager of the East Coast Fisheries, Rockland, Maine, (now defunct) informed me he had received at one time a rebate of \$14,500.00 from the Canadian exchequer on shipping accounts of that kind. Afterwards I had the same story from North Sydney dealers, respecting the landings from American schooners there. I did not suppose that any part of a tariff enactment could be nullified without the consent of parliament; but the present finance minister informed me it was in accordance with an old law. I saw at once that if the way were opened for Montreal and Middle West firms to get the best stock of seafood, of domestic production, and at short notice, they would naturally take the nearest source of supply, namely, the western portion of Nova Scotia. I offer the following remarks as good and sufficient reasons for my attitude on this question.

This article deals only with the said section of Nova Scotia, and especially in relation to the imperfect method of marketing the catches thereof, the annual value of which is almost two thirds of the whole provincial yield for that period, counting all kinds. This harvest, which alone represents, say, over six million dollars, is for the most part brought in by a very smart class of gasoline boats just under ten tons, and by small auxiliary schooners that tend the inshore banks, not reckoning the bankers which go on salt trips. These last are for the foreign markets, for which the transportation facilities exactly fit the requirements. It is not so with the inshore branch, comprising as it does the most popular species of sea fish, school and ground, which from the nature of the pursuit, are sold a few hours after being taken from the net, seine, trap or set-trawl, and hence are in the best possible condition for handling. The fishermen no longer dress, salt and dry or pickle their marine crop as they did in the days of old. They sell and deliver to the local buyers, be they small dealers or big corporations, who in turn ship fresh, or cure and prepare in the best style their goods for such markets as are accessible, the want of which placement is beginning to be severely felt in that same western territory. The foregoing clears the ground for the real point at issue.

The Established Routes

Nearness to the United States markets has hitherto greatly helped the immediate disposal of fresh and prepared fish-stuffs of all varieties, including live lobsters, the biggest item for the said district. The means for

collecting and conveying was never precisely adequate; indeed, far from it in most instances. It must be borne in mind that the industry is not centralized, at great receiving points like the Boston Fish Pier and others, but located at intervals along more than two hundred miles of coast, measuring from Lunenburg to Digby. Each considerable harbor produces its daily quota when in season; but the difficulty of moving with requisite despatch will be at once apparent. The shore railway does not touch the more active fishing stands, and the transfer has to be done by small coastal steamers, which service can never be wholly efficient though performed in the best possible manner. Those craft are carriers of other freight, which takes time and demands close attention. There is delay from storms and other causes; but the great drawback is the long carriage to the only port of final exit, which is Yarmouth, at the extreme western end of the producing circuit and 240 miles from Boston, the port of destination. The only alternate routing from the more eastern sections of this shore is by rail, and the lately inflated charges, freight and express, have almost paralyzed that mode of transportation for fishstuffs.

Meantime the domestic consuming centres have been widening apace, with a fair prospect for absorbing a good share of the native marine products. The prospective markets of most promise are in the Canadian interior, where new towns are springing up and cities are enlarging their borders. That region cannot be reached by Nova Scotia Shippers, in the present state of things, especially by those in the western counties, because there is no highway open for convenient traffic and quick despatch. The Intercolonial Railway, it is true, traversed the eastern sections of the province, with its Halifax and Hawkesbury terminals, where all the great fish firms were located. They catered to the growing trade of the interior, and to supply the demand a number of European steam-trawlers were brought into requisition and a flourishing business on that long haul route was established by aid of the government, which until a few years ago, paid two-thirds the freight charges on fish carried over that road. When the virtual bonus was withdrawn, the supply from that source was impeded, and the next resort of the Dominion dealers was the great American emporiums.

Need Shorter Route

I canvassed the situation thoroughly and concluded that the crying need of the Nova Scotia fishing interests was a shorter and more expeditious way of supplying the home markets. The goods could be produced steadily. Methods of packing and preserving were on a par with the best anywhere. The problem of moving and delivery in fit condition was confronting us. Yarmouth is only 183 miles in a direct line by water from Portland, Me. From that city, where the Grand Trunk terminals are the handiest imaginable for such transfer and forwarding, Montreal is not more than the above distance, as the gannet flies. It would be somewhat longer by rail; but that would not affect seasonable



Present Route via Halifax and C. N. R. to Montreal — 1200 miles. Proposed route via Portland — 500 miles. Saving in mileage — 700 miles

delivery of those salt water fish, which had only been a few hours, or a day at most, out of their native element. The system of distribution from Montreal, if not answering all requirements at present, could be easily improved.

The extreme eastern connection by boat is a matter for future consideration. It might be either Lockeport or Shelburne with advantages about even; but the latter would be preferable as shortening the sail by a few miles. Clark's Harbor would be a paying intermediate port of call. Within that circuit ample freight would move outward in the most active seasons, but there would be other sources to draw from. Yarmouth suggests itself as the final port of departure, but it is not desirable

to enter into competition with its long established Boston steam service. The proposed road is chiefly for a class of goods which would increase the exports in that direction without lessening those to the States, except such fish products as would surely be deflected from that placement by present tariff obstacles. The fresh lots from the points inclusive could be either landed direct at the several points of shipment, or called for by the small carriers as above.

The packet to Portland should be a boat of suitable tonnage, with crude oil motor power, making, say, fifteen knots, and cold storage equipment with chilled spaces being adaptable to the storage of other commodities besides fish, for return freight. The weekly trips

could be provided for by reserve lots in the local chilling depositories against the time of sailing; and on that date most of the boat fares could be placed by direct transfer from the kids to the cold storage hold of the packet, an arrangement far in advance of handling fresh fish cargoes anywhere on the face of the globe. The passage from Yarmouth to Portland could be made in fourteen hours. It is a straight course, without a single reef, rock or tide-rip as a source of danger. For serve holdings, I advised some three or four years ago, a cold storage warehouse at Yarmouth, of sufficient capacity, as the grand collective depot, with a smaller plant at Clark's Harbor and Westport respectively as receiving stations for the boats' landings assembled from points within easy reach. At that time the Canadian Commission of Conservation, to which body I had submitted specifications, thought the system would be perfect to all intents and purposes, and an outline which I furnished was published in the bulletin of the commission with favorable editorial comment. This drew from the Toronto board of trade an enquiry as to whether the billing through of goods would be possible by that packet service direct to western Nova Scotia. It certainly would be. Thus encouraged, I endeavored through Hon. E. K. Spinney, then representing Yarmouth in the Commons, to launch a movement for cold storage at Yarmouth, but it elicited little interest. With the election of Mr. P. L. Hatfield by that constituency, I renewed the propaganda and he finally consented to act. I am glad to see "the Canadian Fisherman" second the move.

Cuts off 700 miles

When distance, time and cost are taken into consideration, no other line can compare with the proposed route. When the Western Shore ships its choicely prepared lots by the Intercolonial, they must first go by rail 100 miles in an opposite direction, namely as far as Halifax, instead of heading towards the destination, making the entire haul about 1,200 miles, as against 500 at most by way of Portland. Railway charges are rather exorbitant, as all exporters know to their sorrow, and consignments of the very best cure often barely pay their way over the roundabout road. The alternative routing, which is here sketched, has everything to recommend it. The cost of conveyance, being half way by water, would certainly be proportionally lighter than by all-rail. Traffic would flow both ways. Upper Province goods and manufactures would come by that channel straight to the thousands of Nova Scotia customers, who sometimes have to wait fifteen days for their orders sent over the Intercolonial and connecting land lines. The advantages are too obvious to need enumerating. The whole question has taken on additional importance since the imposition of a hostile tariff by the United States, and the prohibition of direct landings at its ports by Canadian fishing boats. The provincial producers will be naturally led to rely on their own traffic thoroughfare from the seaboard to the domestic consuming centres. There would then be no shortage in supply to necessitate importation of fish, fresh or frozen, from any foreign country whatever.

Poincare Likes Fish

"I am very fond of fish," declared Premier Poincare of France, to a deputation from Boulogne which waited upon him the other day to discuss some fishery questions. "I eat fish every evening and it is the chief part of my meal. It is a healthy food, both delicate and light, and it suits me very well indeed."

EEL MYSTERY EEL-UCIDATED

The researches of Dr. Johannes Schmidt, of Copenhagen, Denmark, on the life history of the common eel are summarized in a paper recently issued by the Royal Society of London. Their breeding place has always been a mystery, but he started the search for it in 1904 in the Iceland and Faroe waters. The next two years were spent in the Atlantic west of Europe, and several succeeding years in the Mediterranean. In 1913 he followed the eel across the Atlantic, but his specially equipped vessel was wrecked in the West Indies. After the war he used another special vessel, the Dana, and on September 25, 1920, The London Times announced that Dr. Schmidt had found the breeding place to be not far south of Bermuda. The paper issued by the Royal Society confines the place to an area between 22 and 30 degrees north and 48 and 65 west. Until a couple of decades ago all that was known about their breeding place was that in the autumn full-grown eels moved out to sea and that in the spring the elvers, or young eels returned. Probably owing to this mystery the eels were held sacred by some of the ancients, and Dr. Radcliffe says that the belief in their sanctity persists, for in the springs at Bergas, between the Dardanelles and Lapsaki, they are, or were before the war, inviolate. Izaak Walton referred to the high esteem in which it was supposed to have been held by the Romans at their feasts, but many suppose that it was the lamprey or the muraend, a near relative of the eel, that was the delicacy in question. The Toronto Globe reminds us that Walton had a theory of his own about the origin of these fish. "That eels may be bred," he says, "as some worms and some kinds of bees and wasps are, either out of dew or out of the corruption of the earth, seems to be made probable by the barnacles and young goslings bred by the sun's heat and the rotten planks of an old ship." No other theory, however, was any better until Dr. Schmidt started his investigations. He is now on his way home from the Western Atlantic, where he has been trying to capture the breeding eels, the only thing needed to complete his investigation of the reason why the common eel resorts to this particular area. Dr. Johnson, of Boston, an angling writer who is not unknown in Quebec has apostrophized the eel in some witty lines, which concludes as follows: "Like some men who fancy they are smart as eels, to catch you is an easy art." — Quebec Chronicle.

DEMAND FOR SHARK FINS

At the present time the demand for dried shark fins exceeds the supply, in fact at no time in recent years has there been a known overproduction. San Francisco represents the principal American market for this commodity. Fishermen should learn to prepare these fins properly and should include only those fins for which there is a market if they expect to receive the higher prices for this commodity. The fins in demand are the large fin on the back (dorsal), the fins immediately back of the gill slits (pectorals), and the anal fin on the median line of the under surface. The tail (caudal fin) has no sale value. The fins should be removed at the joint connecting them with the body and all fleshy parts trimmed off, leaving only the true fin. The fins should be at least 6 inches in length, but those 8 inches or more long are preferred. The fins should be dried thoroughly in the sun without salt or other treatment.—Fisheries Service Bulletin, Washington.

Back 50,000 Years to Study Fish Life

By Dr. B. A. BENSLEY, Dep't of Biology,
University of Toronto

In a bulletin just issued by the University of Toronto on behalf of the fisheries laboratory of the department of biology, Professor A. P. Coleman reviews at length the data bearing on the glacial history of the great lakes. Records in the form of old river channels, raised beaches and fossils are carefully judged as to time sequence and made the basis of a connected account of the development of these enormous bodies of water during some 35,000 years. Ontario borders on four out of five of the lakes and has a very large part of its drainage area connected through them with the St. Lawrence basin. Fisheries, trade routes, water supply and hydro developments are all of great significance to the province and are dependent in a large way on the distribution of the water areas. Professor Coleman's study provides an interesting commentary on industrial possibilities, especially in relation to existing and proposed canal routes, and incidentally shows the importance of geology to engineering, industrial geography and scientific fisheries research.

Old river cuttings prove the existence before the glacial period of a great river, 2,000 miles long, the tributaries of which followed the main lines of the present lakes and their principal inlets. It emptied into the Atlantic Ocean by a channel the remains of which are now found at the bottom of the Gulf of St. Lawrence extending far out into the sea. Its existence shows that the eastern area of Canada was formerly much more extensive than it is now. During the glacial period there were several advances and recessions of the ice sheet over Ontario. At each advance the ice accumulated to a very great thickness northward, and gradually advanced its margin southwards filling in all the surface depressions including the valleys and future lake basins with solid ice and driving all life before it. At each recession increase of temperature permitted plant and animal life to return, and there were formed enormous bodies of water, the glacial great lakes, such as Agassiz, Algonquin and Nipissing, the extent of which varied from time to time depending on elevations and depressions of the land, accumulation of glacial debris and the freezing of ice of the northern coastal area towards Hudson Bay. At different times the lakes had outlets into the Mississippi or into the St. Lawrence area, the connections with the latter being established either through the present St. Clair route or through the Trent or the Mattawa valleys. Quite recently, in a geological sense, the St. Lawrence route was wide open to the sea. Lake Ontario was for a time a marine inlet, known as Gilbert Gulf. Toronto, or the site nearest it, would have been a real ocean port, though it has been shown that the water at this end of the gulf was fresh or at most brackish, due to the influx of fresh water from the upper lakes through the Niagara River. One of the peculiar features of glacial lake formation, though not directly associated with the predecessors of the existing great lakes, was that of the development of Lake Agassiz. Itself one of the oldest of the group, Lake Agassiz covered an enormous area comprising parts of

northwestern Ontario, Manitoba, Saskatchewan and the adjacent states. It was drained southward into the Mississippi, but when the ice retreated far enough to the north the height of land came to lie to the south and east. The water now flowed northward into Hudson Bay like the corresponding but greatly reduced water areas known as Lake Winnipeg and the Lake of the Woods.

Members of the staff of the department of biology are attempting to solve certain economic problems relating to game and commercial fishes in Ontario lakes. In order to determine their nature in relation to the environment offered by the great lakes and innumerable inland lakes, especially in the north, they found it necessary to trace the possible lines of migration in former times, since the fish and other aquatic organisms could only have reached their present positions naturally by utilizing such water routes as were available when or after the individual lakes were last formed. Professor Coleman's investigation affords a rational basis for explaining the nature of the many striking differences, well known to sportsmen and commercial fishermen, which are to be found among the fish of different lakes in various parts of the province.

INTERESTING FILMS

An amusing note is introduced when we are shown how the ingenious crustacean camouflages himself on the approach of an enemy, by turning himself into a kind of depth charge and violently shooting out a stream of water. This disturbs the adjacent sand and sediment and raises a miniature submarine sand-storm, which effectually conceals the scollop for some moments. This unique film will form one of "The Secrets of Nature Series" which are to be released by the Regent Film Company for public exhibition after October. The whole series will consist of about 30 subjects.

In the same series is a remarkable little picture exploiting the land crab. In one scene in this film we are shown the ingenious optical arrangements which enable the land crab to rectify matters when he gets a bit of grit in the eye, so to speak. His eyes, it appears, are mounted on stick-like contrivances which project for about two inches from his countenance. On his chest is what is in effect a little brush, and to remove the irritant from his eye, he merely bends the optic down and brushes it on his chest. Simple, isn't it? Fishing News.

One does git Curious

"I beg your pardon, sir, but what is your name?" the teller politely asked the man presenting a check.

"Name," echoed the indignant customer: "don't you see my signature on the check?"

"I do," answered the teller. "That's what aroused my curiosity."

Storage Situation at Prince Rupert

Fishermen Calling for Reciprocity in Fish or Port Duty on American

(Specially written for "Canadian Fisherman")

Of all the trade anomalies that have developed in consequence of the new United States tariff, none is so strange as that which has sprung up at Prince Rupert, the fishing metropolis of northern British Columbia. With favored treatment for fish landed by American bottoms, there is grave danger that the Canadian halibuting fleet will dwindle to nothing, unless the government is alert to correct the situation. The Deep Sea Fishermen's Union was circulating last month a petition to be forwarded to Ottawa asking for the removal of both Canadian and American duties on halibut. Early last month a mass meeting of citizens adopted a resolution calling upon the government to negotiate with Washington for duty-free halibut both ways, failing which it insisted that a tonnage tax of two cents a pound on halibut landed by foreign bottoms be introduced to offset the duty advantage the American vessels now enjoy.

It is necessary to go into a bit of detail to explain the situation. Between seventy-five and eighty so-called independent Canadian vessels, principally owned and operated by local fishermen, were engaged last year in the halibut fishery from Prince Rupert. Some company vessels, so styled, have also been operating, and the total of their crews would approximate five hundred. The amount invested in these vessels and their equipment is conservatively estimated between \$500,000 and \$600,000. During recent years the development of the fleet has been steady and a feature which afforded considerable gratification was the transfer of several modernly-equipped vessels from American to Canadian registry.

Available records disclose the steady, consistent growth of the industry during the last five years. The following quantities were landed in the various years since 1914 by Canadian halibuters at Prince Rupert: 1914, 8,742,000 lbs; 1915, 8,444,000 lbs; 1916, 6,710,000 lbs; 1917, 5,839,000 lbs; 1918, 4,338,000 lbs; 1919, 5,840,000 lbs; 1920, 6,519,000 lbs; 1921, 8,297,000 lbs; 1922, January to end of September, 6,502,000 lbs.

According to best available estimates about thirty-five percent of the Rupert Canadian production of halibut is consumed within the dominion, while the balance of sixty-five percent must go elsewhere to find a market and the only available market is the United States.

Trouble Began at Once

Upon the introduction of the United States tariff last September there developed immediately a difference of two cents a pound in favor of halibut landed by American bottoms on the Fish Exchange at Prince Rupert. This, ostensibly, was to make up for the duty which must be paid on Canadian production to put it into American markets, to which fish of American production could be shipped in bond. Heretofore Canadian fish had commanded an equal, and sometimes a higher, price as compared with American fish. Today the lower price is paid not only to Cana-

dian fish destined for the American market, but on all Canadian fish whether for local or foreign consumption. It is estimated that the annual loss, if present conditions continue, will be between \$180,000 and \$200,000 a year, a toll that will undoubtedly prove ruinous to the thriving community.

With prevailing costs of operation it is generally agreed that vessels cannot operate with profit when prices go below eight cents a pound on the exchange. At periods during every season prices come down to this level and frequently fall below. With the handicap of two cents a pound against Canadian fish it is difficult to see how they will continue to operate. Generally, low prices prevail in the summer months when fishing conditions are ideal. During the fall, winter and early spring the great majority of the vessels are prevented from fishing due to severe weather conditions and are thus driven out of the market when the high prices are being paid. Without redress of some character there is nothing left to this class of fishermen, but to seek a livelihood elsewhere or in some other vocation.

It is a comparatively simple matter for vessels transferred from American to Canadian registry to be transferred again to the American flag and there is already considerable agitation among owners of such vessels to take that step.

Ketchikan, Alaska, a keen rival of Prince Rupert for the halibut business, is gloating over the confusing situation. It has been her ambition to secure halibut landings and have the fishing vessels equipped and supplied there, but has found it difficult to overcome the natural advantages of Prince Rupert as regards transportation facilities. It was the belief, when Ketchikan urged its representative in congress to strike a two cent duty on halibut, that it would have the effect of diverting the business to the Alaskan port. Not so, however. The result has been that the fish still goes to Rupert, but the fish from Canadian vessels is taxed. What for? Simply for being Canadian production.

Buyers Not to Blame

The buyers on the Rupert Exchange are in no way to blame. They, naturally, could not stand the two cent duty, because their profit didn't warrant it. And it may be readily understood that at the time of making the purchase from the fishermen, the buyer would not know whether the fish would be consumed in Canada or outside, so it would be hard to pick out the thirty-five percent of locally consumed Canadian fish and pay the full rate, or select the balance which bears the discount.

While, on the face it, the proposed tonnage tax on American fish would correct the evil, would that really be the effect? Would Americans still land their fish at Rupert and pay the toll or would they go elsewhere? And again. Would it be possible to enforce the tonnage tax at Prince Rupert and not at Vancouver which is an equally great halibut centre? If so would

the trade merely shift from Prince Rupert to Vancouver or somewhere else? If not, would Vancouver not lose its American halibut business entirely in favor of Seattle?

The issue is not a simple one. Fred Stork, federal member from the Prince Rupert constituency, has been in frequent conference with fishermen and interested citizens among his constituents, and must have a thorough grasp of the situation. The industry is depending upon him to impress the government with the critical state of affairs.

From the standpoint of the Canadian National Railways it is important that the movement of fish from Prince Rupert should not be lost. Last year the movement of fish in earload lots was one of the features of

Canadian National Express business. Approximately 1,200 ears were handled, an increase of 400 over 1921. More than 1,100 of these were despatched from Prince Rupert. A considerable increase in less-than-earload movement was likewise noted. Statistics show that the total quantity of halibut marketed through Prince Rupert in 1922 was 25,500,950 pounds, about three-quarters of which was landed by American bottoms. The express company has built special ears for the handling of fish and is constantly adding to its equipment in order to make the service the best possible. The fish has been moved with the utmost despatch to Chicago, Buffalo, Boston and New York, and the eastern Canadian markets. Is this business not an item to be considered in adjusting the strange state of affairs?

Little Canadian Fish Through Panama

Much has been said during the past year of the movement of fish from the Pacific coast to the Atlantic via refrigerated steamer through the Panama Canal and it may have been confusing to the Canadian trade to know just what this movement consisted of.

In the first place these specially-equipped steamers do not proceed farther north on the Atlantic coast than Boston. While there is always some Canadian frozen fish moving to the states, shipments of frozen fish by water from the Pacific to the Atlantic coast consist very largely of American production, either frozen in bond at Vancouver, or frozen in Alaska and then shipped to Vancouver for storage and later re-shipped by steamer. The movement of Canadian fish by the route is negligible.

The only advantage of shipping through the Panama canal is a lower freight rate than by rail, but this lower rate is largely offset by the charges which rail shipments do not have to bear, such as switching ears from storage to steamer, unloading on the dock, handling to ship's slings, wharfage charges and refrigerator insurance which is quite high. Then again it takes considerably longer for a shipment to reach its destination via the water route and, if interest on money is taken into consideration, the saving via the Panama canal is very small indeed.

There was considerable criticism at New York when the last refrigerator steamer discharged at that port over the very rough handling which the boxes received, and the delay in delivery. The success of the coast to coast refrigerator steamer service depends simply upon rates. If they can be made low enough to offset all these disadvantages, a good proportion of the shipments will go via the route, but if the railway companies meet the rates then the shipments will move by rail.

Shipments to United Kingdom

Shipments of Canadian frozen fish from the Pacific coast to the United Kingdom have not, during the past few years, been very considerable. During the war, large volumes of halibut and salmon were shipped but since the war practically nothing but frozen salmon has gone forward. The English market favors two varieties of salmon above any others, namely, steel-

heads and dressed red kings. British Columbia produces a very small number of steelheads and the favorite red king in the Old Country is that caught in the Columbia River. The movement of frozen fish to the United Kingdom during the last few years, therefore, consisted chiefly of American and Alaskan salmon.

Prince Rupert Landing

Fish landings at Prince Rupert for the month of December were as follows, according to a report from the Dominion Fisheries office:

Canadian	
	Cwt
Halibut	18,891
Black Cod	80
American	
Halibut	4,614
Black Cod	81
Crabs	5
Shrimps	5
King Cod	2

No Sockeye Agreement this Year

Olympia, Wash. — Though no agreement can be effected with Canada to limit fishing for sockeye salmon next year, the state fisheries board is confident that a new plan will be put into effect before 1924. Canadian authorities seem willing to agree to stop all sockeye fishing during even numbered years for a period and then open the even years and close fishing in odd-numbered years. This plan, it is urged, would gradually permit the Fraser river run to be restored, or in any event would greatly improve the situation. The proposed regulation would not affect other varieties of salmon.

In the meantime the Washington board is rapidly building up a good run of humpbacks, and within another biennium or two it is believed a satisfactory run of these fish will be guaranteed in Puget Sound waters.

HALIBUTER TOTAL LOSS

The Seattle halibut schooner *Flora*, Capt. Ole Bjerke, was wrecked on January 24, on Whale Rock off Mary Island, between the Prince Rupert and Ketchikan. The crew were rescued but the schooner is a total loss. The *Flora* had left Prince Rupert the 23rd after landing a fare of 10,000 pounds.

Crew Share of \$727.80 World Record

The halibut schooner *Gladstone*, belonging to George Tecklenberg of Seward, was chartered by Captain Pete Peterson of Ketchikan, Alaska, and crew of five on September 21st last. Since that time they have had phenomenal luck and up to the middle of January had averaged \$2,400 per man. About the middle of the month the *Gladstone* landed a fare of 38,000 pounds at Prince Rupert which netted \$727.80 per man, which is said to be a record not only for the Pacific coast, but for the entire world. The trip was made in 14½ days from the time the schooner left Ketchikan, until it returned to that port after having disposed of the fare at Rupert.

Would Put Seal Pelts on Open Market

Senator Johnson has introduced a bill at Washington which is designed to take away the fur seal monopoly of St. Louis. He had hoped to give San Francisco dealers a chance at the business but other cities are looking for it now, as well, among them being towns in Alaska.

By an international arrangement between Japan, United States and Canada, sealing is restricted on Pribiloff Islands and the revenue from the sale of the pelts taken under international supervision are marketed each year at St. Louis and the revenue apportioned as per agreement between the three nations. At the present time the skins are cured and therein lies the joker for they can only be cured by the St. Louis dealers. By the Johnson bill they would simply be salted which means open competition for the business.

U. S. Landings on Pacific Coast

United States fishing vessels operating on the Pacific Coast of Canada may sell their catches in Canadian ports upon payment of the duty, according to an order in council. Vessels must, however, be equipped with licenses obtainable from the Marine Department.

The license permits the United States fishermen to enter Canadian ports to land their catches and tranship in bond to any United States port. U. S. fishermen may also sell in bond to local dealers authorized by the minister of customs and can enter port to get bait and crew's equipment.

Fishman Mayoralty Candidate

John Dybhavn, the genial proprietor of the Royal Fish Company at Prince Rupert, who for ten years has served his community faithfully as alderman, was a mayoralty candidate in the recent civic elections in the northern metropolis. He was defeated by a small margin. His defeat means that the people of Prince Rupert passed up a good mayor, or else the successful candidate is a ring-tailed snorter.

Unfamiliarity

Bradley: "That was a spade I dealt you, wasn't it Whitney?"

Braatz: "Yep! How did yuh know?"

Bradley: "You didn't know what to do with it, when you picked it up."

FISHERIES OFFER BIG BY-PRODUCT FIELD

Canada, with her vast stores of raw material on which to draw, has heretofore paid little attention to the utilisation of her waste materials. Of the major industries, the fisheries perhaps present the most lucrative field for the manufacture of by-products. Such commodities as cod liver oil, fish fertiliser, fish glue, fish leather, fish meal, glycerine, isinglass, and fish oils are in constant daily use, and their manufacture in Canada at the present time is on a somewhat limited scale.

Caviare is one of the most important fish by-products used; 7084 pounds of this commodity being put up in 1919. A good-sized sturgeon gives from 5 to 35 pounds of caviare, which fetches from \$1 to \$35 a pound on the American market. Before the war this product was shipped from the inland lakes of Canada to New York, where it was prepared and forwarded to Hamburg to be finished and sold as Russian caviare. Now the sturgeon roe is transported to Sandusky and Toledo, Ohio, where it is finished for the American market.

Numerous Fish Oils

There are several kinds of fish oil, among the more prominent being cod liver, herring, whale, porpoise, seal, and black fish. Cod liver oil is the most widely known, and is manufactured in Digby county, Nova Scotia. It is made from livers cooked while practically fresh, and sold as crude cod liver oil. Cod, herring, and porpoise oils are used for tanning; seal and whale oils for burning in miners' lamps; and refined whale and porpoise oils for lubrication. The waste from the manufacture of oil can be made into cattle meal concentrates, hog feed, poultry scratch feed, dog biscuit, and a good fertiliser.

Isinglass and glycerine are not of very great importance. Glycerine, which is sometimes made from dog fish, is produced in Canada as a by-product of soap manufacture. The best isinglass is made from the sounds of sturgeon. These are shipped from Lake Erie to the United States for manufacture. In addition, the Hudson's Bay Company annually ship a small quantity from Northern Ontario and Northern Manitoba to be sold at public auction in London, England.

By-Products of the Whale

The production of whale by-products is confined to the Pacific coast, where large numbers of these mammals are still to be found. From the sperm whale, which is the most important, sperm oil, spermaceti wax and fertiliser including bonemal are obtained—from other varieties, whale oil, and whalebone or baleen. A fair sized whale will yield approximately six tons of oil. During 1920, about 80,000 gallons of whale oil worth approximately 100,000 dols., were exported. In addition, 2500 pounds of whale meat, valued at nearly 20,000 dols., left the country during the same period, going almost entirely to the United States, Fiji and Saoma.

The fish by-products industry of Canada is as yet in a primary state of development. There is an unlimited supply of raw material for manufacturing purposes, good transportation facilities, close proximity to the markets and a steady demand. The lack of exploitation and capital has retarded this industry to some extent, but with business conditions assuming a normal aspect there should be a steady expansion.

FREEZING OF FISH

Dr. Stiles' Survey of Two Prevalent Systems

Reference was made last month to the newly-issued report of the Food Investigation Board on "The Preservation of Food by Freezing," written by Dr. Walter Stiles; and that part relating to brine freezing of beef was summarized. We now deal with the section devoted to fish freezing. The report sums up researches extending over many years, and discusses them in the light of the latest knowledge.

While admitting that the freezing of fish in air has the great advantage of simplicity, he balances against it three disadvantages: (1) The comparatively long time required to freeze fish in air, with the consequent changes in histological structure which result from separation of water from the tissues on thawing; (2) the loss of water by evaporation; and (3) the loss of surface mucilage with consequent deterioration in appearance and market value.

Yet he points out that by the use of low enough temperatures the first disadvantage can be reduced to some extent and the loss of water from the surface will also be lowered. On the other hand, the working expenses are much increased if the temperature is used that is low enough to eliminate the disadvantages of ordinary air freezing to a satisfactory extent.

Dealing next with the freezing of fish in a solution, Dr. Stiles naturally limits the choice of a cooling medium to substances which are not harmful to the consumer or to the tissues of the fish, and which will not give to the fish any unpleasant flavour. For these special reasons the only solution which has so far been used for practical purposes is one of common salt.

But there are many other substances which might be used provided their entrance into the tissues is reduced to a necessary minimum, but which in larger quantities will impart an unpleasant flavour. Among these are magnesium chloride and calcium chloride, which have decidedly unpleasant flavours, but which can exist in solution at much lower temperatures than sodium chloride. As one of the principal reasons for freezing in solutions is the reduction in the freezing time, it follows that a temperature of the brine as low as possible should be used, other things being equal.

One great advantage of freezing in brine is that fish undergo no loss of weight by evaporation as in the case of air freezing. A whiting weighing 614 grams was frozen in brine and gained 8 grains in weight after removal of the brine adhering to the surface. A herring similarly treated gained two grams in weight. While this slight increase might be accounted for by drops of brine adhering to the skin of the fish, or by penetration of salt into the fish, it shows clearly that there is no appreciable loss of water from the surface of the fish during brine freezing. —Cold Storage.

Hard To Fill

Aunt Liza's former mistress was talking to her one morning, when suddenly she discovered a little pickaninny standing shyly behind his mother's skirts. "Is this your little boy, Aunt Lize?" she asked.

"Yes, miss, dat's Prescription."

"Goodness, what a funny name, auntie, for a child! How in the world did you happen to call him that?"

"Ah simply calls him dat becu' Ah has sech hahd wuk gettin' him filled."—The Strathmorean.

HOUSEWIFE LIKES FILLETS

Careful study made by our investigators, who are looking into the cause for the low consumption of fish in the United States, discloses a number of interesting points of resistance. Whatever theories may be brought up, after all it is the housewife who controls the quantity consumed. Inquiry develops the fact that most housewives believe that fish is more difficult to prepare for the table than meats.

To overcome this, Chesebro Brothers and Robbins have constructed a plant for manufacturing fillets. These fillets are nothing more nor less than split and boned green fish, haddock being the variety principally used. The fillets are immersed in weak brine for a few minutes, and are then packed in special tin cans, which hold twenty-seven pounds of the prepared product. Each layer of fish is covered with parchment paper, and the finished article presents a most appetizing appearance. The housewife is relieved from the necessity of any labor so far as the product itself is concerned.

The response of the public to this product was immediate, and the plant, although in operation for less than two months, has difficulty in supplying the demand. As the operations of preparing the fish are largely mechanical, due to devices invented by one of our department heads, it has been found possible to put the product out at a low price.

The information to be gathered from this development is that the housewife welcomes the preparation of raw fish in such manner as will lessen the labor and annoyance of getting it ready for the table. This field apparently presents an opportunity for intelligent expansion. —Ateo Fishing News.

TO YOU

It isn't the man who smiles that counts,
When everything goes dead wrong;
Nor is it the man who meets defeat,
Singing a gay little song;
The song and the smile are well worth while,
Provided they aren't a bluff,
But here's to the man who smiles and sings,
And then—PRODUCES THE STUFF.

Good Use for Old Cruiser

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are offered by the Province of Quebec, which is the only one that leases exclusive hunting and fishing territories over large areas of forest, lakes and rivers, both to Clubs and private individuals, with the privilege of erecting camps thereon.

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To the Wholesale Fish Trade

The attention of dealers who receive their fresh fish from Portland and other foreign sources is directed to the exceptional opportunities of obtaining their supply from the Baie des Chaleurs and the North Shore of the St. Lawrence, to their own advantage and that of their customers, and to the benefit of the fishermen of the Province of Quebec.

For all information apply to —

**The Minister of
Colonization, Mines and Fisheries
Of the Province of Quebec**

THE CANADIAN FISHERMAN

Official Organ of the Canadian Fisheries Association
A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada,
and Technical Education of those engaged in the Industry.

VOL. X

GARDENVALE, P. Q., MARCH, 1923

No. 3

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SUBSCRIPTION

Canada, Newfoundland and Great Britain	\$2.00
United States and Elsewhere	\$3.00

Payable in advance.

Published on the 17th of each month. Changes of advertisements must be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication, these will be paid for at our regular rate.

The Industrial & Educational Publishing Co. Limited

J. J. Harpell, President and Managing Director
GARDEN CITY PRESS, Gardenvale, Que.
Telegrams and Express Ste. Anne de Bellevue, Que.
Eastern Manager, A. S. Christie, Gardenvale, Que.
Western Manager, H. W. Thompson, Aladdin Building.
208 King St. W., Adelaide 3310



GARDEN CITY PRESS, GARDENVALE, QUE.

The Home of
The
Canadian Fisherman
GARDENVALE, QUE.

Garden City Press is situated on the Toronto to Montreal and Ottawa to Montreal lines of the C. P. Rly, and G. T. Rly., adjoining Macdonald Agricultural College. The railway station, telegraph and express office on either line is Ste. Annes, but the post office, which is located in our own plant, is Gardenvale, Que.

:-: EDITORIAL :-:

By H. CONLON, Editor.

WHERE AND WHEN TO COMPROMISE

Judging from intimations in the press, the final report of the Duff commission that investigated British Columbia fisheries last fall, was a document difficult to compile. The actual writing of a report suitable to his inclinations is a task that each individual member of the commission would have tackled with relish, but when it came to the question of weaving these various opinions and shades of opinion into a single document — there was the rub.

When considering the probable results from a report of a government commission it is necessary to bear in mind how the commission is constituted and the position of the government which must pass final judgment. This commission is composed of two eastern liberals, two B. C. conservatives, one B. C. independent and one B. C. liberal. This arrangement, from a government viewpoint, would naturally throw a good deal of weight upon the opinion of the British Columbia liberal member of the commission. And the government is working on such a small majority that it cannot afford to alienate any of its supporters.

The press states that a draft of the final report when submitted to the commission caused a sharp division, the point of contention being whether or not the free movement of fresh salmon to the United States for canning there should be tolerated or whether it should be stopped. A direct embargo was previously rejected but, in the final draft report it was stipulated that only salmon properly gutted and iced and packed in boxes of less than 200-pounds should be allowed to go into export. That is where the division came. Chairman Duff and Messrs. Martell and Dickie supported the restricted export measure, obviously believing that our Canadian raw products should be manufactured at home. Messrs. McNeill, Stork and McQuarrie, all British Columbia members, opposed the proposal, and, generally speaking, it suggests itself that their ground for so doing was that the actual fisherman has a right to his best market. Unfortunately the issue is one of supreme importance.

On this and many others points there is obviously a right and a wrong side. Whether the right will survive in each case or whether in the shuffling, compromising, giving and taking, there will be shades of right and shades of wrong, remains to be seen. But

this point stands forth clearly: The fishing industry of British Columbia would be much better off if the various interests composed their differences at home instead of thrusting upon the commission as many phases of a question as there are facets to a crystal and trusting to the wisdom, intelligence and impartiality of politicians. We do not mean to cast aspersion upon the personnel of the commission. They are quite obviously trying their best under difficult conditions. But there is serious doubt that the policy of non-cooperation which seems to be directing the industry in the west is accomplishing those results which naturally follow upon harmonious relations.

The final report, as submitted to the Minister of Marine and Fisheries on March 7 omitted reference to prohibiting the export of raw salmon to the United States, with the exception of minority reference by Mr. Dickie. The latter was alone, too, in standing out against a general reduction of forty percent in Japanese licenses.

To this we might add the chorus...a repetition of what we have previously said about where and when to settle differences.

THE "HAGER" TREATY

As readers will observe in our news columns, the long hoped-for, long fought-for, long prayed-for halibut treaty has been eventually signed at Washington and its provisions will become effective this fall. Hon. Ernest Lapointe on behalf of Canada and Secretary Charles Hughes on the part of the United States, affixed their signatures to the document on March 2 and by their action marked an epoch not only in international fishery matters, but in all our international dealings. It was the first treaty negotiated and consummated between Canada and the United States, and, as a matter of fact, between Canada and any foreign country, without the intermediary of a British diplomatic representative from London. In this particular the new treaty is indicative of another step in Canada's evolution and, according to some writers, strongly presages the institution of a Canadian ambassadorial office at the United States capital.

While much attention is concentrated upon the various interesting facts associated with the occasion, most important of which, from the fishing industry's

standpoint, is the international protection afforded the halibut industry of the North Pacific, sight should not be lost of the fact that the successful consummation of the convention is due to the initiative, energy and stickativeness of A. L. Hager. His company, the New England Fish Company of Vancouver, was among the first to develop the halibut fishery of the Pacific, and he has led in the move to rescue the industry from depletion. For many years past it has been realized that something must be done to guarantee the future of the halibut but definite action seemed impossible. The fisheries commission of 1918 strongly urged its protection but its proposed general fisheries treaty was so encumbered and confused with a multiplicity of contentious matter, that it was actually still-born. It is doubtful if Ottawa would have re-opened the issue with Washington had not Mr. Hager succeeded in obtaining assurance from official and semi-official Washington that a move for a halibut protection treaty would be regarded with favor.

Mr. Hager's service to the industry does not stop there, either. Since Ottawa and Washington have been brought into close contact over the halibut issue, there are rumors that many other fishery problems have been discussed and the way paved for their adjustment. It is not beyond the range of possibility that all outstanding differences as regards the fisheries of the two countries will be smoothed away as a result of Mr. Hager's initiative. With propriety and justice, we feel that the halibut treaty may be appropriately styled the "Hager Treaty", as a monument to the service he has rendered. We congratulate him.

MARITIME UNREST

Is the touch which the government at Ottawa has upon the pulse of the country delicate enough to observe that a strong feeling of unrest is developing among the people of the Maritime Provinces? Is it aware of the conviction that has taken root among maritime people that they have lost by the confederation bargain, lost industries, trade, population and prestige, and that they have nothing to gain? Has it grasped that the growing population is imbued with the idea that some way must be found to restore to the eastern province their former greatness? The blood of the three eastern provinces was drained to populate the New England States and to build up the provinces of the west. It is of a virile quality. At home the maritime people are of a conservative type. They are slow to alter existing conditions or to unset custom, but when the movement does start, it gathers force quickly — then things happen.

All shades of political opinion have quite clearly warned all concerned that the Maritime Provinces are not satisfied. In fact it is the only issue, outside of

the great war, upon which the three provinces and all parties think as a unit. That means something to anyone who has had any experience with politics in the east.

The most recent contributor to the discussion was Hon. George H. Murray, for twenty-six years premier of Nova Scotia. Being now released from the restraining grip of office he was at liberty to say to the Reform Club of Montreal recently:

"In the fight against Confederation the argument of the opponents had been that in Confederation Nova Scotia would never become a great province. I regret to say that everything said in opposition to Confederation at the time has proved to be justified," said Mr. Murray. "Nova Scotia has not grown into a great province, and cannot become a very great province in respect to Confederation, because, as was pointed out at the time, our interests lie very largely in trading with the United States. During the ten years of reciprocity with the United States, 1855-65, Nova Scotia built up a great fish trade with the U. S. sea-board cities, cities of great wealth and most extravagant people.

"The Intercolonial had been held out to Nova Scotia as the inducement for joining Confederation, as a means of linking with the western parts of Canada, but Nova Scotia had not become a great manufacturing province, nor did he think it would, for manufacturing would be only for great distributing centres, such as Montreal. The I.C.R. inducement, said Mr. Murray, had proven a delusion, and has meant nothing for Nova Scotia, for today it is almost impossible for his province to trade in any large measure with the West."

What is true of Nova Scotia is equally true of New Brunswick. Timothy Warren Anglin, the anti-confederationist, predicted that business stagnation would follow upon the union. His prophesy has not only come true, but more than come true. Allowing for the reasonable development which should have taken place in the intervening years, conditions in the province may now be characterized as, not stagnant but retrograde.

This entire movement means something. It means that a million Canadians see the necessity for improving conditions. Does it not behoove Ottawa to direct a course which will guarantee maritime development rather than have some scheme spring up and crystalize in the maritime provinces which may be inimical to federal policy?

NEGOTIATING TRADE TREATIES

Laymen are not, naturally, familiar with the process of negotiating and consummating international trade treaties. We are simply interested in results and where results fall short of our individual desires or expectations, it is human nature to be critical. Nor are we familiar with the steps trade emissaries take

to post themselves on the importance of the particular market with which they are negotiating, in relation to our various industries, and the various handicaps which are products suffer, as regards cost of production, etc., etc., in comparison with competitive products from other sources. What we do know, however, is that as things stand, it is not the rule to consult the opinion of the various industries before negotiating, but rather to negotiate first and then submit a signed document with the announcement: 'There, that's the best bargain that could be obtained.'

Whether or not it is a principle of international negotiations of this kind that they should be conducted in absolute secrecy, we cannot say. If so, we are firmly convinced the principle may be improved upon. Nowadays when a trade treaty is contemplated, industrial and business Canada shivers and quakes until the deed is accomplished, then divides into two camps; one smiles, the other groans. It would not appear an outrageous sacrifice to take into confidence leaders of various industries and through them learn what the industries would desire. This policy, we feel sure, would be doubly advantageous, in posting our emissaries to the last minute, and in stimulating confidence.

A slip such as that which cropped out in the recent treaty with France would seem to be avoidable. As we have said, the delicacies of such negotiations are foreign to us, but as things turn out the industry regards this as a blunder. In the old business arrangement with France there was a rate of 25 francs per kilo on our canned salmon, as compared with a rate of 50 francs on the product of our competitors. France was a good market for certain varieties and our chief competitor was the Siberian pack, put up where labor was cheap and taxes were next to nil. The 25 francs preference enabled us to compete. In the new treaty the rate on our tinned salmon is 35 francs, while the general rate is the same as before. The difference is quite serious to the salmon canning industry and why the rate was changed is difficult of explanation. A preference is no good if it is not sufficient to enable us to compete in the market, and there is just a question now whether the present preference will prove great enough.

Looking at things from this side there is no urgent reason why France should want to put up the tariff on canned salmon. She is not a producer herself. No such increase was made in canned lobster, and, as far as the French market goes it is in a position to regard canned salmon and canned lobster with equal impartiality.

It is understood that it is too late to secure a readjustment on this particular point, but it may serve to prevent a recurrence of such a thing and may prompt the powers that be to alter established methods,

THE ICE BLOCKADE

Never in the past two decades has the Atlantic seaboard been so icebound as during the latter part of January and the month of February. On the Nova Scotia coast, it is said, every port with the exception of Halifax was blocked. Farther north Newfoundland was rendered positively inaccessible for a long period and the problem of supplying food to families along the shore was a serious worry to the government.

Nova Scotia suffered little worse than elsewhere along the Atlantic seaboard, but one fact which stood out in striking relief was the inadequacy of the fleet of ice breakers to cope with such a situation. The Stanley operated east of Halifax and the Acadia west. While much credit is due the captains and their crews, they made but a feeble attack upon the icy blockade. Now while the fault is conspicuous is the time to press home the need for more elaborate emergency equipment.

There is considerable doubt whether the available equipment was used to the best advantage. The movement of the two boats was directed from Ottawa, no doubt with the very best intentions, but more effective results could have been secured by putting the responsibility for their movements upon the captains themselves. They knew more about conditions than anyone at Ottawa could possibly know.

PISCATORIAL PARAGRAPHS

We note that the minister of agriculture introduced a bill in the House of Commons recently to regulate the sale and inspection of fruit and fruit containers. Which reminds us that compulsory standards in the preparing and packing of fish are necessary on the same logical ground that Hon. Mr. Motherwell would apply them to fruit. As far as compulsory standardization goes in the fishing industry it has worked wonders. What's good for the goose is good for the gander.

The Boston fishing schooner Mayflower which twice failed to qualify for the international race because of the fact that there was too much of the yacht about her and too little of the practical fisherman, has been cut down. She was recently taken into Gloucester where her towering spars were shortened nine feet and her canvas reduced accordingly. She was also equipped with a 100-horse power auxiliary engine. Her owners in Boston have written off a loss of \$14,000 which they never expect to recover. It is maintained that the Mayflower has paid as a fisherman and that the \$14,000 was money lost in efforts to qualify for the international event. No one outside of the directors is in a position to dispute that, but this most recent decision to cut her down does seem rather an admission that she was built primarily for racing purposes, and that, failing to qualify, she will settle down to business.

Quebec Fisheries Policy Condemned

Canadian Fisheries Association suggests alternative to policy outlined by Hon. J. E. Perreault

It has been frequently intimated to the government at Quebec that its fisheries policy as enunciated recently by Hon. J. E. Perreault, while obviously inspired by most sincere motives, is economically unsound and will not render that service to the fishing industry which the government apparently anticipates.

At a meeting of the executive of the Canadian Fisheries Association on March 12, that body went on record as being strenuously opposed to the projected policy and the fear was expressed that any form of competition on the part of the government with private enterprise might be disastrous to established trade and a futile drain on government finances. It was appreciated that the government was endeavoring to help the industry and promote its development but the scheme it outlined was obviously wide of the mark. It was felt that the association would be falling short of its duty if it failed to steer the province from a course that was bound to end in disaster.

The sum of \$40,000 every year for ten years has been set aside by the government to develop its fishery resources. It has been stated that the government would build cold storage plants at intervals along the north shore of the St. Lawrence and the Gaspé coast, that it would equip steamers with refrigerated space to transport the fish from this district to market, that it would erect a central distributing depot at Quebec City, that it would send trade emissaries into the United States and South American countries to build up foreign markets, that it would send a few students abroad each year to study the improved methods of other countries.

Doubtless something must be done to help the fisheries of the province, but what service will government cold storages render? They will not be located where economic necessity requires, but where political expediency suggests. They will remain government institutions and there is very grave danger that they will be forced into the business of buying and selling fish. There is the further danger that, once launched upon this project the government may find itself shouldering increasing financial burdens and, being unwilling to admit a mistake, the march into the quagmire will continue until ultimately the whole enterprise will be thrown over and thousands, perhaps millions, of dollars thrown away.

If there existed a logical or economic necessity for these plants in the territory outlined is it not reasonable to assume that private enterprise would have availed itself of the provisions of the Cold Storage Act of 1907, which could have been invoked up to 1919? If private capital found the demand for cold storage plants not sufficiently strong to warrant an investment and attract a subsidy from the government, is it reasonable to assume that the provincial government will make a success of planting cold storages more or less indiscriminately and footing all bills?

The government of Ontario a few years ago, under

the guise of stimulating fish production, launched into the fish business in competition with established trade. It was soon convinced of the economic folly of the policy, but it was not until 1922 that it withdrew as an operator in the fish producing game. Quebec would do well to heed the experience of the Province of Ontario as regards dabbling in the fish business, and it might scrutinize with profit the experience of the federal government as regards the bonusing of cold storages, and what happened certain cold storages in eastern Quebec which were started with the idea of taking advantage of the bonus. Of seventeen plants begun in Quebec only one operated for the five-year bonus period. Before going ahead with any cold storage policy it might be inquired why this failure occurred?

The Canadian Fisheries Association makes it clear that it has no desire to embarrass the government or any of its ministers. It suggests an alternative policy of appropriating one-half of this year's vote, or \$20,000, to stimulating a greater fish appetite in the province of Quebec, to open a greater market for seafoods in this province, and applying the other \$20,000 to educating fishermen how to properly handle their fish, how to look after surplus catches and make the result a marketable commodity, and in every way equip them to place their entire production on the market in a manner to meet competition from all sources. Through education is the only way, it would seem, that the government can help the industry at the present time. The association makes the above suggestion for the first year and points out that the scheme may be modified as the result of the first year's experience. The projected policy invites disaster. What the association suggests is constructive and safe, and promises to accomplish without hazardous speculation what the government hopes to achieve.

The meeting at which the question was brought to a head was presided over by J. A. Paulhus, and all the Quebec members of the national executive were in attendance.

LUNENBURG, N. S.

In Lunenburg, the Gloucester of Nova Scotia, the smell of fish is in all and over all. Churches, fish flakes, curing plants, steep hills, bold headlands, shipyards, skilled fishermen and a slightly fleet of fishing vessels, oxen and German-looking faces, figures and names, are characteristics. The place was settled by Hessians back in George IV.'s time, and marked traces of the early settlers remain. The housewives are so neat that they even put lace curtains at the cellar and woodshed windows. A prodigious clanging of church bells goes on in Lunenburg every Sunday, for the place has many places of worship. From Lunenburg come some of the hardiest and most skillful marines and fishermen in the world, while the fishing fleet and the vessels built here have a wide reputation.

Is Industry Lacking in Initiative?

*A significant story of competition between imported fish and our own--
Conditions and Outlook in New Brunswick*

BY THOS. A. O'LEARY

"Kipper Snaek," a Norwegian canned fish, is so greatly in demand in St. John, according to retailers, that the dealers are unable to supply the market.

A fish dealer who was asked to explain why the imported fish was so well liked, what it was and why Canadian packers did not enter into competition, if they could do so, replied that the "Knipper Snaek" was put up in a small, attractive can, of convenient size and shape, that the can contained a single herring which had been sealed, treated lightly with pickle and cooked and said that the article could easily be duplicated with a Canadian product. Asked why it was not done, he said the Norwegian product sold for ten cents, but he doubted if the Canadian labor cost would permit of sale at that figure. The dealer saw no reason why people should buy canned fish when they are able to buy the fresh article, unless it was that people preferred the line of least resistance and would sooner take their food out of a can than go to the trouble of cooking fresh fish. Of course, that does not get away from the fact that the Norwegian product is being bought up rapidly and in large quantities.

The dealer told of a Toronto man who had travelled extensively in fishing villages along the Fundy and who had found that the wives of the fishermen made most appetizing fish chowder.

Reciting the perfection of the Fundy fish chowder, he enthusiastically declared: "Employ some of those women to cook chowders, put the chowders up in cans and I'll guarantee to sell in Toronto all you can produce."

Perhaps that explains the "Kipper Snaek;" it may be it is the price; and, again, there is a chance that it is just inertia.

Experience Vital

An article in the last issue of The "Canadian Fisherman" entitled "Out of the line of vision" and calling attention to the lack of a fish market in Fredericton, was reprinted in several St. John dailies.

"Lack of experience is responsible for the failure of at least one Fredericton fish store to do a good business," one St. John dealer remarked in commenting on the "Canadian Fisherman's" article. That is true of a great many inland fish stores, he added.

There should be, to achieve success in conducting a store for the sale of fish, the dealer outlined, at least one man who knows the business thoroughly. That knowledge should include understanding of taking care of the fish, such as icing, etc.; how they should be cleaned, when and where the fish should be bought at certain seasons, and, above all, the expert and his helper should not be afraid of hard work. To know how and when to buy, how to keep, how to prepare for market and not to be averse to soiling one's hands, the dealer insisted, are essentials in the process of making good in the fish business.

He was certain that an experienced man can make good in Fredericton, where, he knew, there exists a splendid market.

Building up a fresh fish trade and attempting to hold it by taking cans of shelves does not make for continued prosperity, he concluded.

Tomcod Plentiful

Tomcod fishing on the North Shore has been profitable for the men engaged in making the catch, as 7,000 barrels of tomcods were sold in a period beginning January 28, bringing a return of at least \$15,000. This is considered satisfactory by the fishermen.

Unfavorable weather conditions militated against the success of smelt fishing in the Baie de Chaleur and the scarcity of fish sent the price up to 16 cents a pound on the ice towards the close of the season which ended February 20, five days later than usual.

A St. John fish dealer considered that the smelt catch for the season was about 50 per cent of normal and that the supply which comes to St. John was only 25 per cent of the local normal supply. The St. John wholesale price of smelt was the highest on record, he said, with the retail price also high at 35 cents.

Lobster \$1.25 a Pound

The St. John fishery inspector advised that not more than two or three thousand pounds of lobsters were taken on the New Brunswick shore of the Fundy in February at a price ranging from 60 to 75 per pound. Lobsters were quoted on March 5 in St. John at \$1.25 a pound retail, easily the highest quotation on record, and the merchant who gave the figure said very few lobsters were procurable even at that exceptional price.

Catches have been small, the dealer explained, and the keen demand in the United States has taken all available supplies at princely prices.

Lobster fishing in the Fundy, which was scheduled to be resumed March 1, on a normal scale, has been made practically impossible, owing to the masses of ice which have formed along the shore and to the drift ice in the Bay. In St. John County, the lobster season is from November 15 to May 23, in Charlotte it is from November 15 to June 8.

Captain Kenney of the C. G. S. Aberdeen, has warned lobstermen on the South Shore that ice conditions are such that it will be positively dangerous for the fishermen to attempt to use their boats for several weeks.

In several places, in Nova Scotia where the season opens March 1, lobstermen requested that the opening of the season be postponed by the Government until the middle of March. Present conditions lead to the belief that lobster fishing will not be carried on to any great extent until next month.

Outlook for Alewives

A larger quantity of St. John gaspereaux will be in demand from Nova Scotia, for bait as well as for food, a prominent fish wholesaler stated in discussing the possibilities of the gaspereaux season of this year. The season is from March 1 to June 25, but fishing will not begin before April.

Fairly large quantities will also be taken to be frozen and later prepared as "Kippers" for local consumption.

Steam Trawlers Saved Situation

Steam trawlers saved the situation in the fishing industry so far as fresh fish were concerned, St. John fish dealers have pointed out, in commenting on the trouble and damage caused to the fishing industry this winter in the ice formation.

Had it not been for the steam trawlers, the dealers say, there would have been a scarcity of fresh fish, as operations could not have been conducted with any degree of success with small craft.

Events, one dealer remarked, have proved the wisdom of government aid in bringing out the first trawler.

He added that the government aid towards expanding and increasing the Canadian market, would also prove a wise undertaking.

"A mess of trout," the donor called them, a fish dealer in St. John said, in relating an occurrence which

took place in his office last summer, when he was offered some young salmon.

The man who presented the young fish said there were several barrels of the species in the weir he had visited.

The dealer did not investigate further but remarked that it would be interesting, and perhaps astounding, to learn just how many young salmon, shad, etc., are caught in the weirs.

The salmon fishing season opened here on March 1 and continues until August but there are of course no fish yet in sight.

The Shad Season

Shad fishing opens on May 16 and closes on June 20.

The quality of both the shad and salmon in St. John Harbour is unsurpassed, in fact these fish probably have no equal for flavor and it is a foregone conclusion that the demand as usual will far exceed the supply. If the other problems in fishing were as simple as the disposing of St. John salmon and shad catches, the life of a local fisherman would be rosy and lucrative.

Cold Storage Act is Amended

An amendment which the minister of agriculture, Hon. W. R. Motherwell proposes to the Cold Storage Act of 1907 may have considerable bearing upon the fishing industry, but to what extent it is difficult at this stage to say.

To review the history of the act, as Hon. Mr. Motherwell did when introducing the amendment, when first adopted, it offered subsidy to all and sundry who built cold storage warehouses. The people were a long time getting acquainted with the act and also a long time getting over their skepticism regarding cold storage foods. When the war came on the provisions of the act were invoked so generally that it was found necessary to curtail expenditures under this head. Government assistance was then restricted to municipal cold storages. It has been proved that municipalities are not eager to venture into the cold storage business. Only one place—Sydney, C.B.—has attempted to comply with the provisions of the act but to date it has not gone sufficiently far to earn the first instalment of the subsidy, and there is danger that it will never reach that point. Local authorities at Montreal went ahead with the construction of a splendid cold storage warehouse, one of the best in America. That was begun four years ago and in the interval no subsidies have been earned under the amendment providing for municipal cold storage plants.

The present amendment proposed by the minister throws the subsidy offer open to all properly constituted co-operative organizations. Taken from Hansard of February 9, the resolution reads as follows:

"That it is expedient to amend the Cold Storage Act, chapter six of the statutes of 1907, and to provide that the Governor-in-Council may enter into contracts with properly constituted co-operative societies or associations for the construction, equipment and maintenance in efficient working order of public cold storage warehouses in Canada equipped with mechanical refrigeration and suitable for the preservation of

any food product."

Mr. Motherwell referred briefly to the working out of the original Cold Storage Act of 1907. In doing so he remarked that he thought when the House is asked to vote subsidies for a certain activity of this nature, it is entitled to be placed in possession of the facts with respect to the expenditure of subsidies that have been granted. Continuing, the minister said he held a full report of these activities, thirty-four in number that have been organized throughout Canada under the Subsidy Act of 1907. They are to be found in all provinces as follows: Prince Edward Island, 1; Nova Scotia, 3; New Brunswick, 2; Quebec, 2; Ontario, 16; Manitoba, 1; Saskatchewan, 4; Alberta, 2; British Columbia, 3. The quantity of cold storage space furnished by those thirty-four plants, totalled 5,244,215 cubic feet and the total cost of construction was \$2,408,354.85. The total amount of subsidies voted for these various plants during those twelve years was \$722,506.46, or less than three quarters of a million dollars.

Mr. Motherwell stated that he understood the cold storage plants in Nova Scotia were all in operation. The one at Lockport receives a subsidy of \$17,055 per year; Halifax Cold Storage Co., at Port Hawkesbury, \$9,115; and the Leonard Fisheries, Ltd., \$60,000. He also stated that the largest grant earned under the old Subsidy Act was \$105,000 by a plant in Prince Rupert.

SEE FOR YOURSELF

Neither Sambo nor Rastus could read the time of day nor anything else, but Sambo had a nice, big Ingersoll, which he exhibited with a great air of superiority.

"What time am it?" said Rastus.

Sambo hesitated and then extended the time piece, saying, "Dar she am."

Rastus looked at it carefully, and said, "Dam if she ain't."

St. John Harbor Alone Resists Ice King

Sardine-herring situation acute-- many fishermen forced out of business by low prices

Special Correspondence

The Ice King reigns supreme along the Fundy shores, with the exception of St. John harbor, and from the North shore also reports have been received of trouble and loss owing to snow and ice. Ice-locked, isolated, the Fundy coastline, beyond St. John, presents an impenetrable blockage to small craft and only the constant battering of government steamers has enabled the re-establishing of communications between some of the marooned fisher folk and the mainland.

Dread is expressed that sudden loosening of the grip of the Ice King, coupled with an Easterly gale, may cause great destruction to wharves, weirs and other equipment, as the action of the ice has already done considerable damage.

Never before in the memory of the present generation has winter caused such a pronounced ice formation along the Fundy coast. Passamaquody Bay is frozen solid, an unusual occurrence; residents of Campobello Island have been isolated; Black's Harbor has been bridged; St. Andrews Bay has been sealed, and so it goes along the line.

With the sole exception of St. John harbor, which has never been known to have been effected by ice formation, every harbor on the New Brunswick coast has been blocked if not for a long period, at least for a short time.

The department of marine & fisheries has been kept busy sending steamers to restore connection of isolated communities with the outside world and in some instances that has been accomplished only with great difficulty.

Mariners along the coast report that the ice conditions are the worst in 30 years and that any sudden breaking up of the fields will cause great damage to waterfront property, including weirs.

Harbor ice has formed to a depth of eight inches and great masses have accreted on the shore on account of the action of the tide. Ice has also formed several inches thick under the wharves and has coated the buoys which are an aid to navigation.

J. C. Chesley, local agent of marine & fisheries fears that a heavy Easterly may develop and create havoc among the wharves.

Open to Black's Harbor

A government steamer has been able to keep a passage open to Black's Harbor for the mail steamer Connors Bros., and the steamer Grand Mannan has also forced a way through the St. Andrews since the recent high tides carried some of the heavy drift ice out to sea. The moving of the ice has also enabled residents of the Passamaquody Bay Island to get much needed supplies.

The people of Mud Island were short of flour when the C. G. S. Aberdeen arrived there recently after battling through the ice. Captain Kenny of the Aberdeen left a sufficient supply of flour to last until the next government steamer calls.

Inspector Kelly of the marine department stated

that in his experience the ice conditions were never so bad as this winter. The thickness of the ice in the small harbors is such that only a real ice-breaker could combat.

A resident of Campobello Island stated that for two weeks no mail was received there. He feared that an Easterly may cause the ice to lift many of the Charlottetown county wharves from their foundations.

A Grand Manan resident told of drift ice extending for miles, referring to the field as the most extensive he had ever seen at this season.

A Deer Island resident expressed the opinion that a mail boat with a proper ice-smashing bow could keep communication open. He believed that the small number of vessels moving and the lack of proper ice-breaking equipment to a considerable extent the cause of the cutting off of communication.

Wharf damage already reported includes that to the government wharf at Fair Haven, Deer Island.

As before mentioned, St. John harbor has not been affected by ice formation and the local weirmen were in danger of suffering damage from that cause.

Sardine Fishermen Discouraged

Sardine fishing will not be carried on to any extent by the weirmen of Deer Island this year, F. W. Richardson of Deer Island has stated. He explained that the low price of sardines last year had put many fishermen out of business and that those who had intended to resume operations this year had been unable to get out weir material owing to the heavy snowfall.

Mr. Richardson has suggested that the new Lieutenant governor, Hon. Mr. Todd, should use his influence with the federal government to have an export duty placed on sardine herring.

Lewis Connors, president of Connors Bros. has advised that the Connors' factory, Black's harbor, is being made ready for the opening of the sardine herring season.

An Eastport report is that the weirmen there have lost heavily through damage by ice to their weirs but will begin rebuilding as soon as conditions permit. The Eastport canneries will re-open about the middle of April, if sufficient fish are available.

SAYS WHICH

A gentleman relates the following incident in connection with certain missionary work in which his wife was interested. He says:

"She brought home from a meeting a little five-year-old colored girl who had to be cared for temporarily. That night after she had been put to bed, wife and I visited her room to see if she was all right. In the light we saw the little white-robed figure groping on its knees in the cot, and the wife whispered to me: 'The little darling is saying her prayers.' And then we heard the little girl exclaim, 'Where the debbil's my dolly?'"

News Notes From Far and Near

One of Crew ill

The steam trawler *Rayond'Or*, Captain Magnussen, made Canso on February 19 with 120,000 pounds of fish. She ran ahead of schedule to land a hand, Hans Jacobsen, who was ill with pneumonia.

German Dividends

What Germany may be or may not be financially or otherwise is a bit of a mystery to the ordinary man in the street. But when we speak in terms of dividends we grasp the point. Fishing interests in Canada will be interested in the following dividends recently paid by German fishing companies: two Bremerhaven companies, 15 per cent. and 30 per cent.; Geestemünde "Norddeutsche," 40 per cent.; "Dollart" herring fishing company, 30 per cent.; "Grosser Kurfurst," Emden, 30 per cent.; the Leer herring company, nil; the company at Brake, 25 per cent.; a Geestemünde cod-liver oil company, 30 per cent.; and the sea fish trading company, Cuxhaven, 15 per cent. Who in blazes won the war, anyway?

Seal Fishing Begins

The Newfoundland seal fishing season will open March 17. An airplane will be used to "spot" the seal herds on the ice. The sealing fleet has now been reduced to eight vessels. Seven of these will operate on the Grand Banks and one in the Gulf of St. Lawrence. An airplane used by the Antarctic steamer *Quest* will be employed in connection with the Grand Banks contingent of vessels. It will be conveyed on a special platform built on steamer *Thetis*.

Would Have Newfoundland Race

Judging by reports appearing in Newfoundland papers a move is on foot to bring Newfoundland into the international fisherman's races, or, at least, into competition with some United States choice.

In Hall of Fame

The New York Times Current History picks out Hon. William Sloan, commission of fisheries for British Columbia, as one of Canada's twelve outstanding Canadians. And he deserves the recognition.

Ice delays Lobster Fishing

Lobster fishing along southwestern Nova Scotia opened on March 1. Many fishermen were able to start in at once but on some sections of the coast the ice had not broken away. As a consequence the fishermen at Port Maitland and vicinity circulated a petition which they forwarded to Ottawa urging that the opening of the lobster season be postponed until March 15 and allowed to run three months from that date. The season did open on the regular date, but it is possible some allowance may be made later on for the fact that the ice delayed the real opening of fishing.

Schooner in Trouble

The Lunenburg schooner *Giant King*, Captain Harris Himmelman, was towed into Yarmouth by the *Wanda* on Feb. 28th, badly leaking. It was caused by the top irons of the gudgeons of the rudder breaking and allowing it to pound against the stern. The day previous the schooner was leaking at the rate of about 600 strokes per hour, and on that day a portion of 6,300 bushels of salt, which formed the cargo, was thrown into the sea.

Smelt Season Extended

The smelt fishing season in the maritime province which normally opens December 1 and continues until February 15, was extended by order-in-council until February 20. During the normal season weather conditions were so bad that they constantly interfered with the work of the fishermen. The catch was below normal and the fisheries department decided that the fishery would not suffer by an extension of five days in bag-net fishing and that the fishermen would have a chance to make up earlier failures.

N. S. Regulations Amended

The special fishery regulations for Nova Scotia have been amended in section 27, sub-section 3. It has provided that no trap-net or drag-seine other than trap nets for the capture of salmon shall be used in the waters of Bras D'Or Lakes, but has been altered to read: The use of drag-seines is prohibited in the waters of Bras D'Or Lakes.

Fisheries Committee of House

The House of Commons this year selected the following to constitute the standing committee on marine and fisheries: Messrs. Bancroft, Cardin, Chisholm, Delisle, Dickie, Duff, Campbell, Elliot (Waterloo), Fournier, Gauvreau, Grimmer, Hatfield, Hoey, Hubbs, Hughes, Kennedy (Port Arthur and Kenora), Kyte, Lapointe, Léger, LeSueur, MacLaren, MacLean (Prince), McQuarrie, Martell, Morrissy, Munro, Neill, Pelletier, Putnam, Robichaud, Ross (Simeoe), Savard, Spence, Stansell, Stevens, Stewart (Humboldt), and Stork.

And that the Quorum of the said Committee do consist of Ten Members.

Britain Protects her Trawlers

The British Government now has sent an armed ship to the Murman coast to protect British trawlers. To reach this part of the Arctic Ocean the route is, roughly, 1,400 miles north from England, then around the North Cape to the eastward, and 300 miles down to the fishing grounds. The Russians have proclaimed a 12-mile territorial limit which the British government refuses to recognize. Verbal protests have failed. Physical force will make a stronger impression.

Royal Fish Booster

A cousin of the King of Italy is chairman of a new \$500,000 fish company "to supply Italian cities with fish at reasonable prices".

Fishermen to test Skill

The National Fishing Equipment Exposition which is to be held at the Arena on the Army Base pier, Boston, from March 26 to April 7, will include three features of special interest to local fishermen and employes. One feature will be an "international dory race," with the contestants chosen from representatives of the Gloucester, Boston and Nova Scotia fisheries. Another attractive feature will be a fish skinning contest, the date of which has been set for March 30. Perhaps the most novel treat ever staged at any exhibition, marine or otherwise, will be the trawling and baiting contest. The contestants will be required to get their own bait and rig their own lines complete, and the first man to finish the work to the satisfaction of the judges will be awarded a handsome prize. The applications have been limited to 50.

Fishermen Grow Interested

It is gratifying to observe that the captains of the Lunenburg fishing vessels have become interested in the marketing of their catches. Heretofore it was the impression that their interest in fish ceased when it was landed. Recently a delegation including Captain Scott Corkum, manager of the Acadia Supplies, Captain Henry Winters of the schooner Muriel Winters, Captain William Corkum, Captain Freeman Corkum, all of Lunenburg; Captain Arthur Ritecy of Riverport, visited Halifax with the object of expediting the marketing of their fish, the market for which has been exceedingly short.

Sawdust Pollution

Ottawa, February 27. — A charge that the St. John river in New Brunswick was being polluted by sawmill refuse from Maine was made in the House of Commons tonight by T. W. Caldwell and Pius Michaud, two members from the province concerned. They stated that large numbers of salmon were being killed by the refuse, and asked that the matter be called to the attention of the International Joint Commission.

Flax was first planted in England in 1852 when it was directed that it be sown for fishing nets.

Lunenburg Wrecked

The small three-master schooner *Sceptre*, owned by Zwicker & Company of Lunenburg, N. S. struck a reef off the Caicos Islands on March 9 and was a total loss. The entire crew was rescued. The vessel was salt-laden from Turk's Island to Lunenburg. The *Sceptre* was built at Meteghan, N. S. in 1920 and was originally christened the *A. H. Comeau*. Captain Spurgeon Geldert was in command of her.

Six Lives Lost, One Schooner

Six fishermen were swept to death in the gale that swept the Nova Scotia coast on March 7. Four fishermen out of Gloucester were drowned from the *Elizabeth Howard* and the schooner itself narrowly escaped disaster. Two other fishermen from Hubbard's, N. S. went to their deaths from the Nova Scotia schooner *Helen M. Coolen*. The latter vessel foundered on Sable Island and the remainder of her crew was rescued just in the nick of time by the wounded *Elizabeth Howard*.

John MacLeod, St. Peter's Canal, Cape Breton, aged 42; James Murphy, Canso, N. S., aged 48; Herbert Blondin, Newfoundland, aged 30; and Miles O'Brien, Bay Bulls, Nfld., aged 26, were swept overboard from the *Elizabeth Howard*.

Stewart Bontillier, Mill Cove, N. S., and Joseph Launt, West Dover, N. S., went to their deaths when the *Helen M. Coolen* was buried beneath a mountainous sea. Bontillier leaves a wife and three children.

Arctic Waters Warmer

According to scientific observers the Arctic waters are kicking up a fuss. There is distinct increase in the temperature of the water with consequent havoc to icebergs, glaciers, etc. There is also noted a change in the species of fishes inhabiting the waters.

"Widening Out" Policy

The Trade Review of St. John's, Newfoundland, is urging that steps be taken to exploit new fishery resources and points out that, generally speaking, the the Ancient Colony has the same species as Canada, though the local industry was inordinately restricted as to species.

To Improve Harbor

The French minister of colonies, M. Sarrault proposes to recommend to his government that extensive im-

provements be made in the harbor at St. Pierre to overcome difficulties now experienced by the fishing fleet at that port.

Frozen Six Months, then Revive

Ice and Refrigeration, an American journal, is responsible for the statement that eleven fish frozen in a block of ice for six months are now swimming in an aquarium at Tacoma, Washington. Candlefish were sent to Tacoma from Alaska in a piece of ice packed with dressed salmon, and when thawed out revived.

A NEW FISHING COMPANY

A charter was recently granted to the Gloucester Fishermen's Limited, naming Abraham Wilson, Elizabeth Wilson and C. T. Richard as incorporators. This new concern has its head office in Bathurst and will carry on a general fish and sea products and foods of all kinds and general commission and exporting business. It is also authorized to conduct, carry on and engage in the business of catching, buying, selling, holding, freezing, packing, salting, canning, curing, drying, and preserving fish and other sea products as well as other goods and products to carry on the business of warehousemen, including the operation of cold storage warehouse or plants, and to purchase lease or otherwise acquire and own lands and water lots, wharfage rights and privileges, fishing rights and other rights and other easements, rights and privileges whatsoever, and further to carry on any other business, whether manufacturing or otherwise, which may seem to the Company capable of being conveniently carried on in connection with its business; and other rights and privileges.

LIGHT PAINT FOR SHIP BOTTOMS

Some interesting results have been obtained by J. Paul Visscher in his study of the fouling of ships' bottoms. These results indicate that the color of the paint used is an important factor in determining the amount of fouling.

A series of plates painted with different colors were exposed in sea water at the Beaufort laboratory and the development of the growths was observed over a period of several months. The plates were identical except for the color used, and since all factors influencing them were the same it may be concluded that any difference in the amount or the nature of fouling was dependent on color. These colors included white, black, yellow, red, green and blue.

The results show clearly that there was much more fouling on the dark plates than on those with lighter colors. The contrast between the white and black plates was especially marked. Barnacles, which constitute a large percentage of the total amount of fouling, were especially affected by color. They were found only on the blue and black plates and were most abundant on the black. Hydroids were also practically confined to the dark plates.

The results are apparently explained by the factor that at the time of attachment of the larvae to these forms the organisms are negatively phototropic, that is, they tend to go away from the source of light. This experiment is in accord with observations made on the growth on ships' bottoms where the densest growths are found in regions least exposed to light. The notes and tentative conclusions are at present based on a limited amount of evidence, and it is expected that the problem will be more thoroughly investigated through experiments in which many of the less known factors may be more definitely controlled.

Erie Delegation Besieges Toronto

Government promises to meet Wishes of Fishermen--Notes from the Lakes District

A delegation composed of H. A. Short, Port Stanley, A. S. Brown, Kingsville, Harry Dromgole and others, representing the Lake Erie Fishermen's Association, visited Toronto recently and presented to Hon. Harry Mills resolutions that had been adopted by the association in January.

It is reported that the delegation was well received and it was given to understand that the government would do everything possible to meet the wishes of Lake Erie fishermen. A definite promise was made that a grant of \$500 to the Erie Association would be recommended to the government. A promise has also been made that the provincial department will take up with Ottawa the matter of appointing a joint commission to go thoroughly into fishery problems on Lake Erie and endeavor to frame up more uniform regulations. Regarding the patrolling of the boundary line in Lake Erie the Ontario government is already preparing a tug for the work, but is not in a position, it is stated, to put more than one patrol boat on this year. The minister also regarded with favor the proposal to take off the royalty charge of \$5 per ton over and above an annual catch of 75,000 pounds. If the government approved, however, it was made quite clear that that fishermen would not be absolved from the tax on the 1922 catch.

Mr. Brook McAulay of Southampton was in Toronto this month for consultation with his medical advisor. We are pleased to report that the diagnosis did not reveal any serious trouble and Brook has returned to his large and varied interests with renewed energy to carry on this coming seasons' operations. He now has his crews busily engaged in rigging out his tugs "The Douglas H" and "MeLeod." The Tug "MeLeod" is now in the dry dock at Wiarton being rebuilt. Mr. McAulay believes that recreation is necessary to carry on a successful business and finds time in the summer to take part in many bowling tournaments and as well has a national reputation for his curling ability and prowess in the roarin' game. In addition to his fishing interests he conducts a large general store in Southampton.

Mr. Harry Dromgold of Wallacetown, Ontario, a progressive fisherman and politician attended the Annual Good Roads Convention held in Toronto early in March. In addition to his many business interests in the Fishing Industry, Mr. Dromgold is this year devoting considerable time and attention as Warden of Elgin County and is giving his constituents excellent service in this capacity.

Mr. R. B. Skinner of West Lorne, Ontario, attended the recent Annual Convention of The Grand Chapter

of The Royal Arch Masons recently held in the City of Toronto as a representative of the St. Clair district. Mr. Turner of the same town who accompanied Mr. Skinner was successful in being elected to the high position of District Deputy for the St. Clair district. The Boys while in the City were very busy but found time to take in some of the sights.

Mr. Ed. Koehler of Wallacetown, Ontario, spent several days in Toronto recently. We understand his visit to The Queen City was a real success and while there he had the pleasure of renewing many old acquaintances from Lake Huron. Mr. Koehler returned to Wallacetown to prepare for a busy season in the Fishing Industry.

A Deputation from The Lake Erie Fisheries Association recently waited on the Ontario Government to lay before the Minister the necessity of a Patrol for Lake Erie this season and as well a request for the taking off of the Royalty of \$5.00 per ton on all fish caught in excess of 75 tons. The deputation comprised A. S. Brown of Kingsville, Geo. A. Vanorder of Port Burwell, Cap. P. C. Robinson and C. W. Barwell of Port Dover, A. E. Crewe of Merlin and A. H. Short of Port Stanley. They were given a most sympathetic audience by the Minister and the promise of taking under early consideration.

The Booth Fisheries Canadian Co. Limited, recently held a Convention of their various representatives in the City of Toronto. In addition to the Head Office of the Company, a number of their transportation officers were in Toronto including Capt. Batten and Gray Stewart from Owen Sound. N. McAulay from Sault Ste. Marie and Mr. McCoy from Manatawaning. Mr. Shaughnessy, President of the Company presided at the Conference. This Company which has such large Canadian Fishing interests extending throughout Canada are preparing for a most active season in 1923.

The Tug "Choctaw" of The Choctaw Fishing Company, Port Stanley, Ontario, was recently destroyed by fire. The Engine, Boiler and Net Puller came through the fire in good shape. The Boiler has recently been sold to a Western concern operating on Lake Winnipeg. The Engine which is a "Doty" 10 x 20 is for sale. The Company expect to be in a position to start Spring operations shortly, having bought the Tug "Douglas H" from The Finley Fish Company.

Messrs. A. F. Tieknor and Col. A. J. Little of Port Arthur were in Toronto recently interviewing the Government regarding operations for the coming season on Lake Nipigon.

Outlook for Canned and Preserved Fish

Market conditions are gradually swinging around towards a more favorable situation in Canada's preserved and canned fish industry. As this industry is largely dependent on export trade for its returns, it is influenced to a considerable extent by the state of foreign markets. In these markets exchange is an important factor, and the adverse state of exchange has exerted a detrimental influence. The domestic market, on the other hand, shows betterment, and manufacturers enter 1923 with a greater degree of confidence than a year ago.

J. M. Whitehead, General Manager, British Columbia Fishing & Packing Co., Limited, Vancouver.

"Our chief difficulty lies in the uncertainty, and of late the shortage, in supply of fish. The frequent changes in our fisheries regulations, and in some instances the severe restrictions imposed, add greatly to the impediments under which we operate.

"The domestic demand for canned salmon, packed under well-known brands, has been fairly well maintained. The English trade, however, has been temporarily stopped owing to the competition of Siberian salmon selling in England at prices below our producing costs. The unfavorable position of exchange and unsettled conditions of general trading, have materially retarded the French market for salmon. We hope these adverse conditions will eventually be overcome, as the loss of these two important markets naturally is severely felt on this coast.

"For the reason stated, some weakness is shown in current prices, but already signs of revival are evident and we look for some relief from present depression during the next three months.

"Our prosperity is primarily dependent upon the supply of fish. We cannot rely on this important item to our prosperity, but there is no special reason to anticipate a severe setback during 1923. Market prospects for our products are more encouraging and we are inclined to take a more optimistic view of the future prosperity of this leading industry of British Columbia."

J. K. Loggie, W. S. Loggie Company, Limited, Chatham, N.B.

"We are quite heavily interested in the sale of fish, both for domestic use and for exports. Conditions are, on the whole, quite satisfactory. On some lines trade is dull, particularly on dried cod, but in general we think the fish trade has had a satisfactory year.

We think the lobster dealers have cleaned up their stocks, but the dried fish merchants still have considerable stock on hand (December, 1922). The exchange situation has made conditions difficult in the fish trade, owing to the shrinkage in value of the currency of many of the largest dried fish importing countries."

F. E. Burke, general manager, Wallace Fisheries Ltd., Vancouver, B.C.

"In the fisheries industry, the salmon pack in British Columbia for 1922 was valued at \$11,500,000, representing 1,290,326 cases. This pack, although larger than that for 1920 and 1921, is much less than the pack in the three years, 1917, 1918, 1919—the large pack in the later years having been occasioned largely through pressure brought to bear through war con-

ditions during the five years previous for the largest possible production of foodstuffs. In addition to the British Columbia salmon pack, there must also be considered the pack of other varieties of fish, including herring, halibut, pilchards, etc. By far the greater portion of British Columbia's fisheries production is exported. When it is borne in mind that forty-seven per cent. of the total value of fish caught in the Dominion comes from the lakes, rivers and coastal waters of British Columbia, it will readily be seen that the sale of these products abroad forms a considerable portion of Canada's export trade."

F. G. Evans, Dominion Cannery, B. C. Limited, Vancouver, B.C.

"We have found, so far, that the domestic market in canned goods has been particularly good. Export trade, especially to Great Britain, has not been so good as in the previous year. Our average prices were lower than 1921.

"If stocks continue to move as at present (December 12th), canned goods should be pretty well cleaned up before the new pack. British Columbia had in 1922 an exceptionally heavy pack of tomatoes, but we believe that stocks will be absorbed before the new pack.

TO REFINE HERRING LIVER OIL

Mr. P. Howlett of St. John's, Newfoundland, is making satisfactory progress with his project to establish three or four plants in Newfoundland for refining herring livers into pure oils in the same way as cod oil livers are treated. The samples of herring oil which he sent to New York and Boston to prominent fish oil dealers and soap manufacturers have been favorably reported on and Mr. Morton who is the principal of a large cod oil firm in Boston offers to take 50,000 barrels next year if it can be supplied as per sample sent. The price is about the same as cod oil just now and will be influenced by that market as herring oil is used for about the same purposes as cod oil. The price then will range from 50 to 70 cents per gallon.

Heretofore, all the herring livers at the big packing centres have been thrown out during the herring season and only a small percentage of the herring livers saved to make oil. This product was sent out to market in the old-time crude rotted state. Mr. Howlett has a patented process by which the impurities can be eliminated and, by machine pressure, is able to render out a beautiful clear, almost odorless, product of a straw color, the very appearance of which easily helps to make a sale. Besides this there are the by-products of meal for cattle and fertilizer which average about five cents a pound.

Mr. Howlett hopes to have a small company formed the coming season and will start factories at Bay of Islands, probably two, one at Springdale and a fourth at some location where herring are also plentiful. It has been found that herring oil, properly refined is the best to use in lubricating very fine machinery and it is sought for now exclusively for chronometers and other nautical instruments.

Fish meal for Livestock

(Fishing News, Aberdeen, Scotland)

Although a large quantity of the fish caught in the sea is not used as food for man, it is only within comparatively recent years that an attempt has been made to turn the inedible portion to use. In this country the offal was sometimes used in small amounts as a fertiliser, but little was done, even in this connection, until the matter was taken up in Norway, where the Government carried out an investigation to determine whether fish residues could not be used for feeding animals. As a result of these investigations, a crude material began to be used on the Continent.

German Enterprise

Germany, which has been so often first in the field in applying new ideas to the development of her industries, began to use fish meal extensively, buying most of the material made on the Continent, and also purchasing stuff made in this country on a considerable scale, until at the outbreak of the war, Germany was taking something like 30,000 tons per annum. It is worthy of note, as an indication of the value set on fish meal by Continental stock feeders that in 1914, when maize could be landed at Aberdeen at £6 a ton, Germany was buying fish meal at the same port at £10 a ton and paying the cost of transport. The scarcity of foodstuffs during the war turned the attention of the British farmer to this product, and it is now being used in increasing quantities.

Conflicting Opinions

Ever since fish meal began to be used, there has been, however, a conflict of opinion as to the value of it, and as to whether or not it caused a fishy smell and taste in flesh, or milk, or eggs. The general question of the value of fish meal for feeding purposes is one of considerable economic importance to the fishing industry, as well as to the farmer. There is sufficient raw material at the fishing ports in this country to make about 50,000 tons a year, and in times of depression in the fishing industry this by-product, and the development of its manufacture and use, might prove of great value.

Rowett Institute Tests

During the last two or three years the value of fish meal has been tested at some of the agricultural stations. Professor Growther, of Leeds, reported favourably upon it as a food for pigs, and Principal Paterson, of the Kilmarnock Dairy School, carried out feeding experiments which showed that it was very valuable for feeding to calves. The most complete experiments, however, that have been conducted are those recently done at the Rowett Research Institute, Aberdeen. According to these results, fish meal should be regarded as a special foodstuff, which should be used to balance rations. It contains about 60 per cent. of flesh-forming material, and about 20 per cent. of bone-forming material, and is therefore excellent for growing animals and for milk cows and hens. The grains of practically all the materials used for making concentrated foodstuffs are deficient in bone-forming material, and the fish meal makes good this deficiency.

Where Taint Arises

The question of the taint has also been investigated,

and on this subject very different opinions are held. The truth of the matter seems to be that certain kinds of fish meal, notably those which contain a large amount of herring oil, are liable to taint the flesh of the animals to which it is fed, but that meal made from white fish, which are not oily, produces no taint either in milk, eggs, or bacon. It is difficult, however, to be certain that all commercial fish meal is absolutely pure, and the workers at the Rowett Research Institute recommend that the feeding of fish meal to pigs should be stopped for an interval of three or four weeks before the animal is killed. This will prevent the tainting of the flesh.

Virtue in Fish Oils

The cause of the tainting of flesh is almost certainly the fish oil, and experiments are in progress at the Rowett Research Institute, Aberdeen, under the direction of Mr. A. Crichton at the present time, to clear up this point. It is supposed that there is a special virtue in certain fish oils because they are rich in vitamins, and experiments are running at present in the same Institute to determine the relative values of different fish oils as compared with other oils, and also to ascertain to what extent the fishy taste sometimes imparted to flesh is due to those oils.

Valuable Investigations

There is an enormous wealth of material in the sea in addition to what can be taken from it to be used as human food. There are all the different kinds of fish and shell fish which may possibly be made into foodstuffs for animals. It is understood that investigations have been carried out by the Fishery Board at the Marine Laboratory, Nigg, Aberdeen, and elsewhere, in connection with the utilisation of some of this material. During the present depression in agricultural and other industries, every effort being made to utilise material going to waste is in the right direction, and the investigations to determine how new feeding-stuff, like fish meal, could be best used to give a properly balanced ration are of economic importance and general interest.

TROUT EGGS BY PARCEL POST

Very interesting report has been received from the superintendent of the Craig Brook (Me.) hatchery station relative to shipping brook-trout eggs by parcel post. The package was made up as follows:

An outside casing of light wood was constructed large enough to allow about an inch space around a tin container 10 inches long, 8 inches wide, and 8 inches deep. The space between the tin and the wooden case was packed with dry sawdust. Thirty-one thousand six hundred brook-trout eggs were placed in a cheesecloth sack and surrounded with about 2 inches of damp moss placed inside of the tin container. This shipment was in transit 33 hours and arrived at the Grand Lake Stream station in good condition with a loss of but 785 eggs. It is believed that a shipment of 50,000 eggs could easily be made to cover a journey of from 48 to 60 hours.

War Proved Worth of Canned Fish

*Ptomaine bogey exploded--" Greatest experiment in history"
establishes dominance of tinned food*

On the subject of "food poisoning", Sir William Willeox, K. C. I. E., C. B., C. M. G., M. D., F. R., C. P., delivered almost enlightening address to members of the provision and canned goods trade sections of the London (Eng.) chamber of Commerce, on November 23 last.

Introducing Sir William Willeox, the chairman explained that Sir William had been scientific adviser to the Home Office for over 20 years and during that time had been engaged in most of the important poison trials which had taken place in this country. During the war, like many other distinguished members of his profession, he had placed his services at the disposal of the country; and he had served as consulting physician to the British Expeditionary forces in Mesopotamia and at the Dardanelles. Though he had resigned his official appointment to the Home Office, Sir William retained a position as medical adviser in special cases, and it was not too much to say that he was probably the greatest authority in the country today on the subject of toxicology.

Among other interesting things, Sir William said:

We used to think that there was a danger of poisoning from eating tinned food, because of the food becoming contaminated with tin, or with lead, or with copper. But we now know that, in the present day, tins are so carefully made, and the composition of the metal is such, that the danger of metallic poisoning from the eating of tinned foods is practically nil. I have never met with a case in a fairly large experience of food poisoning.

So-Called "Ptomaine" Poisoning

Let us proceed to that with which we are directly concerned — the food poisoning which arises from bacterial contamination; bacterial food poisoning, I will call it. This used to be called ptomaine poisoning in the early days before much was known of bacteriology. People were at that time intensely interested in chemistry, and complex nitrogenous bodies called **alkaloids** were discovered; and then, very soon, chemists began to find certain alkaloidal bodies in meat protein foods, and they gave the name "ptomaines" to these — the alkaloids produced by the decomposition of the animal matter. "**Ptoma**" means a corpse. There are fashions in medicine and science as there are in other departments of life; and for a time, the theory that ptomaines were the cause of food poisoning held sway, and chemists and doctors developed this view as regards these poisoning substances, ptomaines, and many went so far as to say that all disease was due to ptomaines. They called them "**leucomaines**" when these bodies were produced during life; and if you turn up old books on medicine, you will find the ptomaine (or leucomaine) described, which was the cause of scarlet fever, and another which was the cause of typhoid fever, and so on.

This view is interesting historically, but the idea that food poisoning is due ptomaines is quite exploded. As

your Chairman has remarked, I have made a very large number of analyses in fatal cases of poisoning and suspected poisoning; but, although I searched most minutely for signs of alkaloidal poisons, ptomaines, and so on unless there was some real, genuine chemical poison there, my efforts to find these poisons failed. I used not to succeed in finding ptomaines in the viscera which were examined, though many of them were of an extremely advanced nature as regards the decomposition which had occurred. So we can dismiss these ptomaines as the cause of food poisoning. Sometimes, when game is very high, or food is decomposed, there may be a certain amount of chemical substance (ptomaine) present which will cause perhaps slight symptoms of poisoning (diarrhoea, and so on), but **ptomaine poisoning is so rare that one may dismiss it**. When we talk of ptomaine poisoning, or when we see ptomaine poisoning mentioned in the papers and elsewhere, what is really meant is bacterial food poisoning.

War Time Experience with Canned Goods

We will now come to perhaps the most interesting aspect of food poisoning, and that is, the food poisoning which may arise from tinned or preserved foods. Now I think I can make a statement here which will be of great comfort to you all, and which will serve to allay alarm as regards the dangers of poisoning from tinned food. During the war, as your Chairman remarked, I had the privilege of serving in Countries where food poisoning abounded if there was any possibility, i.e., in the tropical countries, Mesopotamia and India and also in the Dardanelles, and if one became infected with the germ it produced very severe effects. The tragic example of that was the death of our beloved Commander-in-Chief, General Maude—who died from food poisoning, but not the type of food poisoning we are thinking of now. He died from the effect of cholera germs being accidentally present in milk supplied at an Arab entertainment. That was an instance of food poisoning where some other germ—the cholera germ—through accidental contamination, or through adulteration with pure water, got into the milk and so gave rise to food poisoning. But we are thinking of the dangers of poisoning from tinned foods. I never (it would have been brought to my notice if cases had occurred) during the war saw a single case of food poisoning where the poisoning had arisen from the food being poisonous when it was in the unopened tin. We had close on half a million troops in Mesopotamia—Indian, British, and the Labour Corps, and accessory troops—and I can honestly say that not a single case was brought to my attention. I think this was remarkable, especially in countries where the conditions were most favourable for food poisoning.

I wrote to my friend, General Sir William Macpherson, the editor of "The Medical History of the War," and I said: "I have had no personal knowledge of cases of food poisoning from tinned foods: will you

tell me something about what happened in France, because I think it is so uncommon?" He wrote back to me—I have the letter in my hand—and said: "You are quite correct in saying that there were very few cases during the war of food poisoning from tinned foods. The only cases I can trace are three," and then he very kindly gave me an account of three epidemics which occurred in France. I also saw General W. W. Beveridge, the Director of Hygiene at the War office, and discussed this matter of food poisoning with him. He also said: "You are quite right. Food poisoning from tinned foods was uncommon during war, except when the tinned food had been contaminated during the process of subsequent preparation," and he gave me an additional fourth case.

Well now, I investigated the reports of these four cases of food poisoning in the war, three in France and one in Port Said. The three in France were all due to contamination of the good wholesome tinned food, by carriers in the process of making up this food

into pies and stews. Two of them were due to the "bacillus aertrycke," and one was due to the "bacillus entertidis" of Gaertner. The fourth epidemic, the one which occurred at Port Said, was due to the contamination of wholesome tinned milk, the contents having been emptied into a cauldron and then allowed to stand in that warm climate, a carrier probably having to do with the mixing of the milk. It was due to an infection from a carrier of the "baecillus aertrycke" that this epidemic of food poisoning occurred. So there gentlemen, you have the analysis of that great experiment—the greatest experiment in history—the feeding of many millions of troops for years on tinned foods, and the evidence as to the tinned food being poisonous was practically nil. It is a very marvellous example. I do not believe, gentlemen, that public attention has been called to that fact before. I think this is the first time that it has been brought to the notice of the public; but I can assure you that it is absolutely true.

New System of Preserving Fish

A new method of socking fish, which, it is said, will preserve fish absolutely fresh for seventeen days, was the subject of an interesting address by M. Lescarde at the meetings of the Seventh National Fisheries and Marine Industries Congress, held in Marseilles, France, last fall. The new system would assure the preservation of fish for at least a month, and would enable fish to be sent long distances from the fishing grounds; thus facilitating business in fish which could be distributed by the dealers without danger of damage, so that merchants might buy large quantities without fear, when they are abundant and cheap, and dispose of them at good prices when the markets are favourable.

After being carefully gutted (the heads need not be removed) they are washed and reduced to a temperature about freezing. When the mass of the fish in the interior has reached this temperature it is packed in cases that can be hermetically sealed. These cases may contain 50-75 kilogrammes (110-165 lb.). The cases commonly used by the fishermen will do—only they must be provided with a thin zinc lining inside to which the cover is to be soldered to make sure of hermetic joints. When the case is full, and the cover soldered on, it is put into an autoclave where a vacuum is formed, and the air is replaced by an appropriate gas mixture. After this all that is required is to keep the cases at a temperature of about 32 degrees.

According to M. Lescarde, as quoted in the "Revue Generale du Froid," without counting the cost of freezing the fish but including wear and tear of cases, the cost of the process would be about 0.04 franc per kilo., presuming that the cases are always returned to the sender.

The process has been tested. The first experiment was made with seven cases of fish, numbered 1 to 7, beginning on 7th and ending on 23rd September, for cases No 1 to 4: i. e., a duration of 17 days. Case No. 1 had been filled with herrings and soles; No. 2 with red gurnet and soles; No. 3 with whiting and No. 4 with cod. These are the first results published. The soles

appeared to be perfectly fresh; fried with butter it was impossible to distinguish them from fresh-caught soles. The flesh was firm and white and the bones were quite uncoloured.

Although the red gurnet came from fishing grounds on the coasts of Spain, and had undergone a long sea voyage before being landed at Ostend, the 17 days of supplementary preservation had in no way altered the excellence of their quality.

These encouraging results will be followed by tests on the commercial scale.

THAT REPORT ON LOBSTER SMUT

In our last issue we dwelt at length upon recent investigations which seemed to satisfactorily overcome the smut evil in canned lobster. But, as in many other things, there's many a slip 'twixt the cup and the lip, as the following announcement from Ottawa discloses.

"Doctor F. C. Harrison, Principal of Macdonald College, has been investigating for the past two years the cause of discolouration that sometimes occurs in canned lobsters. He finds that the discolouration would be largely, if not altogether, prevented by the use of a very small amount of citric or acetic acid, the quantity to be used to be not more than .2 of 1 per cent.

"A considerable amount of Canadian lobsters finds a market in France, and it was ascertained that France does not permit the importation of canned goods in which either of the above acids is used.

"As the amount recommended to be used is less than would be consumed in eating an orange or a grapefruit, or a serving of pickles, as the case might be, the trade commissioner at Paris was so informed and requested to ascertain whether, in view of this fact, France would object to the importation of canned lobsters in which acetic or citric acid was used. The commissioner now cables that France does not permit the importation of canned lobsters or pickles in which acetic or citric acid is used.

Review of 1922 Fishing at Canso

BY CECIL BOYD

We do not look upon our fishing year in this locality as coinciding exactly with the calendar year, but rather as ending with the winding-up of the winter haddocking by the shore boat fleet, which usually takes place anywhere from the first to the last week in January, depending upon weather conditions and movements of the fish schools. This year, like last, the fish has come much earlier than used to be the case, owing to an apparent earlier migrating schedule on the part of the latter. What the cause, and whether it will become the regular thing in haddock circles, is a question much discussed by those interested.

Looking back over 1922, we cannot truthfully record that it has been one of even average fortune for the many in this section depending for their livelihood on the producing and preparing of sea-foods for the tables of the world. We are loath to make such a statement, for we yield to none in our optimism, but true optimism does not mean ignoring, or refusing to face, facts, because the latter may not be quite to our liking. As a great writer has remarked, "there is no optimism about the grin on the face of a skull". Hard luck, adverse conditions, (call it whatever you like), mostly unpreventable by those affected, seem very largely to have ruled the year. Chief among these, the Weather-man and the Foreign Tariff Man were busy doing their best to hamper our growing industry.

Slump Keenly Felt

The depression of 1922 has been felt more keenly because of its following on a poor productive year. As already noted, the winter-fishing of 1921, so far as the boat fleet was concerned, (the trawler Raymond Or continued operations throughout the winter), ended very early, practically with the end of the year, leaving a longer idle period to the opening of spring fishing last year. Lobstering, open in this section from April 20th to June 20th, was below the average. Price to the catchers were an improvement on 1922, particularly, as the season advanced, but the catches on the whole were small. Spring Mackerel fishing, in which only a limited proportion of local fishermen engage, was one of the best branches of the year's work, the schools, for the first time in a number of years hugging the coast closely, thus favoring the shore netters and trappers rather than the seining fleets further offshore. Fall mackerel receipts were nothing to write home about, good worthwhile hauls being made in only a very few individual cases. Then, too, the coming into force of the increased United States tariff while the season was on, at once had the effect of bringing down the price to the producer by the amount of the tariff increase. Swordfishing, which has become the leading branch during the hot-weather months, turned out something of a disappointment. As usual of late years, as these big game fish moved on past this part of the coast, about all the local craft engaged in their pursuit, together with craft of all sorts and descriptions, that had gathered here from ports as far west as Pubnico, Yarmouth County, followed the trail of the "swords" around the Cape Breton shores, mostly headquartering

at Louisburg. With low prices ruling windy weather prevailing, and a large fleet competing, the most fortunate came home not much more than breaking even. One of the interesting curiosities of the swordfishing season here was the capture at Fox Island, some five miles from Canso, of a tiny fellow weighing but a scant 23 pounds.

Bait was Scarce

Bad weather, depressed markets, and the scarcity and consequent high price of suitable bait, had worked hard against the line fishermen throughout the summer. Even those, as already intimated, who took a whack at swordfishing and other side-lines did not reap much benefit, and with the end of the year looming in sight only a couple of months away, there remained only the winter haddocking to redeem the situation, and put a brighter face on 1922. Practically ever since its inauguration about 1896, and with the development of the fresh fish business, this branch of the local industry has been the fisherman's one best bet. It was always counted on to finish up the fishing year with a grant flourish, and especially during the latter years of wartime, with good prices ruling and bumper catches the order of the day, it was a profitable line. But adverse conditions these last two years seem to have conspired in an attempt to give it a black eye. Not all the blame should be laid to the universal depression in the fish trade. For instance, the weatherman deserves quite a share. Perhaps never in the recollection of the oldest residents has he acted so spitefully towards our fishermen as during 1922, with special reference to the last few months. It was practically nothing but gales from week's beginning to week's end, so that it was considered lucky to get one good day out of seven. About Christmas there was an improvement, but it was then found that the best runs of haddock had apparently gone by. New Year's Day, for many years in succession the biggest day of the season, gave small receipts, and after several almost blank sets during the following week, the fleet have now given it up, making one of the earliest closings in the history of winter-fishing from this port.

The Steam Trawlers

Steam trawler operations were continued throughout the year by the Maritime Fish Corporation. The "Raymond Or", after fishing through last winter and spring was laid up as usual, during July and August. In the meantime, her young captain, Magnus Magnussen, took the opportunity to cross the Ocean to his home country. At the end of August, an addition to the local trawler fleet was made with the arrival here from Grimsby, England, of the "Offa", in command of Captain Martin Olsen. Captain Olsen is no stranger to Canso, having come out to this country some years ago, when trawling on this side was very much in its infancy, and was engaged in operating out of this port up to the early years of the war, when he returned to Europe. Since September, the two trawlers have been landing weekly trips for the Corporation, their catches varying greatly with varying conditions, occasionally as low as 30 or 40 thousand, and at other times over

the hundred thousand. During the summer, the Ray-ond'Or was equipped with wireless: As far as known, these craft will continue operations through the winter.

The service inaugurated a few years ago, by the Government stationing one of the Fisheries Department steamers at this port to act as "Mother-ship" to the boat fleet of this section during the winter haddocking, was continued this year, and found extremely useful. Captain Barkhouse, in the C. G. S. Arras, was always to be found on the job, and during the rough weather experienced this year, had a number of opportunities of assisting individual boats of the fleet at critical moments in their battle with the brine and breeze.

Tragedies of the Year

The situation of this port so near the big banks, and the handiest land to Sable Island, the "Graveyard of the Atlantic", has always brought it very closely in touch with a great many of the tragedies and mysteries of the fishing fleets, and 1922 was far from being any exception. Out of many, it may be of interest to very briefly recall two, which featured very largely in fishing circles.

On the night of September 14, Captain Siebert Coolen, of Hubbards, Halifax County, skipper of the fishing schooner, Helen F. Coolen, of the same place, then lying in harbor here, disappeared from his vessel between 9 and 10 p.m., as completely as though he had been swal-

lowed up. His dory vanished with him, and his wife and large family at Hubbards have heard not a word from either since that night. Vague reports recently said that he had been seen in Boston, but they have led to nothing, and there is talk at present, that the case may be taken up for investigation by the provincial authorities.

The other event was the landing at Larry's River, near this port, of five men of the crew of the illfated Gloucester fishing schooner, Marechal Foch, after forty strenuous hours spent in trying to reach land in their dory, with nothing for food but two loaves of bread, their vessel having met her fate on the Southwest Bar of Sable Island, shortly after leaving Halifax. After being brought to Canso, and suitably cared for and fitted out, they were sent back to Gloucester. The thrilling tale of their gruelling experience is a striking sample of what Nova Scotian fishermen, (for they were native Nova Scotians with one exception), have to face as part and parcel of their occupation.

The above is a very brief summary of the 1922 fishing year in this section, and while the year has not dealt as kindly as could have been wished towards this great basic industry, on which so many depend for their daily bread, and the necessaries that go with it, we look forward hopefully, trusting that the present twelve-month will bring much better things to pass.

Magaree Hatchery Draws Many Visitors

Says a correspondent of the Halifax Chronicles:

One of the show places of Cape Breton is the salmon and trout hatchery at Margaree, conducted under the auspices of the Federal Government. During the summer months the buildings are visited by hundred of tourists, and quite recently the Chronicle correspondent was a guest of Mr. L. J. Burton, the capable manager of the plant. This season 5,330,000 salmon eggs were placed in the hatchery, and later in the summer 4,000,000 fry were distributed in the streams of Inverness, Cape Breton and Richmond. Out of the grand total of eggs secured only 522,000 failed to mature, which is an amazing record.

Under the old system the female salmon was stripped of her eggs, after which the male was taken from the pool and the milt allowed to silt through the water which held the eggs. The latter, before the milt could get to them, became clogged with water, with the result fertilisation did not readily take place and the great majority of the spawn proved useless.

This year Mr. Burton reversed the order. Taking the milt from the male first he mixed the substance with water. With all possible despatch the female was then stripped and the eggs dropped into the water after as little contact with air as was possible. It was hoped that this system, adhering closely to the natural order, would give better results, and the final reckoning proved the correctness of Mr. Burton's theory.

The work of stripping the adult fish commences about November 13 and lasts about two weeks.

During the first six weeks of their young lives the fry feed on a small sack, which protrudes from the abdomen. When that is absorbed the tiny fish, which are

kept in crates in running water, are allowed each day portions of finely cut beef liver, on which they thrive in an amazing manner. When the young reach the fingerling stage they are released into retaining ponds, which are built on tributaries of the main stream. The staff, under the direction of Mr. Burton, is at present erecting more commodious reservoirs, which, when completed, will make Margaree one of the best hatcheries in Eastern Canada.

The adult salmon are trapped at the mouth of the river during the spring and fall, and are kept in the ponds until the middle of November, when the milt and spawn are stripped from them.

Native speckled trout are also reared in the same manner as that used for the propagation of salmon. At the time your correspondent visited Margaree there were three hundred and twenty-three trout captive in a pond in the rear of the hatchery, many of these weighing upwards of four pounds. Elaborate precautions have been taken by Mr. Burton to guard the confined fish against disease. The surface of the pond is partly covered with boards, under which the fish may find relief from the sun's heat during the scorching days of mid-summer. A six-inch pipe leads down from a mountain brook to a point over the pond, and through this a miniature waterfall drops its cooling spray into the enclosed water.

Sometimes the watcher is entertained by the picture of a half a dozen or more trout in the air at the same time; the fish, thinking they are at the foot of a waterfall, attempt to reach over the top by in effectual jumping.

Bry and Pickled Fish Trade

Production of past year, market conditions and prospects for 1923 discussed

By A. H. WHITMAN

The total quantity of dry fish produced in 1922 was fully up to the average of pre-war figures. This refers to all fish producing countries, with the exception of Norway, where the catch was somewhat under the average. The Lunenburg catch has been the largest in the history of the trade, totalling 300,000 quintals — about 25,000 quintals over 1921. The Nova Scotia shore catch, as dried for export, has been very disappointing — probably the smallest on record. The catch, however, in recent years is a small factor, as the bulk of the codfish now caught on our shores is cured and sold in a green state to the United States, where it is manufactured into boneless fish for the domestic trade.

Prices. — There has been much confusion in regard to the prices paid for dry fish. The Lunenburg heavy salted bank codfish, considered inferior to Newfoundland cure, has up to the present sold at prices ruling from \$1.50 per quintal in the spring and summer, and \$1.00 since then, above St. John's, Newfoundland, prices on shore cure. Owing to the fact that there has been a good demand in markets requiring the heavy salted article, and also owing to bad weather conditions preventing any large supplies being put on the market at one time, exporters were able to market practically all of the 120,000 quintals, representing the catch of the first two trips of the Lunenburg fleet, with a fair margin of profit. Only a small portion of the Lunenburg summer catch of 180,000 quintals has as yet been exported. A few sales have been made at \$6.50 per quintal delivered Halifax, and some ten cargoes have been taken into store at Halifax by exporters on an open price. In the fact of lower prices in Newfoundland, and the fact that conditions in the consuming countries of Europe and South America have gone from bad to in recent years there has been an worse, it would appear that the price of Lunenburg cure would have to further decline.

The Gaspé Coast catch was a good average, estimated at 100,000 quintals. Up to October the price to the fishermen on the Gaspé Coast for good quality was \$7.00 per quintal, \$1.00 per quintal over Newfoundland prices, since which the price has been \$6.00.

Owing to adverse exchange and the poverty of the people in the consuming markets of Europe and South America, the outlook for dry fish is decidedly discouraging. Greece, which usually takes 100,000 to 150,000 quintals, is taking very little. In Portugal conditions are extremely adverse. There is a big demand for codfish, but the ruinous rate of exchange makes the business almost impossible. As a result many Oporto cargoes are being offered on the Halifax market. Some six or eight were bought by Halifax firms; several at \$6.25 delivered Halifax. The very low exchange in Brazil prevents any profitable business in that country. In view of the bad outlook, prices in Newfoundland have fallen 50¢ per quintal, or from \$6.00 to \$5.50 paid to the fishermen in the out-

ports, and the same reduction in St. John's, Nfld. It is considered that Nova Scotia exporters are in a better position than Newfoundland, as it is thought that there will be a continued fair demand in the West India markets for Lunenburg Cure, as well as for large and medium shore quality. It must be admitted that the rather encouraging outlook of last spring, for a normal dry fish export trade, has quite disappeared. Very little improvement can be looked for until the extremely adverse exchange in Portugal, Italy, Spain and South America considerably improves.

Pickled Fish

Never in the history of the trade has there been such a stagnation in the marketing of pickled fish as during this season. Notwithstanding extremely low prices, the West India demand is very limited. Herring are selling below the cost of production. The West Indies are being supplied with Newfoundland cure.

Owing to the low value very few herring were packed in Nova Scotia. Prices are also low on spring mackerel. It would appear that consumers are giving up the use of pickled fish. This notwithstanding improvement in packages and quality.

The new tariff imposes 1¼ cents per pound on dry and pickled fish not in barrels, and \$2.00 per barrel on mackerel, herrings, etc. So far the result of the heavy duty has been much more disastrous than anticipated. As is usual where any article is in over-supply, the producer loses a large part, if not all, of the duty imposed by the importing country. This is particularly true of the cheaper qualities of dry and pickled fish that depend almost entirely on the United States for a market. This season the producer is losing part or all of the duty on such articles as spring mackerel, herring, Lunenburg and other inferior cures of dry codfish, and pickled cured green hake, the most of which are in over-supply. Heavy losses are being made on cargoes of codfish consigned to Porto Rico, mostly shipped from Lunenburg, and for which no other market is available. The price of high class, pickle cured green codfish, used in the United States for boneless fish, and which is in short-supply, has gone up since the new American tariff became effective. Fat mackerel, also in short-supply, brought the highest prices for some years, and on the best grades of Gaspé and other shore fish used by the Italian colonies in the United States, the consumer has paid the duty.

The Future Outlook

It is difficult to be optimistic in the face of the existing conditions, Norwegian and British exporters of dry fish during 1922 have consigned large quantities of their cure of codfish to practically all of the consuming countries — particularly to Cuba and Brazil, two markets in which Nova Scotia exporters are particularly interested. The result being that for some time profitable business has been impossible. It is hoped that the heavy losses made by the European

exporters will before long restrain their further consignments. Outside of the heavy supply of Lunenburg cure, stocks held at Halifax are under the average and bought at comparatively low prices. It would appear that exporters will have to more or less mark the time pending improved conditions.

It is most disappointing that inevitable low prices on dry codfish mean that many of our Lunenburg fishermen cannot more than break even — some vessels will show a loss — as it must tend to a decrease in the fleet, which in 1922 stood at the peak as regards tonnage, efficiency and catch — the just pride of all Nova Scotians. However, why worry? These are days of quick changes. Fishermen are not easily discouraged. It is hoped that 1923 will see more settled world conditions, with export fish business, as well as other basic industries, once more enjoying prosperity.

I consider the outlook for our shore fishermen most serious. In order to make a living they are dependent on their catches of all the marketable varieties of fish. The American duty, along with the undoubted lesser demand for salt fish in the United States and Canada, has made the value of herring and spring mackerel below cost of production, and as the new tariff on fresh fish is almost prohibitive, I fear a further depopulation of those fishing districts that depend on the inshore fisheries.

FRENCH SCHEME COLLAPSES

The French government concludes that it has a white elephant on its hands in the big cold storage plant it built at St. Pierre. There has been an agitation to throw over absolutely but the French colonial minister recently made a visit to the island and, it is said, will recommend turning the plant over to private interests as a fish drying station. The French government had ambitious schemes when it erected the tremendous plant at Lorient and the other at St. Pierre and built two special steamers to carry frozen fish from the North American station to supply the French markets. How the mighty have fallen! These steamers are now employed at some other work. The St. Pierre plant will likely degenerate to a curing station and the Lorient plant will likely disappear in a short time. The people of France are surprised at the failure but practical fish men throughout the world foresaw it when the scheme was evolved. The fishing game is one where theory and practice do not follow parallel courses.

NOTES FROM DIGBY

Digby, N. S.—The fishing industry at present is very quiet, the scallop and lobster fishermen being unable to do much owing to the severe weather which has prevailed along this part of the coast during the past winter.

H. B. Short who is manager of the Maritime Fish Corporation branch at Digby, accompanied by Mrs. Short, is spending the winter at St. Petersburg, Florida.

Capt. J. E. Snow who for many years successfully carried on a general fish business in Digby is enjoying the warm climate of California accompanied by Mrs. Snow.

Capt. Ansel Snow accompanied by his son, Fred, and a portion of his crew, left to-day enroute to Gloucester where Capt. Ansel is to take charge of a vessel in the halibut fishery.

DENSIL ENGINE BECOMING POPULAR

“Last year we referred to a rather novel oil engine installation in a schooner belonging to the Revillon Frères Trading Co., the peculiar feature being that the shaft was inclined towards the centre line, the propeller being to one side to avoid piercing the stern post and rudder. We understand that this installation has proven quite successful so far as speed and manoeuvring ability is concerned, no deterrent effects being noticeable in either way. From the point of view of ice obstruction, however, (which is important in this case as the vessel habitually trades to Hudson’s Bay), there is no doubt but that the centre line position for the propeller is preferable.

That the DENSIL crude oil engine installed in this vessel has been satisfactory is best evidenced by the fact that owners have recently ordered another engine of the same make of 200 B. H. P. They further state that the engine operates practically without noise, vibration or smell, and that while the longest non-stop run has been forty-two hours, the stop was entirely voluntary and not in any way necessitated by the engine.

We understand that this make of engine is attaining quite a degree of popularity for both land and marine purposes in Canada, the latest installation being for an automobile ferry near Ottawa.”

A RECORD HAUL

Bringing in the largest fare of fresh fish ever landed at Halifax, and what is believed to be the largest fare ever landed at any Atlantic port by a steam fishing trawler, the Lemberg, Captain Hansen, arrived February 26, from the Banks, and weighed out 345,000 pounds at the National Fish Company’s pier. The following morning she left again for the fishing grounds. Her catch was the result of four nights fishing, as the Lemberg was only absent from port five days. She left Halifax February 21, and Captain Hansen reports that he had good weather all the time and they just loaded her up. He now holds the “Blue Ribbon” among the Canadian trawler fleet having snatched it from Captain Myhre, master of the Venosta, the National Fish Company’s other trawler.

The largest catch previously landed here was in the vicinity of 300,000 pounds. The catch of 345,000 pounds landed by the Lemberg is a record which is expected to stand for some time.

The very next day the trawler Sir John French, Captain David Baekman, returned from her first trip to the banks and landed a fare of 200,000 pounds of fresh fish for the Leonard Fisheries Limited.

Mark Twain Again

The original source of this story is unknown to us. Perhaps Mark Twain is responsible, and perhaps he isn’t. Anyway, here is the story.

“Mark Twain in his earlier days was editor of a Missouri newspaper. A superstitious subscriber wrote him saying that he had found a spider in his paper, and asked whether that was a sign of good or bad luck. The humorist wrote this answer and printed it.

“Old Subscriber: Finding a spider in your paper was neither good nor bad luck for you. The spider was merely looking over our paper to see which merchant is not advertising, so that he can go to that store, spin his web across the door and live a life of undisturbed peace ever afterwards.”

Research in the Fisheries

Organization of Biological Board of Canada and nature and scope of its work explained

By A. G. HUNTSMAN,

University of Toronto, Director, Atlantic Biological
Station, St. Andrews, New Brunswick

Following is a paper by Dr. A. G. Huntsman which he read before the recent conference at Ottawa on scientific and industrial research work. It is hoped those in the industry will pursue it carefully and acquaint themselves with the work and problems of the biological board.—Ed. C. F.

Research in connection with the fisheries of Canada originated, where nearly all research has its origin, in the Universities. Scientists, primarily biologists, realized the importance of vastly extending knowledge of conditions in our waters and of the value that such knowledge would have for the fisheries. They made representations to the Government to be provided with the facilities for obtaining this knowledge, and there was formed under the Minister of Marine and Fisheries and for this purpose an unique organization, known as the Biological Board of Canada. This body provides almost ideal machinery for bringing about research in this field, although, naturally, it is never possible to get it to work in an ideal fashion.

The Biological Board of Canada

This board consists of scientists, who are representatives of the Department of Marine and Fisheries and of the principal Universities of the country. To it is entrusted the expenditure of a sum of money for investigation of our waters and in connection with the fisheries. It maintains two principal Stations for research, one on the Atlantic coast at St. Andrews, N.B., and the other on the Pacific Coast near Nanaimo, B.C. At these stations facilities are provided for investigations by qualified men. There is no teaching, only investigation.

The facilities provided at each Station consist of motor boats, the necessary gear and equipment for fishery and oceanographic work, a laboratory and supplies for general biological work, a small library, and a residence for the workers. At the Atlantic Station there have recently been added special biochemical and bacteriological laboratories, and a biochemical laboratory is planned for the Pacific Station. At the Atlantic Station there is now accommodation for thirty or more investigators, and at the Pacific Station for about twelve.

The investigators come from the only known source, the universities. Almost without exception they receive no emolument for this work they undertake. The money is used for providing the necessary facilities for investigation. The reward of these men is the credit they receive for work well done, for discoveries made. Hence they must all have to devote to this work only such time as they can spare from the tasks on which they depend for their living.

The admirable feature in the Board's organization lies in the definite means it provides for bringing the men in the universities into close touch with the problems of the fisheries. As a result we can truthfully affirm that in no other country is such a large proportion of the scientists interested and engaged in investigations connected with the fisheries as in Canada.

Not that that is enough. We require more workers, and we need closer touch with the industry than we have yet had.

Field Investigations

All the work that is requisite for solving the problems of the sea and the fisheries cannot be done at permanent stations, no matter how favorably these may be situated. For almost every problem more or less field work is necessary, which may be accomplished by travelling from place to place by boat or otherwise, or which may involve the establishment of a temporary station at some point, particularly suitable for the special object in view. The use of such methods has made it possible to undertake the investigation of any problem whatsoever that comes up, without the necessity of expending money for the upkeep of more than one permanent station on each coast.

Scope of the Work

The object of the Biological Board is to provide facilities for increasing knowledge of the living things in our waters and of the conditions under which they live, in the belief that this knowledge will sooner or later find application in the fisheries or otherwise. No legitimate subject of investigation is debarred, but subjects with a direct economic bearing are given the preference and the most support.

The function of the Board in connection with the producing side of the fisheries is to be considered as something between that of an agricultural experiment station and that of a weather bureau. It might be supposed that its proper work is to discover how best to breed and raise fishes, and so it is to a limited extent. The best methods of controlling the production of fishes are to be developed wherever such control is possible. Only those fishes that live in comparatively small bodies of water, or that are more or less stationary close to the coast, lend themselves even passably to control. Many of the species of most importance commercially are wide-ranging and keep to deep waters. Control of these must necessarily be of a very limited character. For such fisheries it is of paramount importance to be able to predict their time, their place, and their extent, so that the fishermen may successfully plan their voyages. This prediction becomes possible with a knowledge of the conditions that govern the movements of these fishes and their abundance. The outstanding factors responsible for fluctuations in the fisheries are changes in the weather conditions in the water. We have, therefore, to develop a system of weather prediction for the water.

The functions of the Biological Board in connection with the manufacturing and transporting aspects of the industry are more generally appreciated and understood. The methods of curing and preserving fish now in use need to be improved, and new ones need to be developed. For this it is necessary to thoroughly study the conditions under which the canning, curing, storing, and transporting of fish are con-

ducted, and to devise methods that will ensure the customer receiving a satisfactory and uniform product. It is needless to emphasize how large and important this field of investigation is.

Illustrative Examples

The chief method of control in fish production has been the hatching of the eggs. The success of this procedure in increasing the available quantity of commercial species has been much debated. It may appear strange that the success of a practice which has cost hundreds of thousands of dollars should be still open to question; but, when it is realized how small the fishes are when liberated, and how difficult it is to follow the fate of anything in water, a medium in which we do not and can not live, this situation should not evoke surprise. We have no more important problem than that of determining where and when the chief mortality occurs in the life-history of such an important fish as the sock-eye salmon of the Fraser river, and how this mortality can be obviated. The success and proper application of hatchery procedure are involved in this matter, which concerns an industry whose value runs into the millions, and whose existence is threatened with extinction.

From the canning standpoint the lobster industry is the most important one on the Atlantic coast. As in so many other cases, supply has failed to keep up with demand. As the growth of the lobster is comparatively slow, and as a number of years is required to bring it to marketable size, overfishing, with an inevitable diminution in the stock, has occurred. Various methods of controlling the fishery and for increasing the stock have been advocated and employed with debatable success. A satisfactory situation is yet to be attained. Through studies on the effects on fishes of the varying climates along our coast, we have been able to demonstrate that the lobster is able to breed successfully only in certain circumscribed areas, the remaining parts being stocked purely by migration. The application of this discovery should be that the lobsters with eggs be transported to the areas favorable for breeding, and that the excess of small lobsters from the latter be distributed wherever conditions, though not suitable for breeding, are nevertheless entirely suitable for the later growth.

Weather predictions for the sea are still to come, but knowledge of the physical conditions in our waters is rapidly augmenting. On and off our coast a never-ending battle is in progress between the Labrador current with its icy freight from the Arctic regions and the Gulf Stream with its stored heat from the tropics. The chief battle-ground lies on and near the Grand Bank of Newfoundland, where the Titanic found a watery grave, and where at the present moment the struggle is most intense with the cold current, supported by winter conditions, in the ascendancy. The contest between the rival forces is not confined to the open ocean, but is waged close to the coast and in the larger bays. It continues throughout the year, for at certain depths ice-cold arctic conditions are to be found in late summer almost to the southern most tip of Nova Scotia. The variable conditions so produced are responsible for the immensity of our fishery resources, as well as for the great fluctuations in the fisheries that make prediction so desirable. We are laying the basis for a rational system of prediction.

On the manufacturing side, many investigations have been in progress in recent years. Losses through spoilage of canned sardines, canned lobsters, canned clams, frozen fish and dried cod have been the incentives to detailed studies of the current methods of canning, curing and freezing of fish, and of the conditions responsible for failures. These have demonstrated many defects in these processes. Considerable improvements in conditions have already been effected, and others have been proposed. The investigations have been in bacteriological, chemical and physical directions.

It has been found that the various bacteria that may cause spoiling of fish differ greatly in their ability to resist the varied methods used for their destruction, or for preventing their action. This makes it necessary to change the methods in accordance with the characters of the bacteria. Also slow freezing has been found to greatly alter the character of the flesh in some fishes, and to alter it to some extent in all. Rapid freezing is, therefore, shown to be desirable for all fish in order to avoid deterioration in quality.

Mention should be made of the discovery at the Atlantic Biological Station last year that the new substance for the treatment of diabetes, called insulin, occurs in a particularly concentrated form in certain fishes, which points to a new source of supply for this important remedy, for the manufacture of which in sufficient quantities the sources so far exploited are already proving inadequate.

Assisting Bodies

The Biological Board is indebted to many other bodies for assistance in its work. Foremost must be placed the various universities, members of whose staffs make up the research personnel of the Board. The universities also assist by furnishing laboratory facilities for the continuation through the winter of work carried on in the summer at the stations. The work accomplished by the Board is really to be considered as having been done by these universities with the assistance of a grant through the Department of Marine and Fisheries.

Other Government organizations have been of great assistance; for example, the Research Council by providing student-ships for the support of young investigators, who are thus given an opportunity of proving their ability, and by furnishing financial assistance for particular projects. With the Fisheries Department the Board from its membership and the nature of its organization is very intimately connected, and it virtually functions as the scientific branch of that Department. Mention should be made of the Tidal and Current Survey, the Hydrographic Department, the Meteorological Service, and the Victoria Memorial Museum, all of which furnish the Board with considerable help from time to time. Also many fishery firms and individuals have frequently contributed with facilities of various kinds.

The point needs emphasis that the work of the Biological Board would be much handicapped without the cooperation which we have briefly outlined. These other bodies are essential elements in the ill-defined general organization that gives fishery research in Canada at the present stage a good prospect of success. Fishery research feels the lack of the Central Research Institute, planned by the Research Council, but not yet realized.

The solution of certain problems in connection with the fisheries requires the organization for research that such an Institute would provide.

The Universities, the Research Council, the Research Institute, the Government Research Departments, and the research laboratories of commercial firms are all needed to give us success, and it is a misfortune for the country whenever political or private jealousies play one against another and hinder progress.

Types of Research

The work "research" has in recent years been much used and much abused. The mental process, which it connotes, is common enough. The child, who discovers for itself that fire is hot, does a piece of research. Things of that kind are done by most people daily. That, however, is not what we mean. Research in the restricted sense is work leading to the discovery of new and important facts to be added to the previously acquired body of knowledge. Such work is virtually limited to those who know what knowledge has been acquired in the past in the field in question. Any one ignorant of that knowledge cannot know what is new and is not likely to know what is important.

Not only must the investigator be familiar with previous work and discoveries in the field, but he must also be skilled in the technique by which alone in most cases the essential new facts can be disclosed. Research work at the present time is, therefore, done almost wholly by specially trained men.

Given these trained men, does research necessarily follow? Unfortunately not. Some of them are by constitution incapable of discovering anything new, except by blundering on it, and even then they will probably not know it. Investigation, research, discovery in the highest sense come from the fortunate combination of an inquiring mind with training in the particular field in question. There is, however, in connection with research much work of a more or less definite and routine character that can only be done by these specially trained men, whether of the inquiring or of the other kind. This is the work that can be planned, that can be organized, that can be paid for. Pure research or discovery cannot be directed, or organized, or bought. It can merely be encouraged. Give the man with a "bee in his bonnet" his chance. Every such man cannot be so favoured. Means are limited, and selection must be made of those most likely to achieve success. The qualified men must be selected by those best able to judge of the qualifications. The qualified man of an inquiring mind with a zeal for discovery, and who proves his ability, should be given a post the routine duties of which are sufficiently limited to permit him to develop his gift, and to add, if he be successful, important new facts to the sum of knowledge.

The routine work, the work that can be more or less definitely planned, and that will yield more or less definite results is sufficiently like ordinary work in the business world to be generally appreciated. Large sums of money can wisely be spent in developing this aspect of research, but it should not be forgotten that this alone will yield but ephemeral results, for its outlook is narrow, its possibilities limited.

In olden days the poet, the artist, or the alchemist looked to some rich man, who became his patron, to provide him with an opportunity to develop his gift. In these ultra-democratic days, we look to that eminent

and all-powerful personage, the "man on the street" to have the vision of how important additions to our knowledge are, and to ensure that the qualified man "with a bee in his bonnet" gets an opportunity to add his bit to the fabric that has already made it possible for the day labourer to live in what was once luxury to a potentate, and that will accomplish, we believe, vastly more in the future.

AGAR-AGAR FROM SEAWEED

In view of the serious economic loss each year because of neglect to utilize by-products of the fisheries, the following, taken from a recent report of the Bureau of Fisheries, Washington, is of interest:

It is obviously unfortunate that the United States should be dependent upon other countries for its supply of a vital necessity. Agar-agar is the commercial name applied to a gelatinous product which has been imported from Japan, China, and other places, the importations in 1919 amounting to nearly half a million dollars. The importance of the material is not, however, measured by its strictly commercial value. While it is used in making food and confections, agar-agar is primarily important because it is a necessary medium for bacteriological work, and is therefore essential to medical laboratories and hospitals. It is a requisite for certain industries, for the maintenance of health, and for national security.

Marine algae or seaweed have long been used in this country for the preparation of gelatines for particular purposes, but only the recent investigations, conducted for the Bureau by Dr. Irving A. Field,⁹ have revealed the fact that we have possible sources of supply for the most valuable gelatine of all in certain species of seaweed on the west coast. In the report for the preceding year reference was made to Dr. Field's preparation of a gelatine suitable for use in preserving fish, and to experiments in producing a substitute for agar from Atlantic coast seaweed. These experiments were not successful, but it was later ascertained that at least one species of the west coast yields agar of the best quality. Agar prepared by Dr. Field and tested at the Army Medical School in Washington was pronounced equal or superior to the imported agar. Another species yielded a product apparently of like quality. The investigation should be followed by a field survey for the purpose of definitely locating the sources of supply. It was a serious misfortune that Dr. Field died shortly after completing and reporting upon his laboratory investigations.

A FISHERMAN'S PRAYER

A sudden storm had overtaken a fishing fleet off the east coast of Scotland, causing them to run for shelter.

All got safely home except one boat belonging to an old man, who was alone on board.

An anxious crowd gathered at the pier-head.

At last, when hope had nearly died, it was dimly seen through the storm and in due time reached shelter.

The old man was plied with questions as to how he managed to win safely through, and some one asked, "Did ye pray?"

"Aye, I prayed."

"What did ye say?"

"Weel, I hadna ony great wale o' words, but I just said to the Lord that surely he wouldna forget an auld man in an open boat in sic a sea as this."—Ex.

Impressions of Research Conference

By A. G. HUNTSMAN.*

The Conference on Research called by the Canadian Manufacturers' Association met at Ottawa on February 20, 21 and 22. Five sessions in all were held, with the following subjects presented,—(1) work and plans of the Advisory Council for Scientific and Industrial Research; (2) work of the research branches of the Government departments; (3) research work of the universities and agricultural colleges; (4) work of the research departments of commercial firms; and (5) general discussion. It appeared that the manufacturers desired to learn what research was being done and planned in directions bearing upon manufacturing, either directly, or indirectly in connection with the fundamental industries, (farming, fishing, mining, and forestry), that provide the raw materials for manufacturing. It is intended to publish these data on research. No attempt was made to crystallize (either in resolutions or otherwise) the various views presented at the conference. It remains to be seen what use the Canadian Manufacturers' Association will make of the information concerning research that has been thus disclosed.

It was a distinct revelation to hear of the very extensive nature and the extraordinary variety of the research work being carried on in the Government departments (particularly the Department of Agriculture) and in the universities (particularly those of Toronto and McGill). It was not apparent that there was any duplication in this research work, although in several cases owing to there having been coöperation, the same work was reported upon by more than one body. There was, however, duplication in claims, each of several bodies claiming that it had killed the grasshoppers out west! This is reminiscent of the answers to the question of "who won the war."

No less important was the demonstration of the great length of the chain of work between the coming of a new idea and its actual application in the industries. New ideas come to light in the investigations in pure science in university laboratories, and these ideas form the starting point for further investigations. The varied facts and theories so provided are in part at some time taken up in the laboratories of applied science and their bearing on industrial problems more or less clearly demonstrated. Finally commercial firms take them up either directly or through their research laboratories and actually make use of them in industrial processes. If it is true that there is no royal road to learning, it is still more true that there is no easy road to industrial progress. Occasionally short cuts to improvements in processes are found, but almost always attempts to reach the goal by plunging blindly and at random end in failure. Sure progress comes by careful and thorough investigation of the subject from the most general and fundamental researches in pure science to the narrowly limited applicational research in connection with the manufacturing process.

It was made abundantly clear that it is neither possible nor desirable to limit a special type of research to any institution or kind of institution. While purely scientific researches are ordinarily carried on in the laboratories in pure science of the universities, nevertheless they are also done, and at times need to be done, in applied science laboratories, in research branches of

Government departments, and even in laboratories of commercial firms. Similarly for applicational researches, these may be done in any institution. For example, at McGill University in an investigation of the properties of hydrogen peroxide, it was found necessary to devise and apply new and special kinds of pumps. Research being in effect exploration and discovery, it is not possible in any given case to be sure what will be found or where it can best be found. It is of distinct advantage to have any given problem attacked in different ways, either in different types of institutions or by different types of individuals. Usually, however, it is possible to state more or less definitely where and in what way a problem can be attacked with the best prospect of success.

There was general agreement at the conference as to the great need for the Central Research Institute, planned by the Research Council. This Institute is required to do for Canada the kind of work that is accomplished in the United States by the Bureau of Standards and the Mellon Institute. In these fields Canada is quite undeveloped and dependent on foreign bounty. Fear was more or less openly expressed that the Central Institute might hinder the research work of the universities and Government departments, but it was pointed out that no such result had followed either in the United States or in other countries.

Fisheries Research

The research work being done in connection with the fisheries was described by Professor Prince and the writer, but as the fishing interests on the commercial side were not represented there was no discussion of this field of research. It was quite evident, however, that in comparison with other industries, the fisheries have had but little assistance in this direction. The personnel and resources so far available have been quite inadequate to meet the needs of the industry. There should be special investigators permanently employed under Government auspices. There should be special investigators working on fishery problems in the proposed Central Research Institute. And there should be research laboratories connected with commercial firms or groups of commercial firms, where new processes could be worked out and perfected on a semi-commercial scale before being actually applied in the industry. Young scientifically and technically trained men should be taken into the industry, should learn the business in detail from the bottom up, and would then be able to apply their scientific knowledge to the solution of problems and the improvement of processes in the business. Competition at the present day is becoming more and more keen, and unless Canadians in this industry as in others utilize all these means for advancement, Canada will not only fail to surpass, but will actually fall behind the other nations of the world.

Messrs. Morgan Bros. and Wilson & Company of Port Stanley, Ontario, have disposed of all their frozen stock at a good price. The two hundred ton Cold Storage Plant built by their people last Summer was a success in every way.

Condition of Salmon Spawning Beds

The Honorable William Sloan, commissioner of fisheries has received preliminary reports on the season's condition of the salmon spawning beds of the principal rivers of the province. Mr. Babcock in his report on conditions on the Fraser states that "less sockeyes reached Hell's Gate Canyon on the Fraser this season than in any former year on record. Very few were in evidence there any day this year. Water conditions in that canyon were favorable throughout the run, and all the fish that reached there passed through the canyon without undue delay.

The Fraser River

"Much has been said and written of conditions in Hell's Gate Canyon. It has been stated "that the river channel has never been cleaned out properly and that the upward migration of the fish is considerably hampered yet by the slide".

"The Departments have been familiar with conditions in Hell's Gate Canyon since 1901. It discovered and was the first to announce that there was a blockade there in 1913, and it had much to do with the attempts to raise the blockade that year and with the work of restoring the channel in 1914. Photographs taken of the channel before the slide in 1913 and since the channel was restored in 1914, show that the currents are the same now as they were before the slide. With few exceptions the salmon that have reached Hell's Gate since 1914, like those that reached there previous to 1913, have passed through the gate by hugging close to the rock wall on the right — the west — side of the gate. Few salmon can or ever have negotiated the rapids on the left side. The wall on the left side is bedrock, and not thrown into the channel. At no time this year or in any year since 1914 have salmon in numbers been seen in the eddies in the river's channel, a quarter of a mile below Hell's Gate. If the runs had been unable to get through Hell's Gate the fish would have become massed in the eddies for a considerable distance below that gate, just as they were in 1913.

No sockeye were seen or reported in the Thompson river or in Shuswap or Adams lake at its head this year. None were found or reported as having been seen at the entrance to Quesnel lake or in the Horsefly river, its principal tributary.

Less than twenty sockeye were seen on the spawning beds of Bowron lake section, the principal sockeye salmon tributary of the south fork of the Fraser. The Indians at Soda Creek are reported to have caught less than a dozen sockeye this year.

The run of sockeye to the Chilcotin river was limited. The Indians are reported as having taken less than one hundred. Reports from Chilco lake, at the head of the Chilcotin watershed, state that no sockeye were seen there this year. None are known to have entered Seton or Anderson lakes.

The run of spring salmon to the northern section of the Fraser basin is stated to have been larger than in any recent year.

The run of sockeye to the Birkenhead river, at the head of the Harrison-Lillooet lake watershed was of a most satisfactory nature. There has been a good run to that section in each of the last five years. It is the only section in the Fraser basin that has had a good run.

The run there this year was a little better than last year, and is thought to have equalled the run of two years ago. Twenty-five millions of sockeye eggs were collected for the hatchery at Pemberton Meadows, and the extensive spawning beds of that section were all well seeded. The maintenance of the sockeye run to the Birkenhead is generally accredited to the successful management of the hatchery under superintendent Graham. It is understood that a portion of the eggs at the Pemberton hatchery will be transported and planted in the Horsefly river, a tributary of Quesnel lake.

The reports from the Harrison lake section show that comparatively few salmon had reached the beds there up to a week ago. The run to Morris creek is stated to have been better than in the last two years. The run is still on there and at Cultus lake, and eggs are being taken for the hatcheries.

The Other Rivers

Reports from the Skeen, Nass and Rivers Inlet are in the main satisfactory. The spawning beds of the Skeena were all well seeded this year. The run there is stated to be better than last year, and the egg collections will equal those of any recent year. All the eggs secured in the Skeena basin this year will be hatched and the fry liberated in its tributaries. No eggs were transported to Stuart lake as has been the custom in recent years.

Fishery Officer Stone reports that the spawning beds of the Rivers Inlet sockeye run were as well seeded as last year. The tributaries at the head of Owikeno lake were lightly seeded. There was a light run there the same as last year, but the tributaries at the lower end of the lake were all well seeded. Very high water during the early part of September is believed to have done considerable damage to the eggs deposited up to that time. The hatchery is filled with eggs.

Officer Stone also reports that he visited the spawning tributaries of the Smiths Inlet sockeye run and found them better seeded than in any recent year. There was an abundance of sockeye on all the beds.

Inspector of Fisheries Hickman again visited the Nass river basin including Bowser lake. He was accompanied by Fishery Overseer Collinson. They reported that the Meziadin lake section was well seeded. The great fishway at the falls in the Meziadin river was found in good condition. All the basins in the latter have been cleaned out of the gravel that was reported there last year.

"The trip into the Bowser lake section was a strenuous one. This great lake is some forty-miles north of the Meziadin lake, and can be reached only on foot over rough country. It has only been visited once before by fishery officers. Owing to heavy rains the waters in that section were too discolored to permit of close observation, but sockeye in numbers were seen breaking water at the mouth of all the tributaries, and in parts of the lake where the sockeye are believed to spawn."

"Favorable conditions in the north generally are accredited to the twelve hour extension of the weekly closed period. It undoubtedly increased the escapement, and in consequence the deposit of eggs".

Duff Commission's Final Report

Forty percent cut in Jap Licenses -- Dickie protests and also holds out for restricted export of raw salmon

Ottawa, March 7.—Reorganization of the fisheries administration, "which," says the report, "has for years been a political football, kicked into the marine department, then to the naval department and then back again into the marine department, into a separate department, with or without a separate minister of fisheries, but with a separate deputy minister and an efficient organization to assist him in his work," is recommended in the final report of the Duff Fisheries Commission on the British Columbia fisheries. The report was placed in the hands of the Department of Marine and Fisheries today.

The fishing industry, the report states, does not at present receive the attention its importance warrants, in view of the number of men employed in it and the total capital invested. A thorough reorganization of the administration system is not a new demand, the report adds.

The executive head of the department is classified at a lower salary than many other heads of branches in the marine department, despite the importance of his work. This, the commission feels, is an injustice to the men who are struggling to build up a great national industry and who keep calling for a big, efficient department of fisheries to assist them.

The creation of a separate department as outlined, the commission feels, would effect economies which would more than offset the extra cost to the country of its administration.

A minority report, signed by C. H. Dickie, Conservative member for Nanaimo, dissents from the majority report in the instance of reducing Oriental fishery licenses and the embargo on fresh salmon, but outside of these points Mr. Dickie signs the majority report and makes it unanimous.

Messrs. Martell and McQuarrie also dissented from the recommendation concerning the creation of a joint international board to restore the Fraser River sockeye fisheries.

The final report differs in some instances from the interim report presented when the commission had just finished its British Columbia tour.

Final Findings

The report presented today unanimously recommends the regulation preventing the use of motor boats for salmon gill net fishing in district No. 2 be amended to permit of their use beginning with the season of 1924; and recommends that licenses to other than whites and Indian fishermen be reduced 40 per cent., the commission considering that the department's reductions, in view of the large number of Orientals employed in the industry, are inadequate.

It further recommends that Orientals who served overseas with the Canadian forces during the war receive preference in the issue of licenses to this class of fishermen.

In regard to naturalization the commission urges that Orientals' naturalization papers show both their photographs and finger prints.

Mr. Dickie dissents from the former part of this recommendation, stating that in his opinion a reduction of 25 per cent. in the Skeena, Naas and adjacent waters would be sufficient to meet the situation. He also favors interested movement of raw salmon to the United States, which feature was eliminated from the report because of an ever division of opinion.

For restoration of the Fraser River sockeye fishery the commission reports an agreement, from which Messrs. Martell and McQuarrie dissented, with the Washington State Fisheries Board for the closing of this river to fishing for five years, the life time of the fish.

The majority of the commission recommends creation of a joint advisory commission between Canada and the State of Washington, on which the Dominion would be represented by a departmental official, a representative each of the canners and fishermen, with a properly qualified scientist and legal representative attached in the capacity of advisers.

New Schedule of Fees

The commission does not think the present high taxes and license fees justified and recommends the following annual fees for commercial fishing:

Abalone, crab, clam or other shell fish, \$1; herring or pilehard drag seine, \$5; herring or pilehard purse seine, \$5; sturgeon, gill or drift net, \$1; smelt or sardine, \$1; salmon trolling, \$1; salmon drift or gill net, \$1; salmon, \$20; salmon purse seine, \$20; salmon trap net, \$50; salmon cannery, \$20; for any other fishing for commercial purposes not over \$1 per year.

Licenses, the commission recommends, should be good in all districts of the province regardless of district of issue.

Referring to the halibut industry, the commission states that it found the fishing interests of one mind with regard to a close season of three months' duration. There was dissatisfaction over lack of action to secure an agreement on this matter with the United States during the last two years, and the commission urged that everything possible along this line be done. Experiments should be conducted to trace the movements of the fish, locate, if possible, their breeding grounds, and protect them if necessary.

Death of O. M. Arnold

Orson Murray Arnold, president of the New England Fish Company of Boston, Mass. and heavily interested in subsidiary companies located at Seattle, Vancouver, Ketchikan and elsewhere on the Pacific coast, died at his home, 133 Washington Avenue, Winthrop (Mass.) on February 5 at the age of seventy-eight years. Mr. Arnold's death came suddenly. He was at the company's office in Boston just two days prior to his death and appeared to be in ordinary health.

The New England Fish Company has a branch at Vancouver and subsidiaries in British Columbia. A. L. Hager is general manager of the Canadian Pacific interests of the concern.

Halibut Treaty of Historic Moment

New convention between Canada and U. S. marks epoch in international dealings

(Special Correspondence)

Washington March 2.—A convention designed to secure the preservation of the halibut fishery of the northern Pacific ocean, which is being rapidly depleted by over-fishing, was signed at the State Department today.

Secretary of State Hughes signed for the United States, and Hon. Ernest Lapointe, the Canadian Minister of Marine and Fisheries, for Canada. It was the first instance on record of direct diplomatic action in the signing of a Canadian-American convention.

By this convention a closed season of the halibut fishery is established from November 16 to February 15 of each year, and the United States and Canada agree to provide penalties for the punishment of their respective fishing vessels, and inhabitants who violate this rule. The closed season will continue from year to year until it is modified or suspended by joint agreement of the United States and Canada or until the convention is abrogated by notice of either party. Such notice may be given after the closed season has been in force for five years.

The convention makes provision for the appointment of a joint commission of four members, two to be appointed by the United States and two by Canada, who will be instructed to investigate the halibut fishery of the North Pacific and make recommendations for a permanent system for the preservation and development of the fishery.

The agreement is the result of recommendations of the American-Canadian fisheries conference in 1918. The ore subject in 1918 report on which both parties were agreed was the necessity for protecting the international halibut fisheries on the Pacific Coast. This fishery had its inception in the New England States in 1887, ships from that state being sent to the Pacific Coast to exploit this great resource, and the principle organization now operating there is the New England Fish Company. It has an immensely profitable industry, and eventually made its headquarters at Vancouver, whence it shipped its catch east in bond.

FIRST DIRECT TREATY

New York, March 2.—Signing of the fisheries treaty in Washington today by Hon. Ernest Lapointe, K.C., Canadian Minister of Marine and Fisheries, and United States Secretary of State Hughes, is reported as a new landmark in the diplomatic relations between Canada and the United States. By Washington correspondents of New York papers.

They note that the negotiations regarding the treaty were conducted between the United States and Canada, and not through the British Embassy, as heretofore, and claim that the treaty is the first convention between the two countries to be negotiated and signed direct without the intervention or mediation of the British Government.

The Herald correspondent says: "It is believed here that this action marks the beginning of more inde-

pendent diplomatic action by Canada. The signing of the treaty naturally led to speculation as to question of a special Canadian envoy at Washington."

The World: "The United States and Canada established a precedent for direct dealing with each other today. The signature of any representative of the British Government is notably absent.

"The opening of negotiations concerning a revision of the Rush-Bagot treaty governing armaments on the Great Lakes and the signing of the fisheries treaty are regarded as preliminary to the appointment of a Canadian representative at Washington."

VANCOUVER PLEASSED

Vancouver, March 3.—Great satisfaction is expressed here by fishing company officials and by British Columbia coast fishermen over the signing of a treaty between the Canadian and American governments at Washington yesterday, providing for a close season of three months on the halibut fishing banks. This is what the fishing interests have been agitating for for years, as a means toward preventing the depletion of the fisheries. The closed season period agreed to in the treaty, November 16 to February 15, is the worst season of the year for fishing on the halibut banks. It has never been profitable; the catches as a rule are small and the danger to property and life is great.

The halibut, which at one time was a common table fish, is now somewhat of a luxury, owing to the rapid depletion of the fisheries on the halibut banks.

SENATE AMENDMENTS

Washington, March 5 — (Associated Press) —The treaty between Canada and the United States to control halibut fishing in North Pacific waters was ratified by the United States Senate yesterday just before adjournment. It had been blocked temporarily Saturday night by Senator Jones, Republican, Washington, but was approved yesterday with an amendment by Jones, providing that its restrictions against Canadian halibut fishermen should apply to all other British nationals.

The treaty establishes a closed halibut season from November 16 to February 15, and creates a joint commission to regulate North Pacific fishing.

WE'LL SAY IT DOES

The finding of a headless body has caused the arrest of an American dentist. Our experience with dentists is that the head doesn't really come off; it just feel that way.

UNLUCKY AT CARDS

Mrs. — My luck leaves me at cards.
Mr. — It isn't your luck, dear, it's your common sense.

Doings on Pacific Coast

Takes Over Cannery Interests

On the 1st of February, this year, negotiations were completed whereby The Canadian Fishing Co., Ltd., of Vancouver, took over the entire holdings of the North Pacific Packers, Ltd., formerly Western Packers Ltd. The properties transferred consist of the following fishing plants:—

At Butedale, B. C.:— a three-line cannery in the heart of the Pink and Chum Salmon district of Northern British Columbia. This is one of the most modern and best equipped canneries in British Columbia. In connection with the Butedale plant there is also a cold storage and fish freezing plant, as well as a large fishermen's outfitting store. It is the intention of The Canadian Fishing Company to operate this Butedale plant to its full capacity, supplying ice bait and stores to Halibut and Salmon fishermen, and purchasing their catches all the year round. The Salmon cannery will also be operated during the coming season, when both seine and gill nets will be used in the production of Salmon for canning purposes. It would appear that this station — when operated all the year round — should be of great benefit to the small Halibut fishing vessels fishing in Hecate Straits, as it will permit them to secure ice, bait and stores at all times, and last deliver their catches with only a very short run from the fishing grounds. The Butedale plant is operated entirely by water power.

Another plant included in the sale is the Margaret Bay Cannery in Smith's Inlet, which is a two-line modern and fully equipped cannery. Sockeyes only are packed in this district, and gill nets are the source of supply. The Shushartie Cannery is a two-line cannery in the northern part of Vancouver Island the district producing Chums and Pinks.

The Canadian Fishing Company, Limited has also purchased the Lagoon Bay Cannery from the Ocean Packing Company, Moresby Island, Queen Charlotte group. This cannery was operated by The Canadian Fishing Company, Limited under lease in the year 1922.

This is one of the largest cannery deals in the annals of British Columbia fishing history. The Canadian Fishing Company has been a very large factor in the fresh, frozen, salt and cured fish business on the Pacific Coast for quite a number of years. Their recent purchase will mean that this Company will now be a considerable factor in the canned Salmon business.

In addition to the above mentioned canneries. The Canadian Fishing Company, Limited also owns and operates the Home Cannery at Vancouver, which plant is operated in connection with their cold storage, fresh fish and cured fish business at the Foot of Gore Avenue.

It has also been announced that New England Fish Company is building a one-line cannery as an addition to its Ketchikan, Alaska plant. This Company already has a large and modern cold storage, mild curing plant and outfitting store at Ketchikan, and the addition of the cannery will make a very large and complete fish handling establishment at Ketchikan.

Mr. A. L. Hager — who is President of the Canadian Fisheries Association — is President and General Manager of The Canadian Fishing Company, Limited, also Western Manager of New England Fish Company.

CARLOAD FREIGHT RATE CUT

The carload freight rate on frozen fish from British Columbia points to Montreal has been reduced from \$2.31½ per hundred pounds to \$2.25. The reduced rate became effective on February 23. The shipments of frozen fish are nearly completed for the season, but the lower rate will be welcomed when the next season's shipments start.

Fishing Season Opens Well

Port Coquitlam, March 1st.—With the fishing season opening today good reports have been received from the Coquitlam and tributary rivers. Steelhead have been reported running and in excellent condition. With no construction work or dredging on the river anglers will not be handicapped. Nice baskets of "dollies" have been caught by local fishermen already.

Big Salt Herring Pack

Nanaimo, Feb. 23rd.—W. Wilson, inspector of fishing and packing in British Columbia, visited Nanaimo after completing a tour of inspection at Alberni and other coast points. According to the inspector the pack of dry salted herring shipped to the Orient during 1922-23 far exceeded that of any other year, the demand at the present time being practically unlimited. From June to September, 32,000 barrels were shipped through Prince Rupert from American points in Alaska for shipment to the United States market. Mr. Wilson stated that of good practical B. C. firms would enter the market they would be well rewarded.

Hall for Fishermen

Prince Rupert, Feb. 18th.—The Lutheran Church of Canada is planning the erection of a two-storey building in a central location to be used as a church and also as an assembly hall, reading and rest room for fishermen. The lower floor, according to present plans, will contain the rest and reading rooms, etc., and upstairs will be the church and living quarters of the preacher. The cost will be in the neighborhood of \$10,000.

Want Herring Season Extended

Nanaimo, Feb. 25th.—A delegation representing three ocean liner companies and a number of herring firms with head offices in Vancouver waited on E. G. Taylor, inspector of fisheries here, yesterday with a view to ascertaining what time the closed season for herring on the east coast of Vancouver island would be decided in Nanaimo district.

The herring have been unusually late in coming in, and, owing to the abnormal condition, the companies shipping salted herring into the Orient are particularly anxious that the season be extended.

No definite assurance of an extension of time was given them as the length of the open season will depend entirely on the spawning season. Considering that the fish were late in coming in, there is a possibility that the spawning season might also be late, and if such is the case the season would be longer. The local herring market becomes more and more important as it develops in the Orient.

PART OF IT

Binks (in girl and music show) — Nice song, eh? Do you know the chorus?

Jinks — Not so loud, my wife is with me. I know that little blonde on the end.

BAD WEATHER CURTAILS CATCH

Weather conditions during the month were very bad, consequently fishing operations in almost every line were curtailed.

The total quantity of fish landed on both coasts was 174,927 cwts., valued at \$621,355 to the fishermen, compared with 303,598 cwts. valued at \$722,053 in January, 1922.

The catch of eod, haddock, hake and pollock shows a decrease of 11,945 cwts. there being 25,135 cwts. taken during the month.

The catch of lobsters was 580 cwts. compared with 584 in January 1922. Since the opening of the present season there have been 4,894 cwts. taken, compared with 5,955 cwts. in the same period last year. The catch has all been shipped in shell.

The quantity of smelts taken during the month was only 15,916 cwts., compared with 35,525 cwts. in the preceding January. The failure of this fishery is due altogether to the weather and ice conditions.

On the Pacific coast there was an increase in the catch of halibut taken; 20,245 cwts. being landed, compared with 16,252 cwts. in January, 1922.

The catch of herring fell off from 197,398 cwts. to 104,906 cwts.

There were only 263 cwts. of salmon landed during the month.

Two fishermen were reported to have been drowned on the Atlantic coast during the month.

DECEMBER POOR FISHING MONTH

The total quantity of sea fish landed on both coasts of the Dominion during December was 450,660 cwts. valued at \$1,018,554 compared with 553,026 cwts. valued at \$1,213,625 in the same period of 1921.

The catch of eod, haddock, hake and pollock during the month was 53,943 cwts. compared with 70,737 cwts. in December, 1921. The haddock catch showed a decrease of 24 per cent while the pollock catch increased 57 per cent.

There were 1,720 cwts. of lobsters landed, compared with 2,357, cwts. during the same period last year, where the regular season was in operation. (The latter figures do not include the catch in Western Nova Scotia for the special season). Owing to the failure of the lobster catch on the American coast, the price paid to the fishermen was the best in years.

The catch of smelts was 21,149 cwts. compared with 22,419 cwts. in December 1921.

On the Pacific coast there were decreases shown in the catch of herring and salmon. The catch of herring fell from 382,278 cwts. to 317,311 cwts. while that of salmon from 17,449 cwts. to 4,072 cwts.

The catch of halibut was slightly greater than for December 1921, 23,729 cwts. being landed.

PERSONALS

Friends of F. T. James, of Toronto, will be glad to learn that he is recovering slowly but surely from an operation he underwent recently.

R. C. Gosse of Gosse-Millerd Ltd., Vancouver, has returned home after an extensive trip east. He spent considerable time at Ottawa, visited Montreal, and dropped in at Toronto, Cleveland and Winnipeg on his way west.

John Dybhavn of the Royal Fish Company, Prince Rupert, is coming east in April. His many friends in the east will be glad to welcome him.

The National Fish Company's trawler Venosta arrived in Halifax recently with a big cargo of fish. She had on board between 180,000 and 200,000 pounds of cod and haddock. This catch is the result of three days' fishing, and is one of the largest of the season.

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THE CANADIAN FISHERMAN

Official Organ of the Canadian Fisheries Association
A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada,
and Technical Education of those engaged in the Industry.

VOL. X

GARDENVALE, P. Q., APRIL, 1923

No. 4

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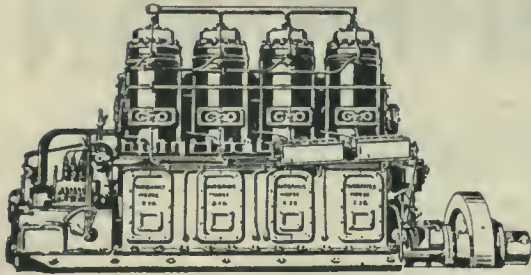
SUBSCRIPTION

Canada, Newfoundland and Great Britain \$2.00
United States and Elsewhere \$3.00
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Published on the 17th of each month. Changes of advertisements must be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication, these will be paid for at our regular rate.

The Industrial & Educational Publishing Co. Limited

J. J. Harpell, President and Managing Director
GARDEN CITY PRESS, Gardenvale, Que.
Telegrams and Express Ste. Anne de Bellevue, Que.
Eastern Manager, A. S. Christie, Gardenvale, Que.
Western Manager, H. W. Thompson, Aladdin Building,
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: - : EDITORIAL : - :

Official Organ of Canadian Fisheries Association

PREMIER AND SEPARATE DEPARTMENT

While many features of the Duff report may be enforced by regulation, there are others that require an act of parliament. Such is that which calls for the institution of a separate fisheries department. The recommendation must be supplemented by law and not simply by departmental action. What we want now is the necessary supplementary move. We cannot be content with the recommendation. That means little in itself. It is up to everyone in the industry to stimulate agitation that will insure the passage of such legislation during the present session of parliament. Strike while the iron is hot. In another year the royal commission's recommendation will be forgotten and the industry must start the movement all over again.

The secretary of the Canadian Fisheries Association recently secured an interview with Premier King at Ottawa in order to bring the matter to the fountain-head of authority. It was explained to Mr. King that the entire industry at the present time is under severe depression. We have been hit by the United States tariff, by the poverty of foreign markets, by high transportation charges, by severe taxation and by all the ills that blow from the four quarters. It was further explained that the industry feels a separate organization for the administration of fisheries, apart from all associations, is necessary to give it adequate attention and the premier was advised that the creating of a separate department just now would have a striking psychological effect in buoying the industry through its distress. It would indicate a sympathy on the part of the government and would inspire confidence. It was a comparatively modest request and would be appreciated. Mr. King replied that he was pleased to have the matter put before him and gave a promise that he would bring it to the attention of his colleagues at once.

We would advise all sections of the industry to supplement, in any way their judgment dictates, what has already been done. Now is the psychological moment. We are nearer to our goal than ever we were before and we would chide ourselves for the rest of our days if we fell short by the an inch that stands between our ambition and failure.

AN ATLANTIC FISHERY COMMISSION

From present indications a commission will be named by the government to investigate fishery matters on the Atlantic coast this year. It is understood that the fisheries standing committee has tentatively decided upon recommending such a course and it is the intention to make the scope of inquiry quite general.

A division of opinion would seem to exist as regards the nature of the commission. Three different courses have been considered: one, a committee of the house, two, a body selected from fishery administrative officers, and, three, an independent commission of outsiders representing fishery interests. Advantages and disadvantages have been set forth as regards each of these and it has been submitted that a commission consisting of a number of members of parliament and a number from the industry itself, with possibly, an independent chairman, may be a means of meeting the situation to satisfy all concerned.

Whatever commission assumes the task of delving into Atlantic fishery matters and recommending remedies for the numerous ills of the industry takes on no light task. Its personnel will be little envied. The lobster situation in itself offers a problem to puzzle the most acute minds. Other departments of the industry offer questions almost equally as knotty. It is no child's job.

It would be wise for the industry just at this stage to take an interest in affairs. When the Duff Commission went to the Pacific coast there was a disposition to regard it with unconcern. The findings of the commission, it now develops, certainly did not justify the inertia and if they had the past year to live over, again there are many people in the west who would take a more serious interest in affairs. We have an object lesson at the expense of our friends on the western coast that we cannot afford to be listless. We are interested in the consequences. The recommendations of a commission must command serious government attention. It behooves us, therefore, to interest ourselves in the constitution of the commission, its personnel, the scope of its inquiry, and, above all, to make it certain that the evidence submitted to the commission truthfully represents the

situation. We must see to it that the commission gets a proper viewpoint. Otherwise we cannot have confidence that its findings will be for the general good. That is a form of co-operation which should be welcomed by the commission and which is eminently to our own interests. The task would seem to devolve upon the Canadian Fisheries Association to play the part of interpreter between the commission and the industry.

FOR OURSELVES ALONE

Two separate developments within the last month indicate emphatically the urgency for more adequate protection if our fishing industry on the Atlantic coast is to survive. Heretofore, we have regarded with astonishing complacency the exploitation of our Fundy sardine-herring fishery by Americans. We have been pitifully dull in continuing to give American fishing vessels access to our ports when their government is enforcing a policy designed to stifle competition from us. Our lethargy in these matters has passed the humorous stage. Anyone can appreciate humor until it hits his purse. We are concerned in our Atlantic fisheries to the tune of \$15,000,000 or \$20,000,000. Our fisheries are more or less in common with the United States. Our neighbors to the south are vigorously executing a policy to make the fisheries of the east more profitable to themselves and less profitable to us. That may be shrewd business from their viewpoint, but is a cue to us to be alert. Now is no time for any milk and water policy at Ottawa. The industry itself directs the way and the millions it has at stake should determine the future. Nor is there time to be wasted.

For some months past we have been drawing attention to the imminent fate of our Fundy sardine-herring industry. In this issue readers will observe that the legislature of New Brunswick has called upon the federal government to introduce a duty on fish of this type exported at a price below ten dollars per hogshead. For a decade past, with the possible exception of the latter war years, the canners of New England, have successfully co-operated to keep down the price of our sardine-herring and at the same time have connived to insure an adequate supply by means well known in the east. It is impossible to organize our fishermen to retaliate. They are more numerous, more scattered and without the financial means to withstand a price-war. They must live, however, and our natural industries must thrive if we are to prosper as a nation. Hence the necessity for the policy urged by the N. B. legislature. Individually our fishermen cannot offset the pernicious practice. It is the duty of government to do it for them.

On the other issue let us draw the reader's attention to the article in this issue explaining the determined stand of the Canadian Fisheries Association for the revocation of all privileges to American fishing

vessels in our Atlantic ports to which they are not entitled by treaty. Though by the convention of 1818 they may use our Atlantic ports only for the humanities, our neighbors have for thirty-five years enjoyed the full use of port conveniences under a special license granted in a burst of generosity. There was no organized objection to that until our neighbors began to put on the screws to force us from their market and out of their ports. It then dawned upon us that we possessed certain natural advantages in the proximity of our ports to the fishing banks and we asked ourselves why we should continue to share these advantages with a competitor who was using artificial means to overcome us. The issue now reduces itself to a cold-blooded business proposition and we are bound to take steps to preserve our heritage. The resolution of the association was well considered. With such care and thoroughness has eastern opinion been canvassed that it may be truthfully said to represent an almost unanimous view.

The situation can be no longer ignored. The industry has defined a policy for the government and it is now up to Ottawa to adopt it or to show why it is impossible or inexpedient to do so.

DUFF RECOMMENDATIONS APPLIED

The fishery regulations for the Province of British Columbia this year have been based entirely upon the recommendations of the recent royal commission. The effect of many features of the regulations is speculative, and there is room for belief that modifications will be found necessary. One satisfying point is that license fees and taxes are reduced quite appreciably. The half-cent tax on salmon has been abolished and the scale of annual fees has been pared in line with the commission's suggestions.

Points that would seem to be of doubtful wisdom are, first, the limitation of seine fishing to 400 yards from the mouth of a creek or stream; second, the sharp reduction of Japanese licenses; third, the length and time of the weekly close season. There are other features of debatable sagacity, but these are the most important.

There is ground for the view that as the season progresses it will be found necessary to modify the 400-yards limit regulation as the condition of streams and creeks varies in different localities and in different seasons so as to make a general regulation impracticable. Ultimately, it would appear, this matter of boundary must be left to the discretion of the local fishery officer.

The weekly close season does not appear to be based upon a thorough understanding of all features of the situation. We cannot blame the commission if it did not receive all the facts. The responsibility is on those who neglected to present their viewpoint. In some cases the weekly close season will, in practice, be se-

veral hours longer than the hours fixed by regulation. That is unfortunate. Cannerymen have enough to contend with already. It would have been much better, it would appear, to shorten the weekly close season and lengthen the annual close season. As things stand cannerymen must carry a heavy overhead which could be reduced by economic prudence. During the weekly close season expense is piling up. A shorter fishing season and more steady operation of canning plants during that season would cause an appreciable reduction of overhead which would find a response in B. C. salmon quotations in foreign markets.

As regards the sharp reduction in Japanese licenses there is an immediate hardship imposed. There is no doubt that the industry as a whole is desirous of eliminating the Oriental but a wholesale reduction of this dimension is bound to dislocate the industry. A reduction by easy stages, as is recommended in the matter of removing excessive tax burdens, should apply with equal logic in this instance.

While new restrictions are being imposed on the industry it is well to have an eye upon our competitors. The Siberian industry which has become a serious factor must be reckoned with. The tax-free Siberian salmon and the lightly-taxed American salmon are, naturally, cheaper to the packer than are our heavily taxed B. C. salmon. Labor is another item. Altogether our obstacles in foreign markets are extremely grave. For that reason it would be wise to regard with caution the course of trade. If we are to be forced absolutely out of the salmon canning business by inability to compete, what will all these regulations and restrictions avail? The fishery itself must be preserved for future generations but the industry must not be put in a position where it cannot do business with profit. It would appear wise policy on the part of the government to give a sympathetic ear to suggestions for concessions. At present a good portion of our salmon is being sent into the United States to be canned there. Our heavily-taxed canner is robbed of his raw product by a tax-free competitor who seeks our fish when it is convenient and expedient for him to do so and not with any regard for the maintenance of our industry. As a principle there is wisdom in protecting our industries dependent upon natural products as a source of supply. The profit accruing from the industry should be 100 percent ours instead of a fraction thereof.

A FEW COMPARISONS

Considering our lack of success on numerous occasions to find sympathetic governmental response to suggestions whereby the industry may be developed, it is timely to observe what other countries, far less fortunately endowed, are doing to aid fishery expansion. Elsewhere in this issue Norway's splendid policy is explained, and its liberality in many directions excites our admiration.

In a recent exchange we note that the Danish Fishery Bank, which handles the government credit, advanced during 1922 more than \$65,000 to fishermen for the purchase of vessels and gear. The government pays for the improvements and is repaid on the installment basis. The regularity of payment on the part of the fisherman indicates his prosperity and his appreciation of the help given him.

The Estonian ministry of education is opening a course this coming summer for fishermen.

In Finland, fishery schools have been established and numerous students have already been turned out with a good practical and scientific foundation for their life's career.

A report from far-away Bengal tells of the operation of fishery schools which begin in the primary stage of a general elementary education, continue through the crafts of net-making and boat building and produce moderately educated, technically confident and highly efficient fishermen and useful citizens.

Canada is blessed with the most wonderful fishery resources in the world. We are continually boasting of our fishery wealth. What is there in that to inspire self-praise? Have we done anything to develop the resource? Can we compare without a blush the fisheries policy of our country and that of comparatively insignificant people? Is it because Canada is so richly and variously endowed with natural resources that she can afford to be extravagant or neglectful?

PISCATORIAL PARAGRAPHS

It is interesting to note that a National Fish Day is being urged by a fishery journal in the Old Country and traders are being advised to support the movement liberally. Canada was the originator of National Fish Day and our country owes it to J. A. Paulhus, vice-president of the Canadian Fisheries Association. The United States adopted the suggestion and now comes England. Last year we fixed October 31 as a permanent date, and we find that England proposes to do likewise.

We have observed with gratification that the Hon. J. E. Perrault, minister of fisheries in the Quebec government, has acquiesced in our suggestion that his annual grant of \$40,000 should be spent the first year, one-half in developing fish consumption in the province and the other half in improving things at the source of production. Being a man of common sense and obviously intent upon doing something for the industry it was to be expected that practical suggestions from the industry itself would direct his judgment. He had to begin somewhere and any modification in the policy he originally announced cannot be construed as weakness but rather as strength. He had the wisdom to correct mistakes before it was too late,

It would appear from press reports that the halibut treaty has not been finally ratified because of the inexplicable string attached to its ratification by Washington to extend its provisions to all "British" nationals. However, that should be a simple matter to adjust. A clause of the treaty calls for the appointment of an international commission within two months of ratification to study the whole halibut question on the Pacific. There are to be two commissioners for each country and they are to hold office during the life of the treaty. We are curious to know who will be the Canadian appointees and we wonder if the Canadian Fisheries Association will be asked for suggestions.

N.B. FISHING RIGHTS SOLD

The N.B. department of lands and mines on March 27 sold by auction, for a period of ten years, from March 1, salmon angling leases on the Upsalquitch River, Rutigouche County, with reservation for Hydro-electric development, as follows: four stretches for Max W. Mowatt, Campbellton, who bought three for the Watiqua, Incorporated, composed chiefly of Halifax men, and one for Two Brooks Fishing Club, at annual rentals as subtended: No 1 stretch, 5½ miles, \$700; No. 2, 1½ miles, \$200; No. 3, 1¼ miles, \$200; No. 4, 30½ miles, \$2,500.

NEW BRUNSWICK NOTES

St. Johns, N. B., April 9. — There are no lobsters offering on the local market, a dealer advised today.

Lobsters are reported scarce and high in the Boston market, with the live lobsters bring \$1.25 a pound retail, as compared with quotations of 35 to 40 cents last year.

On the North Shore preparations are being made for extensive operations beginning May 1. W. S. Loggie & Co. have sent James Burbridge and Jerome Stickland to look after the company's business at Escuminac and Pt. Spain.

Scott D. Guptill, M.P.P. of Grand Harbor, who was here over the week-end said that unless something were done to ensure the sardine-herring fishermen a decent living this summer, a serious situation would result.

AN ORGANIZATION

A salesman who traveled in the mountain district of Kentucky employed a colored man for a driver over roads that were impassable for an automobile.

This driver was skilled in the use of a whip. He could tap a fly on the horse's neck, pick off an apple from a tree or snap a bloom from a plant.

The salesman saw a hornet's nest down the road.

"George," said the salesman, "see if you can cut down that hornet's nest."

George fixed his eyes on his employer.

"Let me tell you something," he said. "It's all right to play with flies and apples and holly-hoeks, but a hornet's nest is different. That's an organization."

A negro went fishing. He hooked a big catfish which pulled him overboard. As he crawled back into the boat he said, philosophically, "What I wanna know is dis. Is dis niggah fishin', or dis fish niggering?"

DAMAGE LIGHTER THAN THOUGHT

St. John, N. B., April 7. — The great masses of ice which blocked Passamaquoddy Bay, St. Andrews Bay, Beaver Harbor, Dipper Harbor, Mace's Bay and other water areas which open on the Fundy, went out to sea without causing the destruction which was feared last month. Considerable damage was done, but the tremendous losses which were threatened did not result when the Frost King loosed his grip.

At Passamaquoddy, an ice field of thirty square miles, with the ice varying from six inches to six feet, presented a wonderful sight as it moved into the Fundy. Several wharves were damaged and some weir stakes ripped out.

J. C. Chesley, local agent of the marine & fisheries department, reported after a survey of the downshore districts, that the wreckage was comparatively light in comparison with the enormous losses which had been anticipated.

However, the damage done has been serious enough in view of the fact that the fishermen, with several bad seasons behind them and another in prospect, need the very best possible conditions in order to continue in the fishing industry.

Frank Lamoreaux, a West St. John fisherman, son of the late Andrew Lamoreaux one of the best known fishermen in this section of the province, lost heavily by fire on April 4-5 when his buildings, boats and gear at Navy Island, St. John harbor, were destroyed. The property loss was estimated by Mr. Lamoreaux at \$6,000, with only \$500 insurance on the buildings and \$500 on the nets.

Explosion of the lamp caused the blaze, Mr. Lamoreaux reported and he was of the opinion that it had been filled with gasoline instead of kerosene. His clothing took fire and he ripped off his flaming garments just as he reached the water's edge. His burns were not serious. Mr. Lamoreaux was in his younger days a member of the Belyea professional four-oared crew, a famous organization who for several years had a standing offer of \$500 that they could better the world's record for three miles, made by the Paris crew of this city.

Earlier this year, Mary Belyea, another former member of the Belyea professional four, who is trainer for Hilton Belyea, Canadian amateur sculling champion and holder of the U.S. Association Singles' title, had a large gear shed and some equipment destroyed by fire. The shed was situated at the Old Fort, West St. John, a short distance from the pointon Navy Island where Lamoreaux property was located. Mary Belyea built the shells in which Hilton, a brother, won the Canadian and American titles.

200 TONS OF CORDAGE IMPORTED

At least two hundred tons of cordage has been imported from Great Britain for distribution in the maritime provinces during the present winterport season. Frank Fales & Sons, Ltd. advised your correspondent. The importations are about on a par with the cordage brought in last year in point of weight.

The bulk of the cordage comes in lobster sizes as it enters duty free.

An average year in fishing is indicated, according to information received by Messers. Fales who also advise that fishermen will, in many cases, have difficulty in financing their operations.

Want the Modus Vivendi Revoked

Canadian Fisheries Association takes determined stand as regards use of our Atlantic ports by U. S.

The Canadian Fisheries Association after thorough consideration of the matter has taken a determined stand on the Atlantic coast modus vivendi issue. At the April meeting of the national executive held in Montreal, a resolution was adopted calling upon the government to rescind all privileges to American Atlantic fishing vessels which are not specifically provided for in the treaty of 1818.

The resolution adopted follows:

"Whereas, the Government of the United States has rescinded legislation which enabled our Atlantic fishing vessels to make use of their eastern ports; and whereas, recent legislation in the United States renders it more difficult to place our fish commodities on the American market;

"Resolved that the Government of Canada be urged to revoke all special privileges to American fishing vessels in our Atlantic ports not specially provided for in the treaty of 1818, this to include the abolition of the so-called modus vivendi, which has been in vogue since the 80's of last century, thus reducing the privileges of American fishing vessels in our Atlantic ports to the 'humanities,' viz., wood, shelter, water and repairs."

In adopting this resolution it was decided to ask the Dominion Government to take immediate action. It was also decided to forward this resolution to the Governments at Ottawa and Halifax, as well as to Hon. Ernest Lapointe, Hon. W. S. Fielding and to the boards of trade of the Maritime Provinces, as well as to members of Parliament from the fishing constituencies of the Maritime Provinces, with a request for endorsement.

Long under Consideration

The issue had been under consideration ever since early last year when the United States revoked war-time privileges of our fishing vessels in their Atlantic ports. The matter has been held in abeyance since then until the executive could secure reliable and definite information upon which to base a policy. After due investigation it was found that the policy for the government to pursue was as outlined in the resolution above and unless such a policy is promptly executed there is grave danger of the disintegration of our industry on the seaboard.

Under the treaty of 1818 our friends across the border are entitled to fishing privileges within territorial waters about the Magdalen Islands; they are permitted to land in certain areas along the north shore of the Gulf of St. Lawrence to cure their fish providing they do not interfere in any way with a native population that may develop; they are permitted the use of our ports for the humanities, namely, wood, water, shelter and repairs.

In succeeding years, however, the Americans found that it would be very convenient to use our ports for other purposes and at different times a movement was made to secure extended rights. In the eighties of the last century a treaty was negotiated between Canada and United States which promised a fair reciprocity of

privileges. It was approved by Ottawa and in anticipation of its acceptance at Washington our government ruled that special licenses should be issued to American vessels, since referred to as modus vivendi licenses, whereby, on the payment of a fee of \$1.50 per registered ton, they would be allowed to make free use of our ports and use them for the transshipment of catches in bond. Washington, however, never ratified the treaty but year after year since that time a formal order-in-council has been adopted at Ottawa to continue the privilege. In 1918, as a war measure to stimulate food production and facilitate its distribution an arrangement was entered into between the two governments to allow the free use of Atlantic ports by fishing vessels of the either. The modus vivendi license was then reduced to \$1 per ton, a nominal consideration maintained simply for the purpose of keeping things in order.

Arrangement Stopped last year

In 1922 the United States rescinded all war measures and off the statutes went the arrangement regarding the reciprocal freedom of our fishing ports. Shortly afterwards Ottawa restored the license fee of \$1.50 per registered ton, as originally. But two months later, for some unaccountable reason, it was reduced to the wartime nominal rate of \$1 per vessel.

Within the last year and a half the United States has introduced a tariff which renders the market of 110,000,000 people inaccessible to us as regards a good many species of our fish. They have closed their ports tight to our fishing vessels. Our bank fisherman are not permitted to take a fare to Boston or Portland directly from the banks, nor may they clear from an American port to the banks. If they wish to reach the American market they must tranship at a Canadian port and pay a heavy duty upon entry into the U.S.

In the fresh fish trade as well as in cured fish our products come into direct competition with those from the United States. The heavy duty keeps our salt fish out of the Porto Rican market and conserves it for American producers. Likewise the home market is heavily walled in, economically speaking. American vessels fish side by side on the North Atlantic banks. By continuing to give such competitors the privileges of our ports we are merely enabling foreigners to undersell us abroad to the ruin of our own industry.

There was no desire to inconvenience American fishermen without purpose, but in making such a demand the Fisheries Association considered it was simply asking for the saving of our own industry against competitors who had no hesitation in using weapons against us.

The Maritime Provinces, it was stated, had between \$15,000,000 and \$20,000,000 invested in their Atlantic fisheries, with thousands of people dependent upon them for their livelihood, and this industry must be protected against foreign highly-protected competition if it is to prosper.

Our southern cousins have by tariff and regulation built up an almost impenetrable wall to protect their own industry to the exclusion of ours. Of that we can have no complaint as it is their business and not ours what economic policy their government enforces. But the association takes the ground that Canadians would be lacking in business intelligence if they failed to make use of Canada's natural advantages to overcome artificial handicaps imposed upon the Canadian industry by the United States.

Business Left is Trivial

The point has been already raised that the business left by these American vessels in our Atlantic ports at present is too valuable to lose. The situation has been studied and it has been found that it does not exceed \$95,000 per annum, one half of which is spent in the purchase of ice and bait to the detriment of our own fishermen. The balance is represented in purchases of supplies and repairs. Estimating a profit of ten percent, the trade which results is worth not more than five thousand dollars. It is positively too paltry to even consider as an objection to the revocation of the valuable privileges we are giving away.

Our ports are not used by our friends from the south for outfitting or putting in supplies. They are used merely as an accommodation to conveniently procure bait and ice, to replenish the larder and to procure emergency equipment. Our ports are handy to the fishing banks and were the Americans unable to use them, as they have been, they would be compelled to return to a home port and their fish would, on the whole, be made considerably more expensive.

If the same situation prevailed as regards two competing business firms, there would not be a moment's hesitation in reserving our natural advantages for ourselves. Then why should not the same principle apply in the business of the nation? Are we too mealy-mouthed to assert our rights? Or are we simply drifting in the hope that nature will evolve some means of restoring to our industry what American protection has lost to us? Nature does come across with a solution sometimes, but an investment of \$20,000,000 and an industry in which twenty thousand people seek a livelihood make too big a stake to trust to the whims of a very fickle nature.

Fisheries of Nova Scotia Reviewed

The extraordinarily severe weather and ice conditions, prevailing during the past four months, continued throughout March, along the Nova Scotia coast, with the result that fishing operations have been confined largely to the trawling fleet, and a few desultory efforts by the inshore fishermen.

The lobster fishery, which opened on March 1, in the important district of western Nova Scotia, has been a most distressing one for the fishermen. The ice was piled in heaps along the shore, and the ice fields in some districts stretched for miles, making it impossible for the fishermen to launch their boats.

The total shipments from Yarmouth to Boston numbered only 425, containing 558 cwts., as compared with 2,755 packages, containing 4,142 cwts., for March 1922. The value of shipments this year was only \$39,119.50 as compared with \$137,120, for the month of March last year. Of the small number of shipments this year, the greater portion were from points west of Yarmouth. Practically no catches in Yarmouth or Shelburne and points eastward. The prices, as a consequence of the great shortage, have been high, averaging \$75 per cwt. The canneries have, of course, been unable to operate.

It is sincerely to be hoped that the conditions will rapidly improve. The big yielding period is from April 15th to May 31st. It would appear, however, that the vast amount of ice along the coast will affect the water conditions until May, as the fish do not move about until the temperature of the water is favourable.

The heavy ice, high tides and severe storms did a vast amount of damage in New Brunswick. Hundreds of expensive weirs were destroyed in St. Andrews Bay and vicinity. Those at Campobello and Deer Island were wrecked beyond repair. Grand

Manan did not suffer so severely, as the ice conditions were somewhat better.

In addition to the loss of hundreds of valuable weirs, the fishermen also suffered by the destruction of their wharves and fish-houses. A conservative estimate of the losses is \$100,000. Some estimates are as high as \$300,000.

Scallop Fishing

The prospects for the development of a valuable scallop fishery are excellent. In the Digby district of the Bay of Fundy investigations carried on the past three years resulted in the discovery of excellent areas in Digby Basin. The areas were small, and to avoid danger of overfishing, experiments were carried on in the deep waters of the Bay, and large, heavy yielding areas were discovered.

A small number of boats engaged in the fishery last year, with favourable results. Several boats operated last month whenever the weather conditions were favourable, and secured large catches. It is reported that one boat in one day's raking secured a catch valued at \$400, and another boat \$350. Owing to the demand, the price is high, averaging about \$5 per gallon shelled.

In the Grand Manan district, also, the prospects are that a remunerative fishery may be established. A number of boats met with good success. The probabilities are that a considerable number of the lobster fishermen will engage in the work, and thus relieve the lobster fishery during the late winter season.

It is proposed to investigate the deep water areas of the Chester, Nova Scotia, district, as it appears probable that large yielding beds may be discovered, to the very great advantage of the fishery of the district. Chester has been the centre of an extensive fishery for many years, but for several years past has been affected by depletion.

Affairs in Lobster Industry Discussed

*Fishermen and canners alike converted to principle of conservation---
Will France admit our canned lobster treated with acid?*

(STAFF CONTRIBUTION)

The lobster season got away to a late start along the south and southwest shores of Nova Scotia because of unusually severe weather and unprecedented ice conditions. Although fishing over this wide area was legally permissible after the first of March it was fifteen or twenty days later that the ice blockade broke away sufficiently to allow fishermen to deposit their traps. Catches all through the month were small. To such an extent will fishermen suffer in this district that it is altogether likely an extension of the season will be granted if requested. Fishermen have become so awakened to the urgency for preserving the species, however, that there is doubt among fishery officials that such an extension will receive widespread approval. In other words there is evidence that fishermen prefer to accept the loss from nature's whims rather than run the risk of jeopardizing the future of the industry by fishing too intensively or in a season when the crustaceans are reproducing.

It is a stroke of good fortune for lobster fishermen that the minority of fishermen who were urging a winter lobster fishing season did not have their way. Had traps been out during the severe winter weather there is no doubt but that the fishery would have been an absolute failure and fishermen would have suffered financial disaster by loss of traps and gear. What they have suffered by nature's discourtesy, to put it mildly, is trivial in comparison with what their losses might have been had they fished during winter.

Fishermen and Canners Converted

In travelling through the maritime provinces recently the writer was impressed by the change of attitude on the part of lobster fishermen and lobster canners as regards conservation. In former years there was evidence of palpable disregard for the future of the species. Today there is widespread recognition of the fact that the future of the industry is altogether in the hands of fishermen and canners and is dependent upon a scrupulous regard for fishery regulations. In former years fishermen were eager to put down their traps as long as the authorities permitted it and it not infrequently happened the local political influence urged the department to throw open the fishery when experience and sound judgment suggested otherwise. Today fishermen seem to be just as regardful of protecting the industry as in previous years they were of unwisely exploiting it. This change of temperament may be credited in large measure to the educational campaign which has been going on in the maritimes for several years past under the direction of the fisheries department at Ottawa and the Biological Board of Canada. Andrew Halkett, naturalist in the department at Ottawa, has been touring the east for years in a campaign of lobster conservation and more recently Dr. A. P. Knight and Mr. Tidmarsh of Prince Edward Island intensified the work.

A striking example of the good results accomplished is furnished in the recent controversy as to whether or not winter lobster fishing should be permitted. The previous year, when for unusual reasons, winter fishing was permitted, the catch was large and it brought remunerative returns. It was to be expected that many fishermen would seek a continuance of the privilege last winter. It was surprising, however, that the great majority should be opposed to it. They were convinced, and the conviction was induced without doubt by what authorities had told them, that the industry would soon be depleted should winter fishing continue. For a few years they might be able to profit, providing winter conditions were not severe, but ultimately they were bound to lose everything. Common sense and long-sightedness prevailed against the tendency to exploit regardless of the future. Had not the educational campaign been conducted there must have been a strong demand for winter fishing, a demand that political influence must support, with consequent disaster to the industry.

Praise Where It Is Deserved

Still there are some in the industry who declare that the educational work in question, and in fact all educational work of a similar character, is wasted effort! There are those who openly denounced the efforts of Mr. Halkett and Dr. Knight when those gentlemen were honestly and patiently working for the salvation of the lobster business. This practical illustration should be a lesson to men of this ilk. They can see value in nothing that does not return a profit in immediate financial returns. They fail to appreciate that the fisheries department at Ottawa and the Biological Board, which are frequently the victims of condemnation and too infrequently the recipients of deserved praise, have a broader perspective of the industry that an individual employed in any section of it. Their scope is general, while the other's is parochial. Credit must be given our fishery authorities in many ways and it is possible that credit would be more wholeheartedly given if the department organized some system of discussing periodically with the industry problems of administration, conservation, and so forth.

That, however, is outside the scope of this article. The writer is discussing phases of the lobster industry and eulogies or criticisms, as the case may be, are bound to be noted elsewhere in due course.

That Report on Lobster Smut

An event of unusual economic interest to the lobster canning industry was the report recently issued by Dr. F. C. Harrison and Dr. E. G. Hood of Macdonald College, which disclosed that the smut or blackening in canned lobster, which has been a constant menace to the trade, may be overcome by proper sterilization and the injection of a small proportion of acetic or citric

acid in each can. Experiments conducted at Macdonald college made it adequately clear that, treated as directed, canned lobster, would remain in good condition for eighteen months, at least, or the length of time it is recooked is taken to consume a season's pack entirely.

Naturally the trade wants to take advantage of the findings of these investigators. There is considerable talk in the east of installing steam retorts or pressure cookers in the canneries. More than one manufacturer of machinery has indicated an intention of making these retorts and there is even a whisper abroad that the department at Ottawa will make it necessary for canneries to use pressure cookers to guarantee sterilization.

Should the authorities make this a regulation the industry must conform to it and the result may be a blessing in disguise. Undoubtedly there are more canneries in the east than the industry can properly



ANDREW HALKETT

whose work is bearing fruit

support. There are no fewer than 606 in eastern Quebec and the maritimes. Taking the year 1921 as an example, these canneries put up 137,607 cases with an immediate value of \$3,107,426. On the Pacific coast ninety-five canneries put up a pack of 602,863 cases of salmon with an immediate value of \$5,936,524. At the present time there is an agitation on the Pacific coast for consolidation to enable our salmon packers to compete in foreign markets. The question of competition does not arise in connection with our lobster but consolidation would undoubtedly reduce overhead and enable the packers to put out a superior commodity.

This question of consolidation has, it is understood, been brought up several times among lobster canners and has upon each occasion been disregarded as impracticable. What were the features that caused them to consider it so, has not been disclosed. Perhaps it

was considered impossible to bring lobsters a considerable distance before boiling. If that be so they might well look into the experience of a Nova Scotia canner who brought lobsters in a smack from Cape Breton and canned them on the southwest shore of Nova Scotia.

Statistics for 1921 show 220 lobster canneries in Prince Edward Island. It requires a good deal of explanation to prove that at least two hundred of these could not be dispensed with to the advantage of the individual canner. Consolidation is only retarded by lack of competition. Necessity for a better pack, forced by government regulation, may bring about the consolidation that has not been made a necessity by natural causes. Let us hope so.

Will France Admit Acid Pack?

An even more interesting feature of the report of the Macdonald College investigators was that regarding the introduction of acetic or citric acid. It developed after the report was on the press that France, which is the chief consumer of our canned lobster, did not permit the importation of food adulterated with acetic or citric acid.

The point was taken up with the government of France and the answer was returned that it was a fixed rule. Further correspondence took place both through our trade representative in Paris and through an importing organization at Orleans, and the fact was brought to the attention of the French that in each half pound tin of lobster there would not be as much citric acid as one consumes in eating half a grapefruit. The interesting fact was, further, communicated to them that it did not appear consistent for them to keep out our lobster slightly adulterated to preserve its appearance and edibility, while we were admitting into Canada from France peas and similar goods adulterated with copper sulphate to preserve the green and fresh appearance of the goods. As the issue stands now between the two governments it's simply: if you kill my dog I'll kill your cat.

Packing in Glass

The matter of packing in glass instead of tins is another question of interest among lobster packers. George E. Roberts of Halifax has a patent mixture for fastening the top to a glass jar without crimping or using a spring or rubber gasket. It is simply a strong adhesive that hermetically seals the glass jar and keeps it so until required for use. Mr. Roberts himself packed lobster by this method last year. He found it easy, economical and most attractive. It immediately invited demand. This year it is possible others will use the method of packing and it is not beyond the range of possibility that within a few years time the entire pack will be put up in glass. The writer recently saw samples of lobster put up in glass and sealed with the patent sealing mixture, which had been in the jar eighteen months. The lobster opened fresh and sweet. There is positively no indication of blackening about the jar and just a trace about the metal cover. Several jars were the same.

The difficulty of introducing an innovation of this kind is in educating the foreign buyer. Most of our canned lobster goes abroad and sooner than introduce an improvement and temporarily upset the practice or custom of our buyers, we seem to prefer the course of least resistance and rest content with less efficient results.

Sardine-Herring Situation Demands Attention

New Brunswick Legislature urges federal authorities to tax exports sold under \$10 per hogshead

By THOS. E. O'LEARY

The Legislature of the Province of New Brunswick, in its session of 1923, has taken official notice of the unsatisfactory condition of the sardine-herring industry in the Bay of Fundy.

The "Canadian Fisherman", in more than one issue, has contained reports that an export duty of \$10. per hogshead had been suggested by some fishermen as one method of solving the problem presented in the sale of sardine-herring to American buyers at such ruinous prices as \$3.00 and \$5.00 a hogshead.

That suggestion came up before the New Brunswick Legislature on March 20, in a motion made by John W. Seovil, M.P.P., for Charlotte County and seconded by W. E. Seully, M.P.P., for St. John, as follows:

"That we view with alarm the depletion of the population of the fishing section of the country, and would urge upon the federal government of Canada that immediate action be taken whereby the depletion may be controlled and brought back to normal, by the immediate order that an export duty be placed upon all fresh herring that are sold for export at a less price than \$10 per hogshead at the weirs in any part of Charlotte County and St. John County, and that such export duty be placed at \$10 per hogshead for the protection of the fisheries."

The resolution was adopted on March 29.

Mr. Seovil said that he was bringing the matter up at the request of the Municipal Council of Charlotte county, which at its last meeting had passed a unanimous resolution on the subject. He recalled that the sardine industry had been established about fifteen year ago. For some time good prices had been obtained by the fishermen and it had proved a profitable branch of their industry. The business had suffered of late years largely because of the low prices paid at the weirs. At one time sardines were worth \$75 per hogshead, but since the war prices had steadily declined and the average was now about \$6. He estimated that from seventy-five to ninety per cent of the pack put up in the state of Maine came from Canadian waters. Of the Canadian catch, ninety per cent. was sold in the United States and only ten per cent. canned in Canada. The annual catch at \$6 per hogshead produced \$300,000, whereas if the price had been increased to \$10 per hogshead the catch would be worth \$500,000 to the fishermen, which meant a difference of \$200,000. He thought, considering the fact that at \$10 per hogshead the fish required for a can of sardines cost but two-fifths of a cent, the packers could well afford to pay a better price.

The price of weirs had gone up considerably and labor had also advanced, and the fishermen could not derive a livelihood from the industry unless they received at least \$10 per hogshead. As the fish were put up on the American side, all that the residents of this county received was the price of the raw fish.

So far as Canadian canners were concerned they would not be affected by the imposition of an export duty. The passage of the resolution would not only be in the interests of the fishermen, but of New Brunswick and Canada as well. If the fishermen of Charlotte did not receive an adequate price for their sardines, there was nothing for them to do but leave the county, as they had no other way of earning a living.

Mr. Seovil said that the 1922 price of sardines, namely \$6 a hogshead, was insufficient to keep the fishermen and their families alive and declared that in the last two years two hundred people had left Deer Island. The effect of the imposition of such a duty would be to make the minimum price of the small herring \$10 a hogshead at which price the fisherman could operate profitably.

Mr. Seully, in seconding the motion, said that the matter was one of considerable interest to residents of the county of St. John. There had been depression in the fishing industry for several years, and while the cost of equipment had advanced the price of fish had gone down. He thought that \$10 per hogshead was little enough for sardines, but often the price had gone as low as \$5, and as the fishermen were charged \$1 per hogshead for hauling them to market, \$4 was all they realized. Recently he talked with Mr. Connor, who conducted a large canning industry at Black's Harbor, and the latter was anxious to have the resolution go through.

Says Many Opposed

Dr. Henry I. Taylor, St. George, said he was informed that the big majority of weir owners of Charlotte were against the resolution which came originally from the Charlotte County Council. He said that the largest percentage of American pack could be obtained on the American side, and feared that the raising of the price of the Canadian product might force the packers to buy from those who fished in American waters. He was aware that weir owners had not made a living during the last two years. The price paid per hogshead during the war was \$25, under an international agreement, and the fishermen considered themselves pretty well off. Today there was not the market for the fish that existed during the war. He had been told that the Americans could obtain their supply on their own side of the line and would do so should an export duty be imposed on the Canadian product. In that case an export duty would not work to the advantage of Canadian fishermen. If the imposition of an export duty would stop people from leaving his county he would favor it, but he believed they were going at the matter in the wrong way.

Chase Fawcett, Progressive leader, thought the duty might perhaps be a boomerang.

Dr. Taylor thought if an export duty of \$10 was placed on sardines it might result in the loss of the American market. After all he looked upon it as

being a question of supply and demand and he believed that better results could be obtained by cooperation between weirmen and buyers.

Mr. Scovil said that the resolution had been forwarded to him by the secretary-treasurer of Charlotte, who said that it had been unanimously adopted by the Council. He had since made many inquiries and had been unable to find any weirmen who are not in favor of it.

Mr. Scully said he had received a petition from fishermen in St. John county who were very anxious that the resolution be passed.

A. F. Bentley, M.P.P., St. John County, said that the matter was one in which the people of his county were interested and he was glad that there was no inclination to treat it as a party question. It was possible that if an export duty were imposed the American might retaliate by placing a duty on other fish products exported from St. John. He considered it a very important question and would suggest that the resolution stand for further information.

Mr. Bentley moved adjournment of the debate and it was agreed that the matter should be further considered on Thursday, March 29, and on that date, the resolution passed the House without division.

On March 23, Alexander Calder, Welehpool, Campobello, Fisheries' Inspector, wrote a letter to the press concerning the proposed duty on sardine-herring.

Mr. Calder stressed the following points:

"This is not a straight export duty. There is a proviso that if the packers will pay ten dollars per hogshead for all the herring, there is no export duty. The fishermen cannot operate their weirs for less than ten dollars per hogshead, and that is less than one cent. per pound for their herring.

"Dr. Taylor said the better way was for the fishermen and the packers to get together and agree to a price. Isn't that just what the fishermen have been trying to do for years and the packers will not make any trade with them? He also said that the law of supply and demand was the best way. If that was the rule today I would agree with him, but that is no more the rule. For that reason and that alone the packers have organized to protect themselves.

"The fishermen are squeezed so hard that two hundred have left Deer Island, as Mr. Scovil has said. What is true of Deer Island is true of every fishing community. It was also said that the United States Government might retaliate and put a duty on herring, and then we would lose the market. What is the good of a market that does not warrant the upkeep of the weirs and a living for the fishermen? If they have to quit it who will keep it up? The United States Government would not do any thing of the kind, as it would be biting off its nose to spite its face. The United States wants our herring, and cannot afford to lose them. If it could there would be duty on them now. The United States Government has got to go to the people in less than two years for a new lease of life, and they know the more duty they place on food coming into the country the less chance they will have of being re-elected, for the handwriting on the wall goes with every radical measure any government forces on the people.

"Now, coming back to the resolution: It is just asking the Government to help the people to make a minimum price of ten dollars a hogshead for the herring."

Lack of unanimity on the part of the fishermen regarding the value and effect of the proposed export duty is emphasized by recent expressions of opinion in letters to the press. Among the majority there is approval of the idea, among others there is scepticism while a few seem totally opposed.

WHAT IS A SARDINE?

The New York Evening Post asks:

"What is a sardine?"

Think before you answer.

Time was when you could call a sardine "some kind of a fish" right to its face and get away with it, but that day is past. International relations are now involved, and nothing short of a world conference to determine the status of the sardine of commerce seems likely to relieve the present tension.

The situation grows daily more alarming. Notes are being exchanged. Within the last few days no less conservative organ than the Journal of Commerce has been obliged to give space to diplomatic exchanges on the subject. From these it appears that no two sardine producing nations agree to what a sardine is. This is the crux of the matter.

Norway contends that the bristling mussa and sild are all entitled to rank as grade A sardines, whereas France and Spain maintain stoutly that the only genuine sardines are the sprat, chinehard and pilchard. England swears by the sprat, Japan proclaims its faith in the pigmy herrings of the Pacific. California is ready to take up arms in defense of its own pet pilchard, while Maine will have nothing to do with any variety but the baby herrings found off her rock-ribbed coast.

Gniglia Trentino started the whole trouble 50 years ago by putting up the first batch of small fry done in oil and selecting the Island of Sardinia for the epoch-making operation. Ever since then every time anybody packed a dozen or so baby fish into a tin can and attached a non-workable opener to it he has labelled his product sardines, in honor of the place where the first batch came from.

During the war, it appears, the status of the sardine was settled legally by a court decision in England. In this decision France won over Norway—but the Norwegians now contend that the decision was influenced by the fact that France and England were allies and could not afford to fall out over a matter of fish. Which sounds like good reasoning.

At any rate, the old fires are flaring up anew, and the question as to what a sardine is, is again before the court of public opinion. If you think you can answer it, go ahead. Better men than you have tried and failed.

DECLARES FISH BEST FOOD

Dr. Roy S. Copeland of New York, speaking recently at New York before the Middle Atlantic Fisheries Association, declared that the idea of people dying of ptomaine poisoning if they ate fish was an exploded piece of nonsense. "There isn't any food properly kept which is safer, cleaner, more nourishing, more proper food for the human family than fish", he added. Furthermore, he said it was the duty of the industry to let the consuming public know it.

Wanted--New Regular Fish Eaters

Dr. Huntsman, discussing from consumer's viewpoint proposal for eat-more-fish campaign, makes interesting observations

The Canadian Fisheries Association recently sent out a circular to its members outlining a campaign to stimulate fish consumption in Canada. Several replies have already been received strongly supporting the idea and offering interesting and valuable suggestions.

None contained more thoughtful or more interesting material than a letter from Dr. A. G. Huntsman, who, through his association with the Biological Board of Canada is well known to the industry. For the benefit of our readers, we reproduce it.—Ed. note.

The circular on a plan for publicity campaign to stimulate fish consumption, which has been sent out by you, has just reached me, and you ask everyone to send comments. The thoughts that occur to me may not be entirely apropos, but here they are for what they are worth. I shall give headings to drive the points home.

New permanent customers wanted

Any good plan for increasing the amount of fish consumed in Canada is worth serious consideration. Canadians eat comparatively little fish, and this should not be so. No market for the sale of the fish produced in Canada is more important than the home market, because the latter cannot be affected from time to time by tariff changes. For this reason it will be of permanent value to increase the home market greatly. This will not be worth while unless the customers that may be induced in any campaign to eat fish become permanent customers. Money expended in increased sales temporarily is largely wasted. How can permanent customers for fish be obtained?

Matter of taste, not so much food value

It is a well known fact in any selling proposition that no feature is more important than the taste of the person to whom the sale is to be made. It is incumbent upon the fishery trade to study the tastes of the general public in regard to fish. Tastes vary, and the old saying is always true "De gustibus non est disputandum"—there is no accounting for tastes. It has frequently been observed that food is not bought because of its having important food value, or because of it being easily digestible. For the most part taste is the determining factor, and in many cases substances that are valueless from the standpoint of food are bought and consumed regularly because the flavor is appreciated. What one person believes to be bad and objectionable as food, another person prizes highly. It is not possible to have a uniform standard. We must therefore have variety of articles to satisfy the principal tastes among the public.

A satisfied customer is one who gets the kind of thing he expects. He doesn't object to getting something of the same kind, but better than he expects, but he does object to getting something different, even if better. Personally, I like thick, soured milk and buttermilk, but if I drink what is supposed to be sweet milk, and it turns out to be sour, I am put out. It is most important to give the customer what he wants

The "fishy taste" and fresh fish

To most people the so-called "fishy taste" that can be detected very far, and that clings to rooms and culinary utensils, is necessarily associated with fish, and whether a person is said to like or dislike fish depends upon whether he likes or dislikes this fishy taste. It is not true, however, that this fishy taste has a necessary association with fish. It is not present in fish when they are fresh from the water but develops only under certain conditions after the death of the fish. Cooks know that there is no difficulty with this fishy taste in the case of perfectly fresh fish.

The vast majority like perfectly fresh fish

While a few people prefer the strong flavours that develop in fish in drying, salting, or even on being held at low temperatures, and while many do not mind these strong flavours, the great majority prefer fish that are perfectly fresh, and many will have nothing else. If this important class gets fish that from its standpoint is a trifle off flavour, it will not buy fish again for some time. This class is not forced to buy fish through stress of circumstances, but chooses the food that it likes best. At St. Andrews, New Brunswick, we serve fish (perfectly fresh) frequently and regularly to a mixed group of people with perfect success. The same people will scarcely touch the fish served as fresh in public eating places or sold as fresh in the cities. They say (and from personal experience I agree with them) that there is a marked difference in flavour, and that only rarely is the perfectly fresh flavour retained. This class can be reached only by catering to their tastes.

Can the fresh flavour be retained?

The fishy taste results from the production of certain chemical substances with strong odours, through changes that take place in the substance of the fish muscle under certain conditions not as yet very well known. Investigations are in progress to determine the nature of the changes that take place in the muscle of fish after death and how these changes affect the flavour and food value of the muscle. While these investigations will doubtless show us how best we can retain or produce any desired condition or flavour, it is possible to state definitely that the fresh flavour can be retained without any great difficulty. We have held fresh fish for considerable periods with or without freezing, and found the flavour at the end of those periods indistinguishable from that of fresh fish. We have also had fish shipped, both fresh and frozen, from the Atlantic coast to Toronto and tested, in the case of the frozen fish several months after the fish was caught, and have been unable to detect any change in flavour. It is quite certain, therefore, that with a moderate amount of care, the flavour of perfectly fresh fish can be retained to the time that the fish reaches the consumer's hands, even after a lapse of several months.

Specializing on ultra-fresh article

If, as we believe, there is such a large class of people who must have fresh fish or none, it would be well worth while to go to considerable expense in the development of such methods of handling the fish from the time it is caught until it reaches the consumer's hands as will ensure it being in the very best of condition. Such a product may be considered and advertised as a luxury, which should aid the sale. It will be important to indicate this class of fish in some special way. A leaf may be taken from the egg trade, and some name used similar to that of "Guaranteed newly laid". If this can be done successfully, and it were possible to be sure of obtaining under such name fish with the perfectly fresh flavour, there is every reason to believe that a very large and important trade would develop.

Culling necessary

Fish vary in condition, even at the time of catching,

Gaspereaux Arrive: Market Prospects

St. John, N. B., April 10. Two boats operating off Lorneville on Monday night with drift nets caught 1,600 gaspereaux each, while a boat in St. John Harbor harvested 1,000 the same night. These catches mark the opening of the season for alewives, so far as the financial end of the game is concerned.

St. John, N.B., April 7. The mild weather of the week ending today has enabled several Fishermen to try for gaspereaux in St John harbor, but their success has been negligible, as from one to four fish has been the reward for the work of the drifters. Twenty-three alewives were taken on the 6th. from the bottom of the famous Diving Bell weir, on which the net has not yet been hung. Last week, a few fish were taken and drifting will continue as a catch will prove remunerative, the first fish always bring a high price in the retail market. The ice which floats about in the harbor from time to time is carried by the tide from the slips, as no ice has yet come down from the great river field. With the going out of the river ice, the weirs will be made ready and general gaspereaux catching activity will follow. That is not expected to take place for several weeks yet.

The Colwell Co. of the west St. John, wholesale dealers in fish, reported on April 7 that they had been advised by New York that a quantity of last year's catch is still in storage there and that the gaspereaux market is not promising by any means.

With the gaspereaux market uncertain, to put it gently, and the price of equipment still comparatively lofty, no fisherman can be found rash enough to risk a weir or a drift net for the sake of an early, chance catch.

Should the gaspereaux harvest be a big one this year a lot of the fish will be wasted, a member of the firm of McCormiek & Zatsman, a leading local firm in the export fish business, stated this week, explaining that the market at present does not encourage salting.

All the alewives stocked three years ago have not been disposed of, he added, but the balance will be used for lobster bait or destroyed.

The 1921 and 1922 stocks were light and were cleared out in due course.

Alewives were in slight demand in the West Indies

and when landed a fair proportion may fail to measure up to the standard of a first-class article. If a first-class trade is to be catered to, a selection must be made of the best, and the trade must be prepared to cull rigorously and intelligently up to the time the fish reaches the customer's hands. That this can be done even when there is no outside indication of depreciation in quality, is shown clearly by the egg trade.

Price not Important

We have stated that such an article could be considered as a luxury. Probably the majority of our people are able to a considerable extent to buy foods that are classed as luxuries. At any rate, they do so. In selling to these people, the price is not so much of a consideration so long as the article can be advertised as something special. It is probable that a trade of this kind could only be developed at the present time as a luxury. Later on, as the trade became greater, it would be possible to greatly lower the cost.

last fall. A railway embargo prevented shipment for export to the West Indies and when the embargo was lifted, the market had gone smash on account of surplus stocks offered from the north shore.

McCormiek & Zatsman characterized the fish business for the past three years as poor, especially that of last year, when, they said, it was certain that no dealer in the province had made any profit.

Cost High; Demand Poor

Referring to the outlook for this year, McCormiek & Zatsman told of a very poor demand for alewives.

Discussing the question of curing, they advised that salt was normal at \$7.00 a ton, ship-side; barrels are quoted the same as for the past two years, \$1.55 for the "Scotch" and \$1.25 for the herring or gaspereaux barrel, labor cost is on a par with the rate prevailing since 1920, while fishing privileges have cost slightly more than last year.

Gaspereaux nets for use in St. John Harbor in lengths from 100 to 170 yards and in depths from 150 to 170 meshes, are quoted at from \$32.60 to \$54.50

Fifteen years ago, a gaspereaux net could be purchased for \$16.50 and the price gradually increased until the peak of \$73.00 was attained. The decrease in price is due to a decline in linen.

A few gaspereaux caught through the ice, upriver retailed at 15 cents apiece.

RUSSIA TO BUY SCOTCH HERRING

The Fishery Board for Scotland has been advised that the Russian Soviet government intends to import during the year five million pounds of herrings, of which three millions are to be purchased from Norway and the balance from Scotland. The quantity to be procured from Scotland represents some 250,000 barrels.

HIT AN ICEBERG

The New York auxiliary William A. Morse came into Halifax on March 27 with a hole punctured in her starboard side at the waterline near the main rigging. The damage resulted from a collision with an iceberg about the size of the vessel itself. The vessel was recently fitted out for fresh halibuting.

We Pull Lion's Share Jamaica Trade

Newfoundland may become strong competitor if colony gets preferential tariff-- Tinned salmon must redeem its reputation

G. R. Stevens, Canadian Government Trade Commissioner, discussing the import trade of Jamaica has the following to say which is of interest to Canadian fish exporters:

Canned fish	1920	p.c.	1921	p.c.
United Kingdom	£55,490	49%	£9,287	48%
United States	44,053	48%	7,760	36%
Canada	10,539	10%	2,247	8%

There was a considerable decline in the imports of this item during 1921, on account of the market being overstocked with supplies purchased during previous years. In the last year or so of the war, and the first eighteen months following the armistice, there was a spurt in the demand for canned fish, particularly sardines and salmon, on account of the scarcity of fresh meat in Jamaica; but towards the end of 1920 the price of meat fell, and many fish importers found themselves with large stocks on hand, or to arrive. They have since been endeavouring to liquidate these stocks by selling, in some instances, below landed cost; but although their holdings have been very much reduced, business is still slow.

Cheap sardines are the most popular canned fish on the Jamaican market, and New Brunswick is a large supplier of this item. Next in popularity comes tinned salmon, but the situation in regard to this product is far from satisfactory. During the war, the quality of the tinned salmon sold in Jamaica fell off considerably, and many people looked upon the tall tin and red label as a container which might yield something very palatable or something very nasty. On this account, sales of salmon have declined, and a great gulf has been fixed by most purchasers between chums and pinks.

Canned herrings are not so much in demand as salmon and sardines; probably the bulk of the imports shown as coming from the United Kingdom in 1921 were Scotch herrings. Here again, however, business is hampered by the heavy stocks on hand.

Fish, Dry Salted.

	1920	p.c.	1921	p.c.
United Kingdom lbs.	12,674	fractional	84,307	fractional
	£13,450	6%	£30,865	12%
United States lbs.	405,425	6%	1,365,627	12%
	£195,189	80%	£187,233	79%
Canada lbs.	5,855,138	80%	8,333,030	79%
	£37,541	14%	£27,709	9%
Newfoundland lbs.	£44	fractional	£1,893	fractional
	1,31,923	14%	1,233,290	9%

The bulk of the imports represented by the above statistics consisted of dried cod. Canada is Jamaica's chief source of supply for this popular foodstuff, and her hold on the market has been strengthened by the grant of a preference of 1s. 2d. per 100 pounds—the duty being 4s. 8d. per 100 pounds under the general

tariff, and 3s. 6d. under the preferential tariff.

Statistics Misleading

With regard to the imports shown as coming from the United States, it is certain that these were not all American in origin. The Jamaican customs authorities credit imports to the port of sailing, and neither the Canadian, American, nor Newfoundland figures are in any way correct. In both years, most of the imports credited to the United States undoubtedly originated in Newfoundland; the figures would also include a certain amount of Gaspé fish shipped in the winter time, and a very small proportion of Alaskan fish, together with any Norwegian fish which might be imported into the colony. It is questionable if there are 100,000 pounds of dry fish coming into Jamaica from the United States in any year.

The competition by Newfoundland, which has developed during the past three years or so, is of interest to Canadian exporters. Newfoundland cod (and herring) come down in schooners, one cargo every month or six weeks, and generally sell below Canadian prices. It is doubtless due to the lack of communication between Jamaica and Newfoundland that this competition is not more severe. At present, fish from Newfoundland pays duty under the Jamaican general tariff, but she has lately been making a strong effort to enjoy the benefit of the preferential rate. The new Jamaican tariff, which has been in force since April, 1922, affirms the principle of Imperial preference, and contains a clause to the effect that the preference granted to the United Kingdom and the Dominion of Canada may at any time be extended to any other part of the British Empire, by resolution of the Jamaica Legislative Council. Some months ago negotiations were set afoot between the Newfoundland and Jamaican Governments with a view to arriving at some basis of tariff reciprocity, but no definite result has yet been reached. It is probable that

	1920	p.c.	1921	p.c.
United Kingdom lbs.	12,674	fractional	84,307	fractional
	£13,450	6%	£30,865	12%
United States lbs.	405,425	6%	1,365,627	12%
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Jamaica will offer Newfoundland a preference on fish in return for concessions on molasses and raw sugar; but such an arrangement would probably have little effect on Canada's sales of fish in this market. Newfoundland wants molasses and not raw sugar, and there is no molasses of the Barbados type available in Jamaica. Unless the Newfoundland schooners can get

return cargoes from this colony, they must continue to go to Barbados, Trinidad and Brazil; and without adequate direct communication, the Newfoundland competition should not be particular severe, although it is possible that Canadian fish exporters may at times have to sell on closer margins.

The demand for all four kinds of fish is steady, and the competition by Newfoundland is less important than in the case of dried cod. For the reasons already given, it is questionable if Newfoundland's participation in the preference would lead to any considerable diversion of this trade from Canada. Canadian her-

	1920	p.c.	1921	p.c.
Herrings, Pickled.				
United Kingdom	Nil		£4	
			2	fractional
United States	£1,388	1%	£885	1%
	479	1%	410	1%
Canada	£103,896	92%	£60,813	88%
	39,815	92%	30,561	88%
Newfoundland	£8,814	7%	£8,434	11%
	3,589	7%	4,320	11%
Herrings, Smoked.				
United Kingdom	£203	9%	156	4%
	6,960	9%	5,022	4%
United States	£790	32%	£716	17%
	27,084	32%	22,917	17%
Canada	£1,330	57%	£3,238	80%
	45,584	57%	103,671	80%
Mackerel, Pickled.				
United Kingdom	Nil		Nil	
United States	£3,039	4%	£3,016	10%
	617	4%	635	10%
Canada	£76,777	95%	£27,522	90%
	15,569	95%	5,794	90%
Salmon, Pickled.				
United Kingdom	Nil		Nil	
United States	£554	16%	£380	14%
	78	16%	76	14%
Canada	£1,998	66%	£1,610	62%
	281	66%	322	62%

In all the above four items, Canada's predominance is well established and of long standing. The barrels referred to in the figures are of 200 pounds' capacity.

rings and mackerel now pay duty at the rate of 2s. per 100 pounds, and other kinds 2s. 8d. The duty on salmon is 5s. 3d. preferential and 7s. general.

Few Fresh Lobsters to Interior

The commercial importance of Canada's coast fisheries is inadequately appreciated by the average resident in the interior provinces. Accustomed as he is to see the product of Atlantic fisheries reaching inland cities and being distributed in but minor quantities, it is only when statistics of output are quoted in thousands of tons and values in millions of dollars that he realizes how largely the sea fisheries add not only to our domestic trade but also to the volume of foreign commerce.

One of the Atlantic coast fisheries, which has to depend very largely upon the canned product for representation upon the inland market is that of lobster. Only rarely is the live lobster, or in fact, the entire crustacean, seen on interior markets, except in larger centres.

Each of the three maritime provinces shares in the lobster fishery, but Prince Edward Island and Nova Scotia are the more important, especially the latter, which owing to its proximity to the markets of the New England States, has been able to build up a considerable trade in live lobsters.

There are upwards of 600 canneries in the maritime provinces licensed to can lobsters. The product is carefully inspected and the work is carried on under the strict supervision and regulations of the Department of Marine and Fisheries, through its Fishery Branch. In the fishing operations 1,163,000 wooden traps are employed. These traps are valued at over \$1,500,000, and cannery property at \$2,130,208. During 1921, 18,596 tons of lobsters were taken, of which 4,334 tons were shipped in their shells. There were 133,070 cases of lobsters canned, of which Great Britain took a considerable portion and the United States much the larger quantity. By weight, 11,861 tons of canned lobster went to Great Britain and the Empire, and 21,421 tons to the United States and other foreign countries, these figures including, of course, the weights of containers. The value of the lobster fishing output was \$2,962,487 in 1921, as against \$4,557,149 in 1920, when the quantity secured was 20,000 tons. The total value of Canada's sea fisheries in 1921 was \$18,866,062. —Exchange.

Germicide In Ice to Allay Decay

New Method of fish Preservation being tested in Old Country--Present systems discussed.

By W. E. GIBBS, D.Sc., Author of "The Fishing Industry."

As soon as a fish is dead it begins to decay. This decay is almost entirely due to the action of various micro-organisms (bacteria, moulds, yeasts), with which the exposed surface of the fish becomes contaminated. Such decay-producing organisms abound in the sea and in the air, so that, when a fish is drawn from the water and is gutted and otherwise handled on the deck of a trawler, both the outer and inner surfaces of the fish invariably become freely contaminated with these micro-organisms. Given a suitable temperature and abundance of moisture, these organisms rapidly develop on the fish, and attack the tissues and juices, and by their action produce the obnoxious and frequently poisonous compounds that invariably accompany decay.

Different Methods

To preserve fish in a fresh condition it is necessary to arrest the development of these organisms. The most important methods that have been adopted for achieving this great object are; (a) lowering of temperature by packing the fish in ice; (b) storing the fish in a refrigerating chamber; and (c) freezing the fish solid in brine.

Of these three methods, undoubtedly the last is the most efficient, because bacteria and moulds resemble sponges, in that they can not function except in liquid water; and, when frozen solid, they remain in a state of suspended animation. Mere lowering of temperature, even to 32 F., while retarding the development of these organisms, and, therefore, the decay of the fish, does not altogether arrest it, so that when fish are stored in a refrigerating chamber, at temperatures just above freezing-point, or when they are packed in ice, they are not actually frozen, because the temperature is not low enough to bring about the freezing of the juices contained in the flesh of the fish. Consequently, the decay-producing organisms slowly develop and the deterioration of the fish proceeds, although more slowly than it would do at ordinary temperatures.

On a Trawler

To what extent are these various methods practicable on board a trawler? Brine freezing is much more effective and rapid, and, therefore, more economical, than air freezing. At the same time, the texture and flavour of the fish are less impaired. To accomplish the brine freezing of the fish as they are caught, it is necessary to have a suitable tank, full of brine which is maintained at a low temperature—for example, 15°F.—by means of a supply of liquid ammonia slowly evaporating as it passes along pipes immersed in the brine. As soon as the fish are frozen solid, they will have to be removed from the freezing tank, and placed in a suitable cold store. The capital cost of a suitable refrigerating unit, together with the necessary freezing tank and equipment and cold store, would be some thousands

of pounds. It would also require extra power and attention to maintain it in operation during the handling of the fish. This process has the further disadvantage that it involves a double handling of the catch; first, when they are frozen, and then when they are placed in cold storage.

Packed in Ice

Is it possible to preserve fish by cold on board a vessel simply and cheaply? Of the methods of cold storage, other than actual freezing of the fish, probably the simplest is that in which the fish, after being gutted and washed, are packed in crushed ice on shelves in the fishroom. This, of course, is the method generally adopted at the present day, and for simplicity, cheapness, and efficiency it has much to recommend it. It is invariably found that decay still proceeds more or less slowly. The products of decay are disseminated throughout the mass of the fish by the melted ice. A large amount of the products of decomposition ultimately reach the slush well, where putrefaction proceeds apace. As a direct consequence of this action, the contents of the fish-room, particularly after a long voyage—for instance, a week or ten days—become contaminated with the products of decay to such an extent that the fish-room is not a fit environment for any man to work in, far less for any food-stuff to be stored in.

Most trawlers obtain their ice from the fishing ports, where it is made in large factories from the local town water supply. Such water supplies, although sufficiently free from micro-organisms that are considered to be harmful to man, may yet contain appreciable quantities of the micro-organisms that, when brought into contact with organic matter under suitable conditions, will cause putrefaction. The ice itself, therefore, affords an additional source of infection, and, as it melts in contact with the fish, any decay-producing organisms that it contains are liberated, and are distributed over the surface of the fish.

Salunol

Clearly, much can be done to arrest the decay of fish that are packed in ice by preventing the development of these decay-producing organisms. This can be done by incorporating in the ice a suitable germicide. After many experiments with various germicides, a satisfactory substance has been discovered that can be distributed uniformly throughout a block of ice—that is, without any deleterious action upon the flavour appearance, or food value of the fish, and that is also cheap to produce and easy to employ. This germicide is sodium hypochlorite, and is sold for this purpose as a ten-per-cent solution in water under the trade name of "Salunol." "Salunol" ice can be made by any of the ordinary commercial ice-making processes, simply by adding 1 part of "Salunol" solution to 400 parts of water before freezing. Half a gallon of "Salunol" solution is required per ton of ice, and costs 1s. 6d,

It is found that when fish are packed in "Salunol" ice instead of the ordinary ice, decay is entirely arrested for four or five weeks. This is because the dilute "Salunol" solution that is formed continually by the gradual melting of the ice effectively checks the development of all the decay-producing organisms; consequently, if "Salunol" ice is used, fish can be brought home every time from the most distant grounds, and in all weathers, without showing any signs of deterioration.

The use of "Salunol" ice effectively preserves the catch in fresh condition. It is, therefore, a boon, not only to the fishing industry, but also to the general public. It would seem that it affords a simple and practicable method of increasing adequately the efficiency of the present method of storing fish on board the trawlers while they are at sea, and subsequently when the fish are packed in boxes for distribution by road or rail on shore. It is suggested that before the somewhat elaborate and expensive method of brine freezing be adopted on board the trawlers, this method of packing the fish in "Salunol" ice be given a widespread and extended trial. Over ten thousand tons of "Salunol" ice have been used during the past six months by vessels sailing from Fleetwood, with uniform and successful results. It now remains for other fishing ports to make their own trials and see for themselves whether "Salunol" ice can be used with similarly valuable results in the circumstances and under the conditions that prevail in their section of the industry.

NEWFOUNDLAND AFFAIRS

It is rumored that the next general election in Newfoundland, which is not far distant, will be fought on the Spanish treaty issue. Some months ago the colony entered into a treaty with Spain for a more favorable duty on dried fish in return for a more generous importation of Spanish wines on the part of our neighboring dominion. At this distance from the centre of affairs on the island it would appear that Sir Richard Squires has hit upon a strong issue to carry to the electorate.

A large delegation of fishermen recently approached Sir Richard urging the immediate reduction of taxation as a means of cheapening the cost of outfitting and supplying fishing vessels which the delegation considered essential to make fishing an attractive venture this summer. The premier gave them no definite answer.

Determined efforts were being made by the Newfoundland Government in early April to send food supplies to starving settlements along the south coast, isolated for many weeks by the ice fields that block their harbors.

Tales of terrible suffering in many south coast villages have filtered through to the Newfoundland capital. The winter fell early, freezing in the herring fleet and thus leaving many fishermen without their usual means of winter sustenance. Later a series of bitter storms built a thick rim of ice along the coast, shutting out supplies that would have relieved the suffering of the people.

TROUT SEASON MAY 1

Trout fishermen who in the past have usually got their gear ready for the opening of the season, April 1st, will not have to worry about the ice in the lakes at present, as the Dominion Government amended the law last year not allowing the spring fishing to start until May 1.

DIGBY NOTES

Digby, N. S. — Sch. Flora L. Oliver which arrived from Gloucester, Mass., March 11 after taking her fittings here sailed for the fishing grounds March 17. Capt. Ansel Snow, her skipper, is one of the "killers" in the halibut fishery and we hope to see him roll up another such stock as he made in the Sch. Clark L. Corkum last season.

During the latter part of the month of March the scallop fleet have had a few very successful days in that branch of the fisheries, on one day of which we might mention the neat stock made by the boat S. E. Joran owned by Capt. Arthur Casey and sailed by Capt. Hilyard Barnes. This boat left the dock at Digby at 11 a.m. and was back at the dock the same evening at 7 o'clock with \$148 worth of scallops. This gave the two men who formed her crew a very nice share for their day's work.

A. H. Brittain of the Maritime Fish Corporation of Montreal visited the Digby branch arriving here from Halifax Wednesday March 28.

Sch. Flora L. Oliver, Capt. Ansel Snow, arrived at Yarmouth from the fishing grounds Saturday March 31, with a small trip of halibut and reports the weather very unfavourable for halibut fishing during the past two weeks.

Capt. Ernest Ellis of Digby is having a boat built at Meteghan which he intends to use in the scallop fishery as well as in the tourist business.

The lobster fishermen are getting a little better results with the coming of the spring weather and prices are reported very high.

BAD WEATHER AND ICE HAMPER FISHING

Weather and ice conditions on the Atlantic coast were very bad during the month of February and resulted in smaller catches of fish. On the Pacific coast larger catches of halibut and herring were made which made the total quantity of fish landed on both coasts much greater than in February last year.

A total of 237,571 cwts. of fish valued at \$749,186 was landed during the month compared with 151,585 cwts. valued at \$423,218 in February 1922.

There were 23,241 cwts. of cod, haddock, hake and pollock landed compared with 28,351 cwts. in the same month last year.

The catch of lobsters was 171 cwts. compared with 220 cwts. This brings the total quantity caught since the opening of the season up to 5,065 cwts. compared with 6,175 cwts. in the same period of the preceding season. All lobsters so far taken have been used fresh or shipped in shell.

The smelt fishing season, which was extended for five days, closed on the 20th of the month. The quantity taken during the month was 13,922 cwts. compared with 18,498 cwts. The value was somewhat better than in the previous year however.

On the Pacific coast there were 22,241 cwts. of halibut landed compared with 14,232 cwts. in February, 1922.

There was a large catch of herring landed in Vancouver Island during the month. The total catch for British Columbia was 157,194 cwts., compared with 76,970 cwts. in the same period last year.

Two men were reported drowned on the Atlantic coast during the month.

Former 'Bankers' Are Now Rum-Running

Owners in Nova Scotia fortunate in securing opportunity to unload craft--Better cure of dried cod seems certain

(Special Correspondence)

The fishing industry on our eastern coast has not been anything to write home about during the past season and unusually vicious winter conditions have had much to do with it. The Lunenburg fishermen have been very late getting their dried cod marketed and, it is understood, they still had forty thousand quintals on their hands by the latter part of March. Altogether the "salters" have not had a profitable year. They did not execute proper care in preparing their fish and they suffered by receiving a low price. It is believed they have now learned their lesson. The large importers at Lunenburg and Halifax who have been endeavoring for years to improve the pack are convinced that this year fishermen will remove the black nape from the cod.

"If they will do that, and I am convinced now they will, we need be afraid of competition from nowhere on earth," said one large Halifax exporter. "The quality of our fish has never been a source of complaint, merely the black nape."

During the war years it was impossible to get fishermen to adopt this practice. In fact they became more independent than ever. The markets in the West Indies and South America were in their hands, other sources of supply having been cut off by war conditions. The close of the war found old competitors in the field again, the strongest among them being Norway. Each year Norway's sales in the markets logically ours were increased and ours diminished.

Experts advised fishermen that the whole reason was to be found in the fact that they did not remove the black nape. It has taken until the present—four or five years—for the seriousness of the situation to seep through, and it is encouraging that the skippers of the bankers have determined to make necessary improvement. It is estimated that the additional work will not cost the men more than ten cents per quintal, while they will receive at least twenty-five cents per quintal more from the exporter.

Standardization Must Come

The threat of government interference to force fishermen to properly handle their fish may have had something to do with the situation. A further step would seem necessary though to put our industry on a sound basis and that is government standardization and inspection. There is a hint that this will come before many moons. Ottawa has had ample experience with the pickled fish inspection act to demonstrate the value of standardization and inspection. There is no sound reason why the principle should not extend to other varieties and cures of fish and it is the understanding of the writer that delay is necessitated only by the drafting of regulations that will properly meet the situation.

A fortunate condition seems to have arisen to get

vessel owners of Nova Scotia out of a serious dilemma. During the years of the war when dried cod was at a premium vessels were built for \$25,000 to \$30,000 to engage in the trade. In some instances enough was paid in dividends to pay for the craft, but in other cases there was not similar good fortune. When prices declined following the war the revenue per vessel also declined. On a \$25,000 or \$30,000 capitalization it proved impossible to pay dividends. It then became necessary to look for a purchaser for the vessel or write off a loss. Nowadays a similar vessel may be built for \$18,000 or thereabouts, which, it is understood, is the price being paid for a vessel being built for Albert Himmelman, at Mahone Bay, N. S.

Vessels Sold to Rum-Runners

Very unfortunately for those interested a strong demand developed for vessels of this type to engage in the rum-running traffic off the New England coast. During the past winter no fewer than twenty-four have been sold for this traffic from Lunenburg to Yarmouth, and it is rumored that several more are destined to change hands. The prices have been good as people who follow the bootleg occupation are very modest in the value they place on money.

Fish exporters are not viewing with alarm this loss of vessels from the industry. Some of them, they say, are old vessels that were out of date and others were expensive war constructions that the owners were well rid of. Shipbuilding, they felt, would be encouraged and the supply of schooners would always be found adequate. Their view would seem to be substantiated by facts. During the past months several new fishermen have been launched from Nova Scotia yards. When the writer was in Nova Scotia recently there was a new one ready for launching at Chester Basin, being built for Captain Heisler; there were three at Mahone Bay, one being built by O. B. Ham and a second was for Captain Himmelman. There were two others on the ways at Lunenburg. With the exception of Himmelman's construction and the one at Chester the vessels conformed very much to the old Delaware type. The two exceptions are along more modern lines developed since the institution of the international race. Five of the six vessels will be out in time to qualify for the races this fall. The sixth, at Mahone, was only in frame at the middle of March.

It will be seen that the Volstead Act came as a godsend to vessels owners in Nova Scotia. Fortunately for their comparatively lean pocketbooks they have not been compelled to suffer the loss that the Canadian government must ultimately suffer in its marine and which the American government has become resigned to in the shipping board fiasco.

It's an ill wind.....

The salt fish industry in Nova Scotia should get back to a sound normalcy this year.

The Industry Here and Elsewhere

New one Launched at Lunenburg

The handsome fishing schooner Luey M. Corkum, built for Captain William Corkum was launched in 31½ minutes from the shipyard of Smith & Rhuland, Lunenburg, N.S., March 24. The vessel is of the semi-knoekabout type with bowsprit. She is 135 feet overall, 26 feet beam and 11 feet depth of hold. She was towed to the wharf of the Acadia Supplies Ltd. where she is to be rigged and sparred and fitted with gasoline hoisting equipment and put in shape for the banks.

Discharge 75,000 pounds an hour

Following shortly upon the record made by the Lemberg, National Fish Company, Halifax, the Venosta, another of the company's trawlers landed a fare of 325,000 pounds of mixed fish at Halifax on March 23. Both trawlers have been getting excellent catches and a splendid organization has been developed for unloading at the National Fish Company dock. Walter Boutilier, the member of the firm responsible for this branch of the service, has contrived hoisting arrangement and chutes which made it possible to unload at three hatchways 75,000 pounds of fish in one hour from the Venosta. This is said to be a record. The firm is deserving of praise for its progressiveness in this as well as in other departments.

Mackerel seiners go south

The American mackerel fleet is off to the south to meet the northbound schools. The vanguard left Gloucester on April 2 and the rest followed shortly. The fleet is much smaller than usual, comprising, it is understood, about fifteen sail. The fleet will follow the schools all through their course to the Gulf of St. Lawrence. Our Canadian fishermen will not meet the schools until the first week in May and our success in the fishery depends largely upon whether the mackerel take an inshore or offshore course.

Lobster Dear in Boston

All during March, and especially during the earlier half, lobster was at a premium in Boston. The market price ranged from \$1.10 to \$1.25 per pound which was easily a record quotation. The price naturally indicates a shortage and that was brought about by the severe winter and late spring.

80 Miles of Turtles

With the fishing season about to re-open formally, Capt. J. Johnson of the good ship Kinnecott recently filed with the naval hydrographic office at Washington his contribution to narratives piscatorial. While steaming placidly 100 miles off the west coast of Mexico, en route to San Pedro, said Capt. Johnson, the Kinnecott spoke "an immense school of turtles, many of them ranging to several hundred pounds," and the school extending for more than "80 nautical miles."

Bass Fishing Season Extended

The special fishery regulations for New Brunswick were amended this year to permit of bass fishing during the month of March. Ordinarily the season opens December 1 and ends the last of February. Unusual conditions which limited the operations of the fishermen the past winter justified the extension.

Cutty Sark vs Glory of Seas

Lloyd's Shipping List has recently made the suggestion that the Glory of the Seas, the famous American clipper built by Donald Mackay, the master builder of Nova Scotia, and the equally famous Cutty Sark, of British construction and British ownership, test their speed qualities by a race from London to Shanghai and return or from Boston to Liverpool. Both vessels were built in 1869 and through the years since then both have won fame by their speedy and thrilling voyages. It is suggested that sporting men on both sides will take up the suggestion providing the hulls will stand the strain of sail which they must carry to make them as they were.

Go Abroad for Herring Scales

A commercial mission from the United States has been visiting Scottish ports inquiring for factory accommodation for the conversion of herring scales into a 'commercial proposition'. In the factory the scales will be treated and compressed by a new process and sent to the United States in airtight cases. An official of the Board of Agriculture styled the substance manufactured as 'chitin'. Until recently its use had been confined, he said, to chemical laboratories but by a secret process recently developed it was possible to apply the preparation to artificial pearls in order to impart the velvety feeling and phosphorescent glow found in real pearls.

Americans have been procuring large quantity of herring scales from the maritime provinces and, it is understood, a good price is being paid for them. The buyers give little information regarding the use to which they are put except that they are processed and enter in some way into the manufacture or treatment of artificial stones. Recently, it is learned, the scales of the North Sea herring have been found more suitable for the purpose and that, it is understood, is the reason for organizing sources of supply in Scotland.

Aberdeen and German fish

The fishermen of Aberdeen, Scotland, who recently went out on strike over the controversy as to whether or not German trawlers should be allowed to land fares, have caused considerable destruction to German vessels and others. The position of German fishermen has long been a bone of contention and it is yet far from settled.

Sealers Having Tough Time

A St. John's, Newfoundland despatch dated March 27, says: The Newfoundland sealing fleet, which up to Saturday had killed only 18,000 seals, reported today that the season's kill has now reached 42,000.

A despatch on April 5, says: The sealing fleet is frozen in on the eastern edge of the Grand Banks, 200 miles from this port. The position of the sealers is said to be most unusual, as the seal herds are usually found much farther north. The exceptionally severe winter is said to be the reason for their southward journeying.



WARD FISHER

Energetic chief inspector of Eastern Fisheries Division

N. B. FISHERY REVENUE

The Province of New Brunswick received \$31,710, from sale of fishing licenses during the year ending October 31, 1922, the Auditor General reported to the provincial legislature during the present session.

The figures in detail follow:

Restigouche River—	
Restigouche Salmon Club	\$3,500
Restigouche Salmon Club	2,000
Restigouche Salmon Club	1,500
Restigouche Salmon Club	1,500
Dr. Henry Lunan	50
James B. Taylor	3,000
John S. Hoyt	1,000
Archibald Rogers	3,000
Robert E. Whalen	750
S. M. Lehman	100
	—\$16,400
Kedqwick River—	
J. L. White and E. R. Teed	260
Patapedia River—	
Edward T. Hewitt	155
Upsalquitech River—	
Royal Fishing and Hunting Club	\$ 100
Royal Fishing and Hunting Club	50
Watiqua, Incorporated	800
Watiqua, Incorporated	200
Harold J. Pratt and John T. Pratt	2,010
	—\$ 3,160

Jacquet River and Antinori Lake—	
Antinori Fishing Club	\$ 135
Canaan River—	
Canaan River Fishing Club	40
South Oromocto Lake—	
South Branch Fishing Club	200
Tobique River—	
Tobique Salmon Club	1,300
Loon Lake—	
Arnold Lake Fishing Club	20
Kedgwick River—	
Sir E. B. Osler	\$ 500
Charles Cremin, Burton S. Moore,	
William Gray and Percy Falding	100
Angus McLean	100
Angus McLean	50
	—\$ 750
Pokemouche River and Branches—	
N. D. Theriault	\$ 50
Tubusintae River—	
Arthur F. Gotthold	200
Bartibogue River—	
W. J. Dunean	25
Big Sevogle River—	
Big Sevogle Fishing Club	\$1,700
Wm. and Hubert Sinclair	100
Miramiehi River—	
Miramiehi Fish and Game Club	75
Miramiehi Fish and Game Club	135
Miramiehi Fish and Game Club	100
Miramiehi Fish and Game Club	200
W. A. Park	25
Moses Williams et al.	255
George D. Pratt	100
	—\$ 890
Cains River and Branches—	
W. H. Allen	\$ 335
Dungarvin River—	
Randall Durfee	100
Kouehiboungae River—	
G. A. Hutehinson	140
Kouehigouguacis River—	
Ivan Rand	50
Molus River—	
A. A. Allen	40
Thomas Williamson, one week's rent July,	
angling privilege, Nepisiguit River.	60
Sale of angling licenses	5,599
T. B. Williston, oyster lease (rental)	1

MADE PORT DISABLED

With her rudder disabled, mainsail carried away, auxiliary engines out of commission and leaking quite freely, the Gloucester fresh halibuting vessel Elk, Capt. Wallace Parsons, put into Halifax March 28 for repairs. She was nearly two weeks out from Gloucester and had 6,000 pounds of fresh halibut aboard which she landed at the National Fish Company's pier.

DRIED COD IN BOXES

The boxed fish trade in dried cod is growing enormously in the Brazilian market. At Rio San Paulo and Santos the demand for boxed fish has increased two hundred per cent since 1921. Most of the supply comes from Norway, Aberdeen and Nova Scotia. The boxes contain fifty-eight kilos of hard-dried fish, are lined with tin and made of seasoned spruce.

What Norway Does for Her Fisheries

"There is no country in which more is done for the promotion of the fisheries and fishing industries in all directions than in Norway," says "Quibbon" in the Fish Trades Gazette.

With the exception of Newfoundland, there is no country in which the sea fisheries take so prominent a place as in Norway, where a large proportion of the population live on the islands and along the coasts and participate in the harvest of the sea. It is, moreover, to be noted that until comparatively recent times the fisheries were prosecuted for the most part with inferior boats and apparatus, and were confined to the fjords and coastal waters. And further, the curing and preparation of the fish for the markets was imperfect and the export trade restricted. All this has been changed, very largely by the active measures taken by the Government through the fishery department for the development of the fisheries. Since the year 1890 the value of the fisheries increased from 27,420,000 kroner to 96,590,000 kroner in 1913, or from about £1,523,000 to £5,366,000. The value of the produce of the coast fisheries was raised from 22,210,000 to 53,320,000 kroner; that of the deep-sea fishery from 79,000 kroner to 3,540,000 kroner, and that of the whale and seal fisheries from 2,920,000 to 37,390,000 kroner. The value of the exports of fishery products increased in the same period from 131,100,000 to 392,610,000 kroner, that of the edible fishes from 25.4 to 33.3 per cent. of the total, while the export of the characteristic "sardine" or tinned sprat product rose from 352 tons, of a value of 317,000 kroner, to 30,994 tons valued at 25,690,000 kroner, or £1,427,200. During the war the exports were, of course, very much greater. In 1915, the export of tinned fish amounted to 51,773 tons, of a value of about £2,877,000. In view of this great development, it is of interest to examine into the administration, for undoubtedly this has been the chief cause of the immense improvement.

System of Administration

Norway is, of course, a very democratic country, though the government is nominally monarchical. The democratic principle is recognised in the administration, upon which the views of the fishermen and fish curers and exporters are brought to bear in a well organised manner. Up to 1900 the fisheries were administered by the Ministry of the Interior, but in that year a fisheries bureau was appointed, and a board of three directors, changed in 1906 to one director, called the Director of Fisheries. All administrative questions affecting fishery interests are submitted to the Director of Fisheries for his consideration. He receives the statistical information regarding fisheries from all parts of Norway and they are worked up in his department. All information concerning the progress of the fisheries and the state of the fish markets at home and abroad is collected by the bureau, with the assistance of inspectors, agents in other countries, including the consular service, and is promptly made available to the industry by publication in the weekly

official journal, "Fiskets Gang." Annual reports are prepared and published, and numerous services rendered to the fishing industries. A summary of these in more detail is given below. Until last year the administration of the State Loans, referred to last week, were in the hands of the Director. The "budget", or estimates for the provision of money from the coffers of the State, are prepared by the Director, in consultation with a Fishery Council, which represents the various fishery societies that exist along the coast.

Method of Procedure

These local societies may indeed be taken as a foundation of the administration. Their members comprise fishermen, fish curers and merchants and local authorities. They receive subsidies from the Government through the department, have a small but useful organisation of their own, and carry on various inquiries and investigations. They hold frequent meetings for the discussion of fishery questions in which they are interested, and appoint representatives for the annual meeting of the Fishery Council, which meets in the autumn, usually in October of each year. At this meeting various subjects of interest are discussed, and the annual "budget" for the next financial year, which is prepared by the Fishery Director, is submitted, each item being, if necessary, voted upon. The provision made for the fisheries is on a liberal scale, although it is not always passed by the Storting, or Parliament, exactly in the form in which it is received. The "budget" submitted at the meeting in October last involved a Vote of 2,299,617 kroner, or at nominal values about £127,750, for the financial year from July 1, 1923, to June 30, 1924. This no doubt will be reduced later by the Ministry of Commerce and Industry or by the Storting, for the previous budget recommended by the Council amounted to over £94,000 and was cut down to £61,000 — still, however, a large sum for a country like Norway. It comprises 43 items, including the expenses of the Bureau — staff, etc., — 266,767 kroner; fishery superintendence, 531,850 kroner; contribution to the building of the new bureau, 500,000 kroner; and various other things of which the following is a selection: — Three fishery agents abroad; culture of fish and lobsters; fishery investigations; fishery education; registration and marking of boats; promotion of exports of fish; subsidies for fishermen, etc.; visiting other places (including other countries) regarding the preparation of split fish, stockfish, and herrings, experimental drying station for split fish; promotion of co-operation amongst fishermen; construction of ice-house; promotion of consumption of fish in Norway; inspection and branding of herrings, and of split fish and salt fish (222,200 kroner); subsidies to fishery societies; and a number of other things. On the other hand, an income of 165,500 kroner is estimated, viz., 3,000 kroner from the analytical laboratory, 30,000 kroner from branding of herrings, and 132,500 kroner from the inspection and "randing" of split and salt fish.

About that Lake Erie Commission?

No move has yet been made as regards the request of the Lake Erie Fishermen's Association for a commission to investigate Erie fishery problems this coming summer. At the annual convention of the association in January last it was unanimously decided to call upon the provincial government and the federal authorities to appoint a joint commission to look into all outstanding difficulties and endeavor to smooth the rocky path of the fishermen.

As things stand at present there are many features of the fishery regulations and practices which are not giving satisfaction. Instead of taking these matters up individually it was considered by the association much more satisfactory to have a commission sit this year and make all adjustments that are necessary. Up to the present time the Ontario government has not approached the federal government with any suggestion for a joint commission. Federal fishery authorities have not been enlightened beyond the original resolution. It is presumed that Erie fishermen were sincere in their resolution and it is to be expected that an equal amount of sincerity is given to their request by responsible authority.

It is the understanding of the writer that during the summer is the best time for a commission to sit. That being so no time should be lost to set up the necessary machinery. The suggestion must come in the first instance from the government at Toronto. It is true that the regulations governing the fisheries of Ontario come from Ottawa, but it is also true that they are enacted on the suggestion and approval of Toronto. In other words while Ottawa has the legal authority to enact regulations it leaves the entire matter in the hands of Toronto and performs only the formal function of announcing the regulations to the public.

There has been a disposition in the past, whether intentional or otherwise, to deceive fishermen. They were told on the one hand that Ottawa was responsible and on the other that it was Toronto who was to blame. Thus no affective action could be obtained. There is no reason whatever why this condition should continue. Fishermen for whose benefit the regulations are made should know the responsibility of Toronto and that of Ottawa. They have too much capital at stake to tolerate the kind of treatment they have been receiving.

In this issue it is now up to Toronto to decide whether or not it will accede to the fishermen's request for a commission. If its decision is favorable it may appoint a commission itself. It is under no obligation to invite federal co-operation, but, inasmuch as the fishermen requested it, it might be secured without prejudice to its rights. Ottawa, on the other hand, may feel disposed to let Toronto conduct the investigation with the possible contribution of loaning fishery experts. This is all speculation, however. What the fishermen do want is action. They are not particularly concerned with the nature of the commission, but they are vitally concerned in having things adjusted. They are restricted severely in many districts and they are taxed inordinately. The latter burden is increased by the new American tariff as more than ninety-five per-

cent of Ontario's fish production finds a market across the border. Conditions vary, too, in different sections and it would be the duty of a commission to take cognizance of these natural differences and make recommendations accordingly, having due consideration for the protection of the fisheries and, at the same time, for the prosperity of the fishermen.

It is eminently desirable that action be taken this year. Now may be just the opportune time to exact a concession from the Ontario government. As far as federal action is concerned, the government and parliament this year have got closer to the industry than ever before. Its needs have been forced upon their attention.

HOPE FOR BETTER LUCK

Canadian fishermen on the Great Lakes are hoping for a more profitable season than they had last year, when conditions became so desperate that many tied up their boats and quit the game, at least temporarily. The cost of coal went as high as \$22 a ton, and steam tugmen burning two and three tons a day could not compete with the soaring prices.

The duty of one cent per pound on all fish brought into the United States also worked a hardship, as did the duty of 25 per cent. on eiseoe roe which has always been a big source of income for them. American fishermen were also making such big hauls that the roe dropped to eight cents per pound. The highest price it reached during the entire season was 15 cents.

HARD LUCK AT PORT DOVER

Simeoe, April 10.—

Since March 7, when Port Dover fishermen first set their nets in the bay, their fortune has been lamentable. Floating ice carried away or twisted up many nets, and the loss has been considerable. Just when conditions, on Monday, gave promise of betterment, new nets were set. This morning the bay was coated with ice, to the general consternation of all, a condition which probably sets a record for half a century on April 9. Today the tugs were unable to lift the nets.

NO FISHING BEFORE MAY 1

Southampton, April 10.—

Last year the fish nets were set by local fishermen on March 17; on April 2 this year there wasn't a break noticeable in the solid body of ice at Southampton harbor. It is said that it will be the first of May before the fishermen can set the nets this year.

TEN MILLION EGGS DEPOSITED

Kingsville, April 1.—

Ten million eggs of whitefish and herring, the largest hatch ever made here, will be carried out by Government tugs two miles into Lake Erie on Monday and turned loose. The moving out of the ice Sunday decided the hatchery officials to make the "dump" without further loss of time.

Car-to-Consumer Sales in Chicago

Again this year fresh Canadian lake fish is being sold in Chicago direct from the ear. This system of fish sales began in 1922. This year they began about February 10 and continued until Easter. There are three or four sections of the city where the distribution takes place. The fish sold in this way is shipped in carload lots direct from the lakes in northern Canada. It is disposed of direct from the ear and the sale, of course, is conducted on the cash and carry plan with almost no overhead expense.

R. J. Poole, secretary of the city council committee on high cost and high rents, who is credited with inspiring this system in Chicago, stated that an average ear contains close to 45,000 pounds of fish made up approximately as follows: Whitefish, 10,000 pounds; pike, 20,000 pounds; pickerel, 15,000 pounds. The first week in February three ears were sold; the second week four ears were handled and since then the average has been about five ears a week. All told, the sale for the 1923 season will be somewhere between 35 and 40 ears. At the lower figure and calculating on an average ear totaling 45,000 pounds, the combined sales during February and March of the present season must reach something in excess of 1,500,000 pounds. Naturally, this volume of fish dropped into Chicago in the short period of two months and sold far under retail prices cannot be wholly without its effect — at least upon the temper of the fish merchants if not upon their business. There is a diversity of opinion as to what effect it has in the latter instance. While some persons are inclined to think that the people who buy fish at these sales would not buy fish otherwise, many view the matter from the other angle.

The price at which fish is sold from the ears averages only one-half or less than half of current retail prices. For instance, records in Mr. Poole's office show that when whitefish was selling at 15 cents from the ear the retail price in Chicago stores ranged from 40 to 45 cents. Pike selling from the ear at 13 cents brought 28 to 35 cents at retail; pickerel at the sale brought 12 cents but at retail could not be purchased short of 18 to 22 cents. Efforts to offset the effect of the sales have not been unknown. In one instance trucks loaded with fish were set next the curb in close proximity to the cars and fish offered at one cent per pound below the ear price. At this, however, Mr. Poole got busy and the trucks were evicted by the police on the grounds, so your correspondent was informed, that they had no license to set up a sale in a public high-way.

The sore spot among local fish men appears to be that certain commercial interests are alleged to be operating these sales. Mr. Poole explained that "certain fishermen" on the northern lakes pooled their fish and sent them to Chicago in charge of an agent and under the guarantee of the council committee on high cost of living that the sale should go on unmolested. On the other hand it is alleged that commercial interests in Chicago, operating under the name of a company at a Lake Superior port, are conducting the sales. In any event a merry little situation has been

developed with which to enliven the drab season through which we are now passing. The fish men on Fulton and Union streets are given something to talk about in addition to the weather.

FRESH WATER NOTES

A storm that continued for several days has caused considerable losses to the fishermen on the North Shore of Lake Erie.

The gill net tug belonging to Mr. Dobbyn of Wheatly was torn from his moorings and blown out on the beach where she was smashed into kindling, a total loss with no insurance.

Mr. Jno. Loop, also of Wheatly, lost his ground net boat in the same manner, it being damaged, beyond repair, valued at \$2,000 with no insurance.

The storms and ice this spring have caused considerable loss to commercial fishermen operating on Lake Erie.

The steel tug Misford owned by Misner & Tedford, of Port Burwell, has been sold to the provincial Government for patrol duty on the lakes.

The winter production of herring and pickerel on Lake Winnipeg this winter was the lightest for a great many years. The herring season, was light due to the open season prevailing so late in the fall. The run was over before the fishermen could get out, as they operate through the ice.

The winter production on Lake Manitoba and Winnipegosis was exceptionally good, and one of the large companies, operating on those lakes reports having handled more ears of fish than in any previous winter.

The western markets are all clear of the winter stock and indications are the markets will be in good shape for the summer production.

The operations on Buffalo Lake were carried on very extensively this winter, and the companies operating on this lake found a ready market and good prices for their fish.

The fishermen operating on Lake Nipigon are busy preparing for the coming summer operations. It is understood they have the same working arrangements as last year with the Government.

'FISH TRUST' SENTENCED

Sentences of 10 months each in the House of Correction, and fines of \$1,000 each were imposed on April 5 at Boston upon F. Monroe Dyer, a New York banker, and five other officials of the Bay State Fishing Company, and sentences of five months' each and fines of \$500 were given nine dealers indicted with them in the so-called "fish trust" cases. They were found guilty of conspiring to increase the price of fish in war time and to effect a monopoly.

ENLARGING BIOLOGICAL STATION

The Atlantic Biological Station at St. Andrew's, N. B., will be greatly enlarged and improved in the near future, when plans of the Marine and Fisheries Department are carried out for the addition of a new wing to the residence there.

Erie Correspondence

BY CAPT. P. C. ROBINSON

Port Dover, Ont., Marsh. 8—Fishermen got away to a good start on March 16, and the first few catches indicated that plenty of pickerel, and perch and herring were in the bay, the Easter holidays were approaching, at which time prices are high on the New York market, and every condition seemed bright for gathering in a revenue that would be of advantage in carrying on until the summer fishing.

Everything looked bright and prosperous, until the weather man decided on a cold snap in which the lake was completely frozen over again, with the result that tugs could not get out for eight days, meaning an enormous loss in fish, and also nets, for it has been found that nets were badly injured in some cases, and totally lost in others. Indeed the vicissitudes of the fishing industry are many and unforeseen.

Such things are common with the fishermen, but are little understood by the public at large, many of whom think that all the fishermen have to do is put nets in the water, and go and get the fish out of them. Such vicissitudes apply to that other large body of workers of the farm that struggle against great odds to supply the nation with food. The two should cooperate, and bring to the attention of the consumer, that a fair living price must always be paid for their product. After all is said and done the fact remains that those that supply food stuffs are the backbone of the country and without them no industry or anything else can exist. So wake up Canadians and see to it that first of all farmers and fishermen get such prices as will enable them to provide comfortable homes and educate their children, and see to it that the middle man, and every other nonproducer is cut out, then every working man can have the necessities of life at a price that will also enable him to be in a comfortable home and position.

At the time of writing it looks as if the storm and frost kings have decided on better weather conditions, and we hope for regular fishing weather, regular trips to fishing grounds, and good stock.

The fishing fleet of the port has been increased by the purchase by Capt. Dunean MacDonald, of the Port Stanley Tug "Dimme John" a fine new tug, and we wish him success in his undertaking. And by the way, doesn't the name of the tug awaken fond memories? It was noticed that many an old sea dog smacked his lips as the name awakened memories of bygone days, good old days, too, when the toilers of the sea were permitted to "wet their whistle" after their arduous duties were completed.

The opening of the fishing season finds the usual contentions and applications to the department, for one thing and another, kinds of gear, size of mesh, 10-mile limits, etc, and apparently the department is willing to be equitable in these many requests, but at the same time there is an inclination to be very judicious in actions or decisions because first of all conversation must be considered, because it is the keynote of the success of the industry, in the present and future.

Governments should see to it that assistance is given to the tillers of the soil, and the toilers of the sea, that they may be on a safe and sound basis, and given this, we as a nation have little to fear or little doubt of prosperity.

The Fisherman's Race

A strong movement is on foot among those interested in the international fishing race to have the Canadian preliminaries held off Lunenburg. Among the skippers there is dissatisfaction with the course off Halifax because one side is under the lee of the land. Off Lunenburg, it appears, is a clear open course, unobstructed by land protection and a route that may be observed throughout its entire length from a shore prominence. There would seem to be considerable logic in the point raised by the skippers if the facts are correct, and, furthermore, as Lunenburg is the home of the salter, there is reasonable ground for the agitation to hold the preliminary races this fall off that port.

Speculation is rife in the east as to the contenders in the international event this fall. It is generally felt that the Bluenose will find a conqueror in some one of the new schooners launched this spring and a good deal is anticipated from the one being put down at Chester Basin for Captain Heisler and from that being built for Captain Albert Himmelman at Mahone Bay. Stockholders and skippers are reticent, however. As a matter of fact it is hard to tell a vessel's racing qualities until it has been tried out.

Gloucester interests are putting money into a new vessel — the Columbia, on the stocks at Gloucester (Mass.). She is being designed as a salt fishermen and follows very closely the lines of the orthodox Lunenburg. There are many who will favor the Columbia as the American contender because she is in the same line of fishing. Frequent criticism was offered in the past that it was hardly a fair shake to put our Canadian salter-freighters in competition with finer-lined fresh fishermen.

Rules May Be Modified

There are also rumors that the rules for the races will be greatly modified before the international event this fall. Among the bankers there is a feeling that the regulations are putting the event in the yacht-race class. They prefer a rough-and-tumble — in fact a race which resembles as nearly as possible a race which two vessels would have from the fishing grounds to port. Above all, a fisherman hates frills, frills in clothing, frills in habits and red-tape frills in racing.

It is possible that the regulations were unduly modified last year by the inexcusable effort to introduce the Mayflower, whose owners have since tacitly admitted that she was not a legitimate contestant by cutting her down. It should certainly be made impossible for any vessel of her type to get into the final event, but it should be possible to so frame the rules as to bar illegitimate fishermen and at the same time guarantee an honest-to-goodness fishermen's race. It is to be hoped that the agitators who are seeking modified rules will have their way providing they find means to guarantee a bona fide race among honest fishermen.

It is possible that the movement to have Newfoundland compete will fructify this fall. There seems no reason why the final race should not be a three cornered one. Furthermore, the Newfoundland type of fishing vessel more closely resembles the Canadian than does the American. The Canadian and Newfoundland follow precisely the same line of work.

Concerning the Pacific Coast

Interesting data on Siberian salmon industry--Cannery consolidation suggested

By B.C. paper--Interesting notes of the coast

In the Siberian salmon fisheries over 13,000 Japanese fishermen are engaged. Their annual catch is valued at \$20,000,000.

The chief salmon rivers are the Amur (largest), and Tumnin, (Japan Sea), Kamchatka and Anadir (Behring Sea) Okhota and Bolshaya (Okhotsk Sea). Anadir and Kamchatka freeze over for eight months. Amur is blocked with ice six months.

The coast line is about 11,000 miles long, and is exposed to winds; only a few inlets afford shelter. The cost of labour is said to be high as is also equipment and transport.

All varieties of salmon occur. Humpbacks from the greatest proportion of the whole. Japanese predominate. Fish lots or licenses in 1919 were in the proportion of 251 to Japanese and 83 to Russians.

In 1913, 16 canneries in Kamchatka produced 120,000 cases. In 1919, British and American interests became interested in some of the canneries, when 750,000 cases were packed. There were about 40 canneries operated in all. A number of the smaller ones have been absorbed by the larger companies.

Fishing is mostly by traps, or set nets as they call them, on the outside shore. In river fishing, haul or drag seines are used. The smaller concerns or individual fishermen use gill-nets, spears and hook and lines.

Salmon are salted in two ways for the Russian market: (1) The fish is split down the back like a mackerel for salting, and salted in a tank. Afterwards it is packed in tight barrels. (2) The fish is split down the ventral part sufficiently to permit the viscera to be removed and salt to be inserted. These fish are semi-fresh and are kept in ice houses. Salmon roe is made into caviar for which there is a good market in Russia. The Japanese dry salt dog salmon in the same way as in Canada.

In 1888 a hatchery was established on the Chitose river in Hakkaido, and in 1919 turned out 50,000,000 eggs. Hatcheries have been placed in other sections of Northern Japan, but the fishery is said to be going down notwithstanding.

Salmon Canneries Consolidation

The Vancouver Sun of March 31 carried the following editorial under the caption: "B.C. Canneries Should Consolidate."

Every day it becomes clearer that Siberian salmon has played havoc with the B. C. salmon canning industry. Regardless of any action the Dominion Government takes with respect to issuing licenses, nothing can change the economic facts of the industry. These facts are.

First: The Siberian red salmon is equally as good as any B. C. Sockeye.

Second: Because they were always subject to Russian politics, no large salmon canning business ever got properly started in Siberian waters. Japanese interests have now successfully established and

stabilized the industry, and as the territory is practically new, it can be successfully exploited for the next twenty years.

Third: The potential fishing area is capable of a much larger production than British Columbia ever had, and the present cost of production can be conservatively figured from 25 per cent. to 40 per cent. less than in B. C.

One thing is certain: Siberian salmon is now going to be caught, is going to be packed, and is going to be dumped into world markets in competition with B. C. salmon.

What is B. C. going to do about it?

At present there are in this province ten companies ten canneries, ten overheads and ten licenses for every one which can economically operate and exist in competition with Siberia.

The public of British Columbia, just as much as the companies themselves, are vitally interested in the salmon industry and want to see it survive. The only hope of this seems to be in forming one consolidation of the entire industry, which would effect economies and meet a situation that otherwise threatens to seriously injure British Columbia.

Japanese Immigration

Canada is negotiating with Japan for a modification of the immigration treaty between the two countries under which not more than 400 Japanese laborers are allowed to emigrate to Canada each year, Premier MacKenzie King stated in the House of Commons recently. Mr. King said the treaty provided that if an unreasonable number of Japanese entered Canada, steps could be taken to prevent them, but a careful check showed that less than 400 yearly had entered during the last ten years. W. G. McQuarie, member for New Westminster, said the Japanese government might keep faith but individual Japanese did not. More were entering Canada illegally than legally.

Routing Fish via Prince Rupert

Word has been received at Prince Rupert that the motorship Bellingham is to ply between that city and Ketchikan. She is equipped for carrying both fresh and frozen fish, has a 200 horse power deisel engine and can make the run in nine hours between Ketchikan and Rupert.

It is planned to ship some of the halibut through this port in bond after icing it in Ketchikan. It is thought it can go by way of Prince Rupert much more quickly than by Seattle or other Pacific ports and with less injury to the fish and without re-icing.

Municipal Wharf Deferred

Plans for the establishment of a municipal fish wharf at the foot of Gore avenue, Vancouver, were definitely laid over for another year by the city council on March

26, when the present leases were granted a renewal for 12 months. The special civic committee which is conferring with the harbor board will continue to act, it was agreed, with a view to formulating plans for next year.

Book on Fishing Venture

Says the Daily News of Prince Rupert:

"Halibut fishermen and other persons in that business are interested in a small book from the pen of one Bjarne Stang entitled "The Norman Invasion of the Pacific Ocean." The book depicts in vein of humor and ridicule the rather tempestuous and troublous career of a fish company which was established here some years ago and which collapsed last year. The author claims to have been one of those who was "stung" in the venture. The book is published in Seattle and a few copies have reached here. Local persons and events are to be indentified in it."

Herring First time in Decade

For the first time in about ten years a haul of herring was made in Prince Rupert Harbor, the Fredelia taking about sixty tons for the Canadian Fish & Cold Storage Co. on March 24. The herring were taken in the neighborhood of the Salt Lakes.

In the early days herring ran into the harbor in very large numbers. It was one of the favorite spawning grounds of the immense shoals. The advent of shipping diverted them to other waters.

During the latter part of the same week there was a run of herring at Metlakatla Passage inside the harbor. Boats of the Canadian Fish & Cold Storage Co., Bradbury & Yelf and the N. M. & R. Fish Co. were out and all obtained catches for their bait reserves.

The big Seattle halibut schooner Alaska, Capt. Carl Angell, arrived in port on March 23, from the Kodiak fishing banks minus her main mast. The vessel had been using sail auxiliary to her engine power and had too much spread in a strong wind with the result that the mast broke off and went overboard with the sail.

Fishermen's Luck

While fishing conditions out of Prince Rupert have been nothing to crow about, occasionally the fishermen have some good breaks and make money. Instance the case of the American halibuter Vansee which the latter part of March landed 40,000 pounds of halibut, which sold for \$6,100. She paid the owners \$1,220 and the crew of thirteen got each \$235 for six weeks work. The Pair of Jaeks, Canadian, skippered by Capt. Ivarson, about the same time shared \$140.

Italy as Dried Cod Market

Italy is not so good a market for dried fish as Spain, as measured by the quantity imported, but it is a very important one, and comes next to the Iberian nation. It receives its supplies chiefly from Norway, Newfoundland, Canada, Iceland, France, and the United Kingdom. It is a large importer of stockfish — wind-dried unsalted fish — of which Norway has almost a monopoly of the trade. In recent years large imports of salted but not fully dried fish have been made. The following shows the imports in metric tons (1,000 kilogrammes) in 1913, 1920, and for the first six months of 1921, with the values in lire:—

From	(Jan-June)			
	1913	1920	1921	1921
	Tons.	Lire.	Tons.	Tons.
Belgium	31	26,928	....	....
Denmark	3,953	3,478,640	5,243	4,514
France	4,413	3,883,352	2,289	1,119
Germany	34	30,096	....	....
United Kingdom . .	3,531	3,107,544	1,618	2,322
Norway	16,148	14,210,592	11,261	10,895
Spain	25	21,912	....	....
Canada	12,153	10,695,080	9,507	5,422
United States	915	804,936	165	25
Other countries . .	....	.....	260	5
Total	41,203	36,259,080	30,343	24,303

The total value of the imports in 1920 was 121,371,200 lire, and for the six months in 1921, 133,665,400 lire. The decline in the value of the lire must be borne in mind.

Denmark means Iceland, perhaps to a small extent the Faroes; "Canada" means chiefly Newfoundland, which in 1920 sent 132,966 quintals, or 6,754 metric tons, or 71 per cent. of the total from "Canada." The

total export from Canada to Italy in the fiscal year ended March 31, 1922, was 81,782 cwts., valued at \$671,214, the quantities being: Dried cod, 71,682 cwts.; dried haddock, 5,874 cwts.; dried pollock (coalfish), hake and torsk, 3,406 cwts., to which may be added pickled cod, 820 cwts. It may be interesting to contrast the imports from the chief countries in 1913 and 1920. The percentages are shown as follows:—

	1913	1920
Norway	39.2	37.1
France	10.7	7.5
"Canada"	29.5	31.3
"Denmark"	9.6	17.2
United Kingdom	8.6	5.3

According to The Board of Trade Journal for February 1, an Italian decree of January 1, which lays down regulations regarding imports of foodstuffs, says "preserved fish in tins or other suitable receptacles (in oil, marinated, salted, &c.) may be imported after favourable veterinary inspection. The receptacles must bear in clear and indelible characters an indication of the contents and the name of the producing firm. Fish, whether dried, salted, smoked or preserved in any other way, is also subject to veterinary inspection."

TABLE ETIQUETTE

The Teacher — And what do we do with the whale?
Bobby — Eat it.

The Teacher (sarcenstically) — Oh, do we! And what do we do with the bones?

Bobby — Put 'em on the edge of the plate. — London Opinion.

Millions of Eyed Eggs In Hatcheries

The Department of Marine and Fisheries announces that the following quantities of eggs are undergoing incubation in the Dominion Government hatcheries. These eggs are now well developed and under normal conditions they will practically all hatch. They are in what is termed the "eyed" stage, when the eyes of the fish are visible in the egg.

Nova Scotia — Atlantic Salmon	9,986,450
Speckled Trout	647,060
New Brunswick — Atlantic Salmon	15,561,390
Speckled Trout	549,050
Prince Edward Island. — Atlantic Salmon	1,055,609
Speckled Trout	246,591
Ontario — Whitefish	333,797,225
Salmon Trout	30,084,600
Cisco	1,853,000
Spring Salmon	184,520
Manitoba & Sask. — Whitefish	175,016,250
British Columbia — Sockeye Salmon	76,616,627
Spring Salmon	2,093,000
Coho Salmon	1,717,680
Chum Salmon	2,897,067
Steelhead Salmon	5,854
Speckled Trout	867
Cutthroat Trout	10,000
Whitefish	11,730,000
	<hr/>
	664,053,840

An Interesting Experiment

Some interesting and instructive experiments were recently made by the Superintendent of the Lakelse Lake hatchery, British Columbia, with regard to the depths to which young sockeye may be submerged without injurious results.

The experiments were made in water at a temperature of 32°F. The fish were placed in lacquered cans perforated to subject them to full water pressure, and at the end of the longest period they appeared as lively as they were when they were first submerged and in a perfectly normal and healthy condition. They were lowered and raised in the water as quickly as possible so that any ill effects from their submersion would be apparent.

The tests did not go beyond 46 feet, as such was the greatest depth located in the lake up to that time. The eggs during incubation, and the young fry up to the time that their food sac is absorbed, are carried in the hatchery troughs in five inches of running water. The results of this test answers the suggestion that is sometimes heard that the shallow water in the troughs unfits the young fish for life in the deeper water of streams and lakes.

How Salmon Are Traced

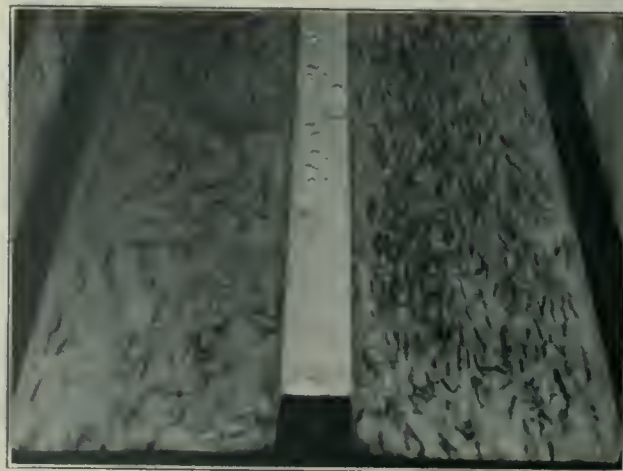
A certain percentage of the output of the Dominion Government hatcheries is marked each year for the purpose of gaining some definite information with regard to the life history of the fish and the number that come to maturity. This marking is principally confined to the anadromous species, such as the Atlantic salmon of the Eastern Provinces and the sockeye of the Pacific.

Every year a proportion of the parent salmon, from which the eggs are obtained for the hatcheries in the Maritime Provinces, is marked after they are stripped of their eggs and milt, and before they are liberated, by attaching a numbered silver tag to the dorsal fin. Salmon kelt are also marked when they are on their way to sea in the spring of the year after they had deposited their eggs on the natural spawning grounds.

Sockeye and Atlantic salmon fingerings that have been retained and fed in enclosures for several months are also marked each year by the removal of their adipose fin. A reward of \$1.00 is paid for the return of silver tags that are being attached to Atlantic salmon with some scales from the side of the fish and particulars regarding their length, weight, date and place of recapture. A great deal of information regarding the life history of salmon and other fish has been gathered in this way in this and other countries.

Miramichi Salmon to B. C.

Millions of salmon eggs being sent from the Miramichi hatchery at Newcastle, N.B., to the Dominion fish hatchery at Terrace, Vancouver, passed through Ottawa recently. This is the first experimental attempt to introduce the superior quality of Miramichi salmon into British Columbia.



Interesting picture of trough of free swimming fry at Harrison Lake Hatchery, B. C.

\$10,000,000 COMPANY FOR NEWFOUNDLAND

A British company is negotiating for the purchase of the big fish plant at Bay Bulls, Newfoundland, with a view to starting the shredded and boneless fish industry. The company has a capital of two million pounds and will also engage in the export of dried codfish to the European markets as well as the export of fresh fish to Great Britain and the United States.

A St. John's fish exporter will be the local manager and if present negotiations are successful the work will start in June next.

Besides codfish they will handle salmon and herring and prepare the same in various cures for the foreign markets.

Says Refrigeration Made Prince Rupert

(By "Frigor" in Fish Trades Gazette, London, Eng.)

Last week I gave an account of experiments at the Lorient plant, in France, on the freezing of fish in brine. One of the functions, indeed the principal function of the plant was to store for distribution the cargoes of frozen fish from the great refrigerating work erected at St. Pierre by the French Government, so that the codfish from the French fishery at the Grand Banks of Newfoundland might be frozen and sent home in that condition instead, as they have been treated for long years, split and salted. Nothing appears to have been done to carry out this system.

On the other hand a few weeks ago one of the vessels from Newfoundland arrived at Lorient with 5,000 quintals of salted cod and other vessels will be employed in the same business. In short it is intended to make Lorient a centre for the salting voyages to Newfoundland.

Frozen Fish Business

It is possible, though unlikely, that this connection may be turned into a frozen fish business in course of time. It is a noteworthy circumstance that though many and varied attempts have been made since the war to establish in Europe a frozen fish trade, they have almost all come to naught. It is a partial commentary on the recommendations of Professor Stiles and Mr. Peterson of the "Rapid Freezing System" as to the advantages of freezing fish.

The Ottesen companies, from which so much was expected have failed to realize expectations, not only in Denmark but in other European countries. In France, also, the very expensive and extensive arrangements made in the same direction have led to nothing.

It must, however, be admitted that the conditions since the war have been against any such developments. It is difficult to dispose of the fish landed, mostly in too large amounts for the requirements of the markets, and the fish-freezing business will hardly have a proper chance to show its value until conditions in this respect improve.

Of the Greatest Value

There is one place, however, where the refrigeration of fish has been of the greatest value in promoting the fisheries, and that is at Prince Rupert in British Columbia. Last year the Canadian port handled 25,000,000 pounds of halibut, 24,500,000 pounds of salmon, and 3,500,000 of herring, about two-thirds of the halibut being landed by the United States vessels.

Linking East with West

The provision of refrigerator cars by the Grand Trunk Pacific has enabled Prince Rupert to ship enormous quantities of halibut to eastern Canada and the eastern parts of the United States, while the port has cold storage accommodations for some 10,000,000 pounds of fish.

Sir Thomas Robinson of Grimsby, recently paid a visit to Prince Rupert and Seattle, and was impressed by the facilities offered by the refrigerating plants and railway cars. Large quantities of Canadian fish, more-over halibut and salmon are brought to this country in refrigerated steamers, and arrive in excellent condition.

The Canadian Fish and Cold Storage Company at Prince Rupert recently completed a plant to produce over 100 tons of ice daily. This company, it may be said, in the eight years of its existence has shipped over the Grand Trunk Pacific Railway 160,000,000 pounds of fresh fish, which, packed in railway cars placed end to end, would reach halfway from the Pacific to the Atlantic.

The company has also manufactured and sold 125,000 tons of ice, an average of 17,000 tons a year, and it pays its employees approximately \$200,000 a year, in addition to what it pays the fishermen for their catches.

A POEM FROM OUR ACCOUNTING DEPARTMENT

It was midnight on the ocean,
Not a street car was in sight;
The sun was shining brightly;
And it rained all day that night.

'Twas a summer day in winter,
The snowflakes fell like glass;
A barefoot boy with shoes on
Stood sitting on the grass.

'Twas evening and the rising sun
Was setting in the west,
And the little fishes in the trees
Were huddling in their nest.

The rain was pouring down,
The moon was shining bright
And everything that you could see
Was hidden out of sight.

While the organ peeled potatoes,
Lard was rendered by the choir,
As the sexton rang the dish-rag
Some one set the church on fire.

"Holy Smoke!" the preacher shouted;
In the rain he lost his hair.
Now his head resembles heaven,
For there is no parting there.

NOT A RECENT ARRIVAL

W. J. Vhay of Detroit sends us the following which, he says, he clipped from a Milwaukee paper. Perhaps his natural modesty forbids him to claim authorship:

Whilst the proprietor of a fish stand was busy waiting on a crowd of customers, a colored gentleman of none too prosperous appearance picked up a fish and was apparently smelling it. The dealer was much fussed seeing him do this before his patrons, called him to one corner and told him he did not allow anyone to smell the fish.

"Ah ain't smellin' that fish, boss," replied the colored fellow. "Ah's jus' talkin' to it. Ah says to the fish: 'how's things down in the sea?', and he says he ain't seen no sea fo' two months."

TALE OF THE FISHING BOUNTY

Editor of the Canadian Fisherman!

Your comment on the Canadian fishing bounty and its present bestowal moves me to rehearse the circumstances under which that outlay originated, to point out the source whence it is derived and to confirm the claim of the Maritime fishermen to all they are getting in that dole, and to more besides. Some people think it is a gratuity. It is in reality the scrimped instalment of an outstanding debt, the principal of which will be called in shortly.

In 1872 Canada leased her Atlantic fishing grounds to the New England fleet, and let those vessels use the provincial ports on an equality with the domestic boats. This compact was made for twelve years with the proviso that, during its life, a joint commission should assess the damage to Canadian fishing interests by admitting aliens to the same privileges as the natives should enjoy by right. The commission, under British auspices, met in Halifax in the summer of 1877, and the indemnity was awarded in the sum of \$5,500,000; but Newfoundland came in somehow for \$1,000,000.

This award was paid to the Dominion government later in the same year; and large part of it was spent in deepening the Welland Canal and providing navigation aids on the great Lakes. The balance helped to swell the general revenue. It was not supposed that the fishermen were entitled to anything for the spoilage of their inshore fishing grounds to the tune of five millions! No nation, in concluding treaties or conventions with other powers ever troubles itself very much as to how such things tally with the welfare of the working men. The same statesman who inaugurated the national policy when the infant industries in the same decade began to clamor for the nursing tube, let in the rivals to the provincial preserves, and used the rental to enrich some regions remote from the seaboard. But of course that policy was not criminal, but patriotic!

So it went on for four years, 1877 to an early date in 1882, when a general election was on the boards. Then Capt. John Lovitt, Yarmouth, (afterwards senator), and Mr. J. G. Eisenhauer, Lunenburg, two live members of the commons, put in and carried a demand for some recognition of the seaboard settlements, and thus the interest on the award was appropriated yearly under the fishing bounty act. Roughly it was about \$160,000 which has been paid yearly ever since. But the state had the use of all the money handed over for the period of four years, for the act was passed in 1882. Lunenburg and Yarmouth owned each a banking fleet, which explains why the owners of vessels and the crews thereof get a larger share of the bounty than the boat fishermen.

Now by the fundamental rules of justice and equity, the provincials have a proprietary right in that disbursement, and more's the pity that they receive such a pittance in return for the very impairment of their livelihood! The interim interest would be at least \$640,000, and their claim to that amount is just as valid. Two years ago I brought forward that claim in a public manner. The legislatures of Nova Scotia and Prince Edward Island took some notice after a while. Each passed a resolution of similar import recognizing the claim as entirely valid and contemplating its reference to the central government. It now rests in abeyance for some reason hard to conjecture; but it will be revived and re-inforced next session. The original notice which

I served did not concern itself with the distribution of that just indemnity, but left it for an after consideration... What happens, the bounty must not be diverted to any other purpose or place, least of all to that famous award was made.

M. H. NICKERSON

P. E. I. FISHERIES PRODUCTION

The fisheries production of Prince Edward Island showed an increase of 74 per cent. for 1922 over the previous year, or a total value of \$1,609,683 as against \$924,529. Canned lobster accounted for 70 per cent. of the total, the value of this product for 1922 amounting to \$1,267,231. The average price of canned lobsters increased from \$20 a case in 1921 to \$30 in 1922. The figures are those of the Dominion Bureau of Statistics.

BROUGHT WRECKED CREW HOME

The United States ice patrol cutter Tampa arrived in port April 5, with the rescued crew of the Newfoundland schooner Rita M. Cluett. The six were taken off their sinking vessel, when the Cluett was 480 miles south of Cape Race, 63 days out from Oporto with salt for Belleoram, Newfoundland, by the United States passenger line steamship President Fillmore. They were transferred to the Tampa.

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CENTRAL WHARF,
Halifax, N. S.

THE CANADIAN FISHERMAN

Official Organ of the Canadian Fisheries Association
A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada
and Technical Education of those engaged in the Industry.

VOL. X

GARDENVALE, P. Q., MAY, 1923

No. 5

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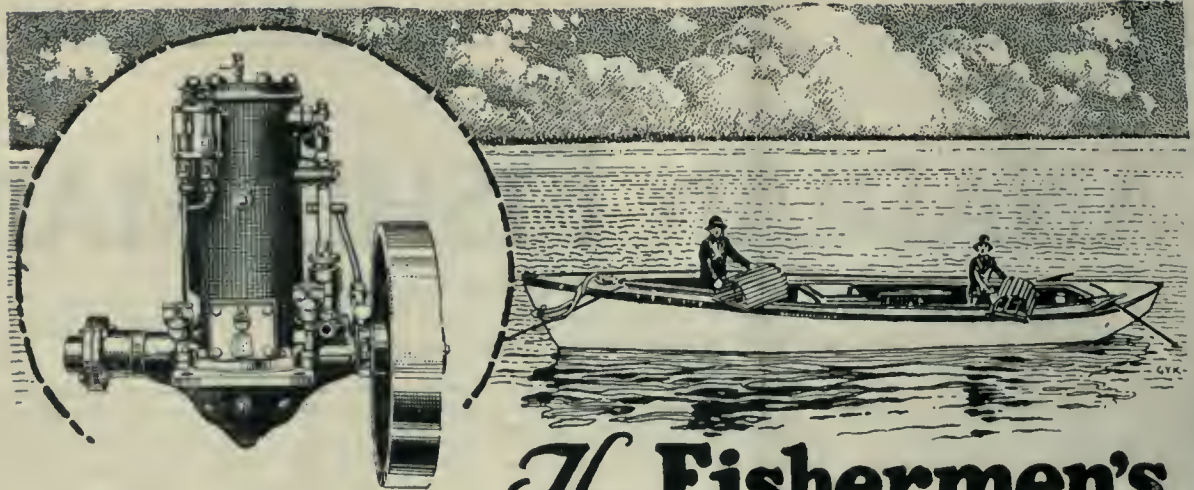
SUBSCRIPTION

Canada, Newfoundland and Great Britain \$2.00
United States and Elsewhere \$3.00
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Published on the 17th of each month. Changes of advertisements must be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication, these will be paid for at our regular rate.

The Industrial & Educational Publishing Co. Limited

J. J. Harpell, President and Managing Director
GARDEN CITY PRESS, Gardenvale, Que.
Telegrams and Express Ste. Anne de Bellevue, Que.
Eastern Manager, A. S. Christie, Gardenvale, Que.
Western Manager, H. W. Thompson, Aladdin Building,
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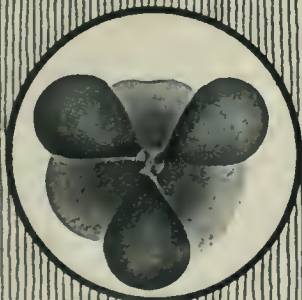
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: - : EDITORIAL : - :

Official Organ of Canadian Fisheries Association

Annual Meeting
Canadian Fisheries Association
June 11 and 12
You Should Be There

GOVERNMENT ACCEPTS MODUS VIVENDI POLICY

The Canadian Fisheries Association should appreciate the prompt response to its efforts to have special privileges to American fishing vessels in our Atlantic reports discontinued. From noncommittal information from Ottawa and from statements made by members who attended a recent conference at the capital, it would appear that the government has decided to revoke the modus vivendi on July 1, providing nothing arises in the meantime to suggest advisability of deferring action.

The policy we assume the Government has taken is sound in principle and is in conformity with the wishes of the industry itself. The Canadian Fisheries Association before definitely advocating such a course thoroughly investigated the situation. A matter of months transpired from the time the issue was first presented until a definite decision was reached. The numerous angles of the question were weighed and, however strongly one might have been predisposed, there was positively nothing to justify an alternate course.

Members of the house of commons from the maritime provinces and officials of the fisheries department are to be complimented on their prompt action. The official report of the conference would indicate that the whole issue was thoroughly probed and that the opinions of those who have capital in the industry were respected.

From the conference and succeeding events, discussed elsewhere in this issue, two extremely important principles would seem to be established:

1.—The United States must no longer enjoy special privileges in our Atlantic fishing ports while it continues to deprive our fishermen of reciprocal advantages.

2.—The issue as regards the rights of American fishing vessels in our ports on the Atlantic coast is absolutely distinct from the issue on the Pacific coast and must be dealt with separately.

Under the circumstances through which our fishermen were ejected from the American market it is questionable that notice of a month and half was deserved before revoking licenses to American vessels. We have no desire whatever to be spiteful. We simply insist upon protecting our rights. If it is sound policy to protect them the first of July it is equally sound to do so the middle of May. No courtesy in the nature of long-term notice accompanied the application of the Fordney-McCumber tariff or subsequent tariff rulings.

AN UNNECESSARY CONTROVERSY

It was rather a shock to us and, judging by newspaper comment throughout the country, to the general public as well, that a British Columbia firm desiring to ship fish to Halifax via the Panama Canal and New York, should be advised in this manner:

Ottawa, Ont., April 16, 1923.

Gosse-Millerd, Limited,
Vancouver, B. C.

Under present regulations and conditions canned salmon shipped from British Columbia to Halifax via Panama Canal and New York would not be admitted to Halifax without payment of duty.

JACQUES BUREAU,
Minister of Customs.

Subsequent comment on the subject revealed that the principle is not one that has been recently adopted. It has, according to statements made on the floor of the House of Commons, been established by long-standing regulation but heretofore occasion never developed to apply it. The insinuation was made in the press of British Columbia that the special regulation was unearthed from its mold and dust at the instigation of the government railways management and invoked for the purpose of checking loss of traffic by the development of a water route between our two coasts. Attempts made by politicians at Ottawa to justify the ruling, despite its obvious discordance with the spirit of confederation, the British North America Act having declared for free and untrammelled trade intercourse between the provinces, would seem to lend color to the intimation that some motive was being served other than the enforcement of customs regulations.

If that is not the case and the interpretation of the regulation in question was a purely departmental matter, a woeful lack of tact has been shown. The province beyond the Rockies and the isolated maritimes had previously felt they were not sharing adequately in the fruits of partnership. This recent action is adding insult to injury. If a definite move were being made to alienate the extreme east and the extreme west, no more effective step could have been taken. A camel may struggle under an increasing load, piled straw upon straw, but there is one straw that is going to break down his patience.

On April 30, it was reported from Ottawa that Premier King had announced that the government is working out a scheme whereby relief from payment of duty on goods shipped from one Canadian port to another will be afforded. This scheme, it is said, will apply only to goods leaving Canadian seaports and not to merchandise sent through American territory by rail and trans-shipped at New York, even though the goods are of Canadian production and destined for Canadian markets. Hon. Jacques Bureau is drawing up new regulations. Simultaneously with this information news was sent out that a company importing steel rods from Sydney, N.S. to Vancouver was notified that a refund of duty would be made amounting to \$3,500.

The necessity for correcting the situation, which is obvious, should have appealed to the authorities and the required action taken before the foolish controversy was started. It is ridiculous that any department should be bound by ancient and out-of-date regulations. One must use common sense and means should exist to amend such matters without an infinity of red tape or the creating of bad blood. It is equally ridiculous that trade movements from coast to coast should be wilfully restricted to rail for the sole purpose of giving patronage to our nationally owned system. Our coast provinces already feel that they are contributing more than their share to the support of this voracious money-eating mastodon.

ANNUAL MEETING; JOIN US

The annual meeting of the Canadian Fisheries Association is to be held in Montreal on June 11 and 12 and notices to that effect have been sent to members. Because of conditions in the industry and the consequent inability of members to leave their business for any great length of time, it has been decided to dispense with a convention this year and merely hold a meeting for the election of officers and the transaction of business. This does not mean, however, that there will be no attention paid to entertainment. All work and no play is not a popular slogan in the fishing industry. Everything, however, will be of a strictly informal nature.

It is hoped that as many as can possibly attend will make the effort to get to Montreal June 11 and 12. Through the recent depression it has not been an easy matter to impress people with the importance of keeping actively interested in the work of the association. That is not at all surprising. There is an indication of more prosperous times ahead and we must be strongly organized to take full advantage of prosperity when it comes. There are many things we can do to promote better conditions in the industry and any one who fails to do his share and contribute his mite is, in the long run, checking progress. We need lots of assistance, both in means and advice, and we do not think that anyone who has the interest and welfare of our industry at heart will stint in either.

You are urged to come to Montréal, primarily, to discuss important questions and frame policies which may be far-reaching. After that, our Montreal friends guarantee adequate relaxation. Don't convince yourself that you can't leave your job. The old scythe-wielder may carry you off at any time, and then you may have to wait a few years to enjoy our company elsewhere. Besides, this meeting is part of your job. The returns are not immediate, but they are there just the same.

THE BUDGET AND THE INDUSTRY

One very agreeable surprise in the recent budget is the provision that the "preferential tariff is reduced by a discount of ten percent on the amount of duty computed under such tariff when such goods are conveyed without trans-shipment into a sea or river port of Canada." Exceptions to this general policy are importations of wines, malt liquors, spirits, spirituous liquors, liquid medicine and articles containing alcohol, sugar, tobacco, cigars and cigarettes; goods on which the rate of duty does not exceed 15 per cent; and goods admitted into Canada under the Canada-West Indies trade agreement.

This policy is bound to react to the advantage of our maritime ports in directing shipments from countries enjoying preferential tariff treatment to Canadian ports instead of to American ports. It will be the cause of no little satisfaction in the east where such a step has been the source of agitation for a long time. The attitude of the people of the east regarding the pronouncement is pretty well epitomized in the remarks made in the House of Commons by Hon. J. B. M. Baxter, conservative, from St. John, which are thus reported in the "Montreal Gazette":

"Mr. Baxter retorted that what had been done this afternoon (referring to the matter in question) was a bigger thing than politics. It was something that the people had been wanting for many years. He was prepared to support it no matter by whom it was introduced. It meant the development of Canadian ports and was one of the biggest things that had been done in years."

Another budget announcement of universal interest is the offer of special tariff treatment to the United States providing the president uses his prerogative to reduce by fifty per cent the duties imposed by the Fordney-McCumber tariff on cattle, wheat flour, oats, barley, potatoes, onions, hay, turnips and fish. Authority is secured to negotiate with the United States a mutually satisfactory commercial arrangement. The move is of extreme interest to the fishing industry on the Atlantic coast just at this time in view of the understanding that the *modus vivendi* license granting American vessels special rights in our ports at a nominal fee, is to be abrogated on July 1 unless conditions as regards the commercial relations between Canada and the United States, alter in a manner to warrant its continuance.

The only item in the tariff amendment of exclusive interest to the fishing industry provides that machinery of a class or kind not made in Canada for the manufacture of fish meal and other articles from fish and the waste thereof is made free."

A VOICE FROM THE DEEP

The practical application of radio telephony to the fishing industry and the conditions under which it would be of economic value, cover a subject which has been under study and investigation for some months by an expert in the employ of this magazine. Definite suggestions on our part have been anticipated by the fisheries authorities at Ottawa. It has been announced that the fishery protection cruisers which follow the American purse seiners in the pursuit of mackerel along our coasts to guard against encroachment on our territorial preserves, will telephone by radio the location and direction of schools for the benefit of shore fishermen. In addition, the information will be wirelessed to the station at Halifax and relayed by telegraph and telephone to stations along the shore as heretofore.

Wireless is no new thing in the fishing industry. Our trawlers keep in constant touch with the office at their base by means of wireless and marketing is greatly facilitated by its use. The introduction of radio telephony is new. As far as we are aware the present instance is the first on this continent, at least, in which the wireless 'phone has been so applied. Its possibilities defy the imagination and the industry as a whole will wait with eager interest the opinion of the fishermen whom it is designed to serve as to its practical utility.

One phase of the question does not conduce to immediate optimism. Although its physical construction positively does not warrant it, the cost of radio equipment is a matter of serious concern to fishermen who have an altogether different conception of the value of a dollar than those who market radio instru-

ments. While the protection cruisers—the Arras and the Arleux—will broadcast mackerel movements to a radius of one hundred miles, has information been acquired to insure that it can be picked up by a sufficient number of fishermen to render it valuable? If each fisherman who is looking for mackerel is obliged to invest in radio equipment in order to compete with his neighbor, the innovation will simply make his overhead heavier. His profit will not be increased because all fishermen will be in relatively the same position. The net result will be an added expense.

That is not an optimistic viewpoint, however. In the first place it is not necessary for every fishermen to be equipped with radio. It is necessary, however, for each community to be served and some practical arrangement should be made for the local dissemination of information. It would seem a wise course to make a survey of the southwest coast to ascertain the number and location of radio receiving sets, and where there is a community left unserved, the fisheries department may be justified in establishing the necessary station or assisting local fishermen in doing so.

There is a vast difference between broadcasting information and having it reach the ears of fishermen. There is a gap to be bridged. However, the move is a most praiseworthy one and there is no reason to doubt that the fisheries department which has visualized the possibilities of radio, will hesitate to make improvements which actual experience prompts.

Practical fishermen are waxing enthusiastic over the innovation. Even the vivid imagination of Jules Verne could not foresee such an event. The actual voice from the deep indicating to fishermen on shore where and when to go for fish! It is suggested that the scouts should now trim the shore a little more closely than usual so that the schools reported to coves and harbors along the route may be within convenient reach of the drifters and seiners. Instructions for tuning in should also be given and an understanding should be reached between the operator on the scout and the fishermen on shore to facilitate intercourse. While from one viewpoint the broadcaster may have performed his duty by telling his story to the air, his effort will be of little value if receiving stations are not tuned in to receive it.

However, these details will be worked out. We are so enthusiastic over the experiment, which follows along the line of our own investigation, that we cannot resist a little detail in comment.

PISCATORIAL PARAGRAPHS

Doubt still persists as to whether the halibut treaty has been fully ratified. Those concerned must be on the alert that any doubt be cleared up before November 15 when its provisions should become effective. The treaty provides for the appointment of a commission within three months of notification. There is no

sign of the commission yet and that fact does not tend to relieve anxiety.

Recently discussing the problem of emigration the "Montreal Star", says:

"The problem which Parliament should take in hand is to make the lot of the direct developers of natural resources more attractive. That is the whole thing in a sentence. **The man who catches the fish must not be so poorly rewarded in comparison with the man who merely sells it, or transports it, or cooks it, or serves it.** The man who grows food must not be denied the winning amenities of life, while they are lavished — often to the verge of boredom — on the man who markets it, or retails it, or exchanges for it some city-made product."

A serious bone of contention between Great Britain and Russia at the present time is the matter of a twelve mile territorial limit which Russia has adopted and which Britain refuses to recognize. Last year a trawler was seized on the Murman coast and bitter feeling was aroused. More recently the trawler Lord Astor fell into soviet hands for fishing within ten miles of the coast. A sharp note was addressed to Moscow on the subject and a gunboat despatched to the district to protect British interests with force.

WHERE THE LOBSTER GOT ITS NAME

Though we are all familiar with the lobster, yet, no doubt, there are few of our readers who know how that crustacean got the name it now goes by among us. The ancient Romans, fond of such dainty dishes as fritters of nightingale brains, often included in their bill of fare the lobster, which they called "locusta marine," that is sea-locust, or grasshopper, from some fancied resemblance of the shellfish to the insect of their fields.

Finally the name got shortened down to one word locusta, just as they called the grasshopper. That is like the fashion of using terms at the present time. Our fishermen sometimes say catfish, and then again only cat, meaning the same thing. Pliny, a Roman naturalist who lived some two thousand years ago, mentions the lobster in one of his books, thus: "Locustae crusta fragile munium tur in eo genere quod caret sanguine." (Lobsters, being of the kind which lack blood, are protected by a brittle shell.) And then he goes on to tell how they renew their shells after the manner of snakes. That student of nature evidently knew the specimens from first hand which is a good example of sea-scientists even now.

When the Romans came to Briton they soon found where the lobsters lurked, and had them served up as food. The natives, who did little or no fishing, according to Julius Caesar, heard the word locusta applied to the crustaceans and it sounded to them like "lokstah". After a while it changed by their usage into "lobstar," still further changed into "lopystre," which is the form we find in old English writers till a comparatively late period. So what now seems to us like a corrupt pronunciation, lobster, is actually nearer the original than the common term.

MARCH POOR FISHING MONTH

Stormy weather and ice conditions on the Atlantic coast prevented fishing operations being carried on to any great extent during the month of March. The landing of fish was chiefly done by steam trawlers. On the Pacific coast the weather was stormy during the first part of the month but fine for the last half with the result that slightly better catches were made.

The total quantity of sea fish landed on both coasts was 126,788 cwts. valued at \$502,715 compared with 116,866 cwts. valued at \$515,869.

The total quantity of cod, haddock, hake and pollock landed was 39,446 cwts. compared with 37,667 cwts. last March.

The lobster fishing season in Western Nova Scotia opened in March, but owing to ice conditions very few lobsters were taken. The total catch for the month was 783 cwts. compared with 7,064 cwts. in the previous March. The prices paid for fresh lobsters this year have so far ruled quite high. Since the opening of the season there have been 5,848 cwts. caught compared with 13,239 cwts. in the same period of the preceding season. Of the quantity taken this year 5,798 cwts. have been shipped fresh, the remainder being canned, making 25 cases. In the same period last season 10,929 cwts. were shipped in shell and 1,154 cases canned.

There were 1,193 barrels of scallops taken compared with 589 barrels in the preceding March.

On the Pacific coast 16,262 cwts. of halibut and 59,909 cwts. of herring were landed, these being the two chief catches made during the month.

One cannery employee was accidentally killed during the month on the Pacific coast.

GALVANIZED WIRE FISH BASKETS

It is many years now since the fishermen of the Atlantic Sea Board were given a personal demonstration of the splendid advancement and advantages of the Daisy Indestructible Galvanized Wire Baskets for handling fish and oysters, over the old style wicker fish basket.

Fishermen are by nature "from Missouri" and have to be shown before they will take very kindly to any new ideas placed before them, but the success of the Daisy Indestructible was assured from its first showing.

As yet comparatively new in Canada, this basket has enjoyed great popularity, and is used in all the great American fishing centres where it has been introduced.

One of the most important things to be considered in a fishing basket is sanitation. The Daisy Indestructible, being constructed of heavily galvanized wire, assures absolute cleanliness at all times. As it is made of metal it will not absorb moisture, and thereby lessens any difficulty in handling. Its being made of metal also gives it added strength and durability. As will be seen by the shape, the Daisy Indestructible Basket is constructed for easy handling, and as it is of a smooth finish there is no fear of injury to the hands or clothing by rough or protruding ends of wire.

A movement is being made to have these baskets introduced generally in Canada, and there is no doubt that if they are, they will be as popular and universally used by Canadian fishermen as they are by their American cousins.

Abrogation of the Modus Vivendi

*Special privileges to American fishing vessels on
Atlantic Coast likely to be rescinded July 1*

It has been officially announced in a typewritten statement from the fisheries branch, department of marine and fisheries, Ottawa, that a conference was held recently between the minister, officials of the departments and members of the House of Commons representing constituencies in the maritime provinces, respecting the propriety of continuing to extend to American fishing vessels on the Atlantic coast the right to make use of our ports for any other purpose than is stipulated in the Treaty of 1818. In concluding, the statement says that the minister has the whole matter under review and "at the present time is being strongly urged to refuse to issue modus vivendi licenses after July 1 next and to cancel as from that date all outstanding licenses."

This is an intimation that cancellation of the modus vivendi will be the policy of the Government after July 1. Statements issued by members who attended the conference would seem to confirm this. For example, P. L. Hatfield, M. P. wired his constituents in Yarmouth, N. S. on April 30, two days following the conference, as follows:

"The maritime members last Saturday met the minister of marine and fisheries at which meeting it was decided to abrogate the operation of the modus vivendi; that reasonable notice be given of such decision, and the new ruling comes into force not later than July next. It was felt that such action was necessary and would operate to the general advantage of the fishing industry in the maritime provinces."

Official Account of Conference

The statement issued from the fisheries branch, for release on May 14, follows:

The provisions of the so called Fordney-McCumber tariff, now effective in the United States in so far as they relate to the Canadian fishing industry, have of late attracted the attention of those interested in the industry as well as that of the officials of the Marine and Fisheries Department. Quite recently the matter was the subject of a conference between the members representing constituencies in the Maritime Provinces and the Minister of Marine and Fisheries and the officials of the department.

At this conference at which Hon. Mr. Fielding, Hon. Mr. Copp and Hon. E. M. McDonald were also present, the view was very strongly stressed by the several members that the general situation obtaining in regard to the fishing industry was unsatisfactory to the point of almost being alarming and the ministers were urged to take such action as might be considered best calculated to bring about an amelioration of existing conditions.

The chief difficulty arises out of the fact that the great bulk of the Atlantic fisheries products has to find a market in the United States and this process is made both difficult and unprofitable by the heavy duties imposed by the Fordney tariff. Canadian fishing vessels notwithstanding the close proximity of

the principal fishing grounds to Canadian ports are unable to successfully compete with United States fishing vessels engaged in the same areas by reason of the fact that the latter are privileged to use the ports of Nova Scotia as bases from which to operate and their catches may be delivered at United States ports directly from the fishing grounds or transhipped through a Canadian port without the payment of duty.

The Treaty of 1818

It will be recalled that under the terms of the treaty of 1818 United States fishing vessels are debarred from entering Canadian ports for any purpose other than that of obtaining wood, water, shelter and repairs. With a view to facilitating the operations of United States fishing vessels and as a manifestation of the friendliness of the people of Canada toward their neighbours of the South, arrangements were concluded by the Canadian Government as far back as 1888, known in the meantime as the "Modus Vivendi", whereby fishing vessels of the United States, notwithstanding the provisions of the treaty of 1818 are granted the use for all purposes of Canadian ports. This privilege first granted under the arrangement of 1888 has continued in one form or another until the present time and doubtless it is of substantial advantage to United States fishing vessels.

For some time efforts were made to obtain somewhat similar privileges for Canadian fishing vessels in United States ports. It was represented to the United States authorities that it would be advantageous to Canadian vessels to be permitted to enter a United States port direct from the fishing grounds, dispose of their catches and obtain clearance for the fishing ground. It was not until 1918 that an International Commission comprised of representatives of Canada and the United States reached an agreement granting to Canadian fishing vessels reciprocal privileges in the ports of the United States. These privileges were extended by the United States under the provisions of their war legislation and were continued for three years when, as a result of the expiration of war time legislation, they were automatically terminated.

U. S. Action Hit Canada Hard

During the time that the privileges were in existence many of those engaged in the fishing industry in Canada developed a business in the new channels thus opened. The termination of the privileges without notice completely upset the plans and calculations of those engaged in the industry to such an extent that from that and succeeding causes they have not yet recovered their lost position. At that time it was urged by many that Canada, in view of the termination of privileges to Canadian fishermen in United States ports, should adopt a similar policy, not by way of retaliation but as a matter of sound public policy. The Government, however, took the view that the privilege of using Canadian ports having been extended to vessels of the United States for upwards of thirty years, it would be rather a violent departure to terminate

them without excellent reasons being assigned therefor. In deciding to continue the privileges the Government was influenced by the hope that the United States Government would ultimately recognize that Canada was entitled to some compensation for the privileges extended to the United States vessels and further that it would be recognized that the granting of reciprocal privileges during the three years from 1918 to 1921 had not prejudicially affected any United States interest and that as a consequence the necessary action would be taken to restore the privileges. In this, however, Canada has been disappointed. The United States has not only not made provisions for the restoration of the 1918 arrangement but has by the provisions of the Fordney tariff imposed additional duties upon Canadian fish seeking a market in that country.

Minister Strongly Pressed

This action on the part of the United States has brought forth renewed demands from all quarters for the termination of the privileges now enjoyed by United States fishing vessels in Canadian Atlantic ports. The minister of Marine and Fisheries who has the whole matter under review at the present time is being very strongly urged to refuse to issue *Modus Vivendi* licenses after July 1 next and to cancel as from that date all outstanding licenses. The adoption of such a policy, it is submitted by men of practical experience in the fishing industry, will enable Canadian fishermen operating from bases so nearly adjacent to the best fishing grounds, to overcome the difficulty created by the United States tariff and to successfully compete in other foreign markets not now available.

Pacific Coast not Involved

Following the appearance of a report in the press that an Ottawa conference had fixed a policy on the issue, the secretary of the Canadian Fisheries Association wrote to the department at Ottawa to ascertain the veracity of published statements and also find if the principle of keeping the issue on the Pacific coast separate and distinct from that on the Atlantic had been definitely laid down. The letter follows:

May 5, 1923

W. A. Found, Esq
Fisheries Branch
Ottawa

Dear Mr Found:

I understand from press reports that maritime members of the House of Commons had a conference recently with the minister, deputy minister and yourself respecting the *modus vivendi*. The report in question further states that there was an understanding reached that unless a conference is arranged with the United States in the meantime on outstanding fishery issues, the *modus vivendi* will be revoked July 1.

Could you confirm this? The report seemed to have confused the Atlantic coast and the Pacific coast, too. Is it not true that the Atlantic and the Pacific are dealt with by separate orders-in-council and that they must be dealt with as distinct issues by reason of the different conditions?

Sincerely yours
JAS. H. CONLON
Secretary-treasurer

In reply the following letter was received, enclosing the official account of the conference as printed above:

May 9, 1923

Dear Mr. Conlon:

With reference to your letter of the 5th instant I think the attached copy of a note for the press, a copy of which has already been forwarded to you, will fully cover the information you are seeking. I could not say any more than it contains.

As the newspapers stated, such a conference was held, but it considered only the Atlantic situation. You are right in your understanding that the two coasts are dealt with by different orders-in-council and consequently should be considered separately.

Yours truly,

WILLIAM A. FOUND

Assistant deputy minister of fisheries.

The issue was brought to a head by the Canadian Fisheries Association. The matter had been under consideration for many months but before announcing a definite policy for the abrogation of special rights the situation was thoroughly canvassed in the east and facts and figures secured for the guidance of the national executive. The resolution was adopted at the April meeting and copies were forwarded to the prime minister, members of the Cabinet and every member of the House of Commons representing a maritime province constituency. Boards of trade in the east were also requested to endorse the move. Halifax lost no time in giving its support. A Yarmouth meeting, representing south shore interests, concurred in the policy and the Board of Trade at St. John has referred the issue to its members. Of all the members of the Canadian Fisheries Association in the east not one opposed abrogation. On the contrary the effect of the stand taken by the Canadian Fisheries Association was electric.

PROGRESS OF INDUSTRIAL RESEARCH IN CANADA

What Canada has accomplished in the way of scientific and industrial research is thoroughly covered in a 168-page book, just issued by the Canadian Manufacturers Association. The book contains the addresses delivered at the National Research Conference held under the auspices of the Association at Ottawa on February 20-22 and includes statements by the representatives of government departments, universities, colleges, industries and others engaged in research work. As a record and summary of the progress of scientific and industrial research in Canada, the publication will be found of considerable value. It would be worth while securing a copy or borrowing one to compare the extent to which science is applied to the various industries of the country. Agriculture is treated extensively and that is the industry which most closely compares with fishing.

Readers are invited to send in news items concerning the industry and those engaged in it; also their opinions on current issues.

Anecdotes of the Finnan Haddie

*Should credit for discovery go to widow whose inspiration came from necessity?
---Another story of how the delicious food developed*

By CECIL BOYD

There is no doubt that, of all the tasty preparations of sea-food that have been placed upon the markets of the world, there are very few, if any, more popular than the toothsome and wholesome finnan haddie. There are few, if any, that receive a heartier welcome to the dining tables of the average citizen: and the story of how it came into being, as gleaned from the articles of an Aberdeen writer some years back, is a very interesting one, and much more colorful and romantic than that referred to by Mr. Roy Whynaecht, in his splendid article, in the February number of the "Canadian Fisherman", entitled "Biography of a Finnan Haddie," although in both cases the discovery of the cure is credited to accident. In this, of course, the finnan haddie nowise differs from many another boon to humanity.

Mr. Whynaecht in his article says: — "Who should be credited with the invention of the process? Apparently nobody, for it is said to have been purely accidental, and to have originated in the following manner. About five generations ago, in the fishing village of Findon on the East Coast of Scotland, there occurred a fire which, with the ambition common to its kind, paid no respect to a fisherman's storehouse in which were piled a quantity of lightly pickled, split haddocks. After the conflagration the unburned ones were salvaged, and found to be singularly appetizing. The villagers then treated freshly caught haddocks to the pickling and a less costly smoking process, by hanging them in the chimneys over peat fires, and soon a demand grew for "Findon Haddocks", which rapidly spread all over Great Britain."

There is no question whatever but that this delectable food had its origin in the little village of Findon, or as it is locally pronounced, Finnan, which lies a mile or so on the Aberdeen side of Stonehaven, and seventy or eighty years ago flourished as the chief fishing port on the east coast of Scotland. Its very name serves to settle that beyond cavil. But according to the Aberdeen authority before mentioned, there was a woman in the case, and what is more, the woman was a widow. A wintry gale had bereft her of the family breadwinner, as it has many another poor fisherman's wife, and left her with a large number of young children on her hands. At this stage steps in a former but rejected suitor, who must on the evidence be credited with owning a large kind heart, and a heart which still held a soft spot for his sweetheart of former days, for, in spite of the fact that he was now married, and had a family of his own, he was ready and willing to come to her aid and lend her a helping hand in the hour of need, by now and then making her a substantial present of a basket of haddock and codlings. However, the widow found that she could not make use of all she received in this way, while they were still fresh, and being far from waste-

ful in her habits, she split open the overplus, gutted them, and then stretching them flat, hung them up in her chimney to dry and season in the "reek", (or smoke), of the peat fire, leaving them there until required in the menu of her simple fare. Or, quite often, as time went on, she would exchange them with the neighbors for other household articles, more urgently needed at the moment. And so it was by this bartering, that Meggie's (Margaret's) fish acquired an enviable reputation round about, and it was not long before other good wives of the village, spurred on by the fact that the "reekit haddies" were getting in favor with the merchants of Aberdeen and other nearby towns, began to try their hands at the curing of them.

A Few Relevant Anecdotes

Thus robed in a halo of romance came about the discovery of how to prepare the finnan haddie, a discovery that has done so much to benefit the fish trade and to add variety to the appetizing possibilities of sea-food diet. Its early introduction in those first days to a wider patronage has also a few personal stories of some interest connected with it, which may bear re-telling.

First there is the story of the guard on the regular mail coach running in those days between Aberdeen and Edinburgh. The time-table included a stop for breakfast at Findon, and this guard, who was very fond of fish, found a tasty dish for his palate in the "reekit haddies", which were just beginning to find favor in Stonehaven and Aberdeen. Now the guard had a brother living in Edinburgh, and with the idea of treating him, he carried up to the Scottish capital a mess of the Finnan Haddies. The Edinburgh man liked them so well that from that time on he began to watch for the arrival of the said coach in the city with a special interest. It may be added that he had a store in the Grass Market and did quite a large business as a victual dealer.... As a result of letting friends and business acquaintances in on the new delicacy, the good points of the smoked fish began in time to circulate, and create an increasing demand, and soon a regular weekly order was booked, and on delivery found ready sale among a rapidly growing list of consumers.

Then there was a noted Justice, or Lord of Sessions, who is credited with doing a lot to freely advertise the "finnans". He became acquainted with their excellence when on circuit at Aberdeen, where he had them served regularly on his menu, and finding that they were for sale in Edinburgh at the Grass Market, direct from Findon, he became one of the first to introduce them at his breakfasts, which were quite famous affairs. He had them brought on as a specialty, and as his breakfasts were largely attended, both the meals and the "reekit haddies" were much benefited, and gained in renown, by being well re-

membered and well talked of. While definite dates for the beginning and growth of the trade cannot be given, it is known that this new variety of sea-food was not long in becoming firmly established in the popular taste, and after the introduction of steam had made delivery easier, every fishing village between Aberdeen and Stonehaven got busy curing haddies after this process to supply the constantly increasing call. That was some sixty or seventy years ago.

Develops from Fireside Occupation

The fame of them being noised abroad, orders came tumbling in from far and near, and with the harnessing of the iron horse, and the opening up of markets by rail and steamboat, the smoking of the haddies grew into a regularly organized and important branch of the fish trade, gradually being transferred from a fireside occupation to that of a factory one. In the smokehouse built for that purpose the business could be naturally carried on with more system than in the fisher's cottage.

The home-cured article no longer finds a place on the public market, but it is said that anyone breakfasting at any of the marine hotels in Cove, Portlethen, Stonehaven, or any of the coastal towns in that section, may have his request for a home-cured haddock supplied by the host at the extra cost of a few pennies, and according to our Scottish authority, it is well worth the extra, for the fireside product naturally gets more individual attention than is usually possible with the large lots turned out from a big smokehouse to fill rush orders, and is therefore somewhat the sweeter morsel. Even so, however, the product of our present day methods, when properly processed and handled, is something in the line of "cats" that is well worth getting acquainted with, and is a big factor in the industry in Canada today. And when you sit down to your next toothsome repast of "finnan haddies", don't forget to bless the memory of the bonny widow of Findon, and her thoughtful ex-sweetheart of a fisherbody.

New Fisheries Organization in East

Nova Scotia Sea Fisheries Association created to bring together fishing interests along shore of Nova Scotia from Digby to Lunenburg.

The Nova Scotia Sea Fisheries Association was formed at Yarmouth, N. S. May 8, when representative men of the fishing industry from Annapolis Royal on the west and Lunenburg on the south and east met under the auspices of the Board of Trade of Yarmouth.

Almost the first business conducted by the newly formed organization was to pass a resolution calling upon the Dominion Government to rescind the *modus vivendi* granting privileges to American schooners in Canadian ports.

Out of the meeting was developed the Nova Scotia Sea Fisheries Association. It is the result of much activity on the part of members of the Yarmouth Board of Trade, who are interested in the fishing industry of Nova Scotia, and who have been affected materially by the present circumstances which more or less control the industry, such as the Fordney Tariff of the United States, the high freight rates to Canadian centres of population, and the inadequate facilities of shipping fish.

William Duff, M. P., for Lunenburg, was present and aided materially in effecting the organization. He addressed the general meeting which was held prior to the organization meeting and his advice was of the most invaluable assistance in the latter meeting. Mr. Duff referred to confederation, and said that while Nova Scotia perhaps had never had a fair deal in comparison with what other provinces obtained from confederation, it nevertheless behooved the province as a part of Canada and a part of the British Empire to stand by the confederation pact and make a demand for her just rights. Mr. Duff in reference to the *modus vivendi* said that while the cancellation of the privileges granted to Americans to enter Nova Scotia ports might mean some loss to a certain number of merchants along the coast, the matter should not be looked at

from that viewpoint, but from the larger, broader view which its importance justified, and he personally thought best for all concerned to urge the Government to adopt the recommendation of the department and revert to the treaty of 1818. By that the United States will be made to feel the loss of the privilege of using our ports and perhaps will be made to realize that some concession should be offered Canadians in regard to tariff privileges.

W. M. Hodge, manager of the Locheport Cold Storage Company, was appointed chairman of the meeting, and G. H. Langtry, secretary. Besides Mr. Hodge there were Mayor Bill, Locheport; F. C. Whitman, Annapolis Royal; H. B. Short, Digby; A. E. Nickerson, Yarmouth; Herbert Swim, Locheport; Warden Romkey, of West Dublin, Lunenburg County.

Among the resolutions passed was one urging that the Government make an effort to have the United States Government reconsider the fishery duties under the Fordney-McCumber Tariff, either to abolish same or to make very material reductions.

Mr. Short, of Digby, moved a resolution suggesting the establishment of a separate department of fisheries in the federal government, and it was also suggested that the federal government be urged to appoint a representative at Washington, as has already been proposed, and that the appointment be at the earliest possible date.

The meeting was adjourned until May 29 to complete organization.

Impossible

"John, John," whispered Mrs. Congressman Squibbs, "wake up, I'm sure there are robbers in the house."

"Robbers in house?" he muttered sleepily. "Absolutely preposterous! There may be robbers in the Senate, Mary, but not in the House. Absurd!"

C. N. R. to Improve Eastern Freight Service

*Officials promise betterment in fast freight transportation from Halifax and Mulgrave to Montreal—
Reliable service essential to trade*

Complaints of inadequate and unreliable freight service from the Atlantic coast were laid before the April meeting of the national executive of the Canadian Fisheries Association in Montreal. In consequence a deputation was appointed to secure an interview with J. E. Dalrymple, vice-president of the Canadian National Railways in charge of traffic.

Mr. Dalrymple was compelled to leave the city but deputized G. T. Bell, his chief executive officer, to receive the delegation, which met him on the afternoon of April 18, in his office at headquarters, Montreal.

The deputation from the association was composed of W. R. Spooner, chairman transportation committee, A. H. Brittain, D. J. Byrne, H. G. Connor, H. Welham, J. T. Morrison and Jas. H. Conlon, secretary, Mr. Bell had with him A. T. Weldon, traffic manager of the Maritime Division, D. C. Crosbie, chief of transportation, R. Gilmour, superintendent Montreal terminals, G. M. Fraser, travelling car agent, Mr. Leger, clerk in freight traffic department and A. A. Gardiner, chief clerk to Mr. Bell.

Mr. Spooner presented the case on behalf of the delegation, submitting a chart which showed delays in freight movements from the east of from eighteen to more than one hundred hours. The train was scheduled to run from Halifax in sixty-six hours and from Mulgrave in seventy-two hours, these being the two chief points of shipment. It was explained by Mr. Spooner that there are two fish-consuming days in the week, Wednesday and Friday. Cars should be available for unloading for the Wednesday market not later than 8 o'clock Monday morning and cars intended for the Friday market not later than 8 o'clock Wednesday morning. This should not impose any hardship, he pointed out, because it offered a leeway of eighteen hours beyond schedule.

Another complaint made by Mr. Spooner was that there was difficulty, in many instances, in securing reliable information regarding the movements of cars and the probable time of placing cars known to be en route.

The necessity for more accurate service and more definite information as to the movement of cars was quite impressively put. There are only two big fish days in the week. If cars are delayed the market is lost, and it cannot be retrieved. It is gone permanently and at the end of the year, for each market day on which the service failed, there will appear deductions in volume handled and profits. This situation was, obviously, not conducive to trade development and it reflected not at all creditably on the Canadian National Railways.

Heavy Movements By Freight

Mr. Brittain followed and touched upon other phases of the situation. He said that the total catch of fish brought to Canadian Atlantic ports in 1922, according to government figures, amounted to 270,000,000 pounds. About 32,000,000 pounds of that was shipped fresh and an equal amount shipped to interior markets in a mildly cured state. Fish, he said, was a poor man's food, being sold at a comparatively low price, and, by reason of this fact an entirely reliable service was necessary to continue in business, let alone expand trade. He was of the opinion that the chief trouble was west of Chaudiere.

Mr. Byrne differed from previous speakers and said that some trouble was caused at the maritime end of the road. It was important, he emphasized, that when delays were caused by unavoidable conditions that information should be made promptly available in Montreal with respect to the delay and the probable time of arrival of the car or cars.

Mr. Byrne added that while express service remained a necessity for some phases of fish traffic and, in many instances proves to be the forerunner of freight shipments, the business depends upon a reliable freight service for its full development. This is on account of the essentially low prices requiring a low transportation charge.

The information was brought forward that about three-quarters of the movement of fresh and mildly cured fish from the east is by freight. And also that three-quarters of the fish movement from Halifax and Mulgrave took place from October to March and only one-quarter during the period from March to October.

Mr. Weldon produced figures to show that 3,000 tons of fish had moved by express during a recent six months' period and 9,000 tons by freight in a recent nine months' period.

Shortcomings Admitted

The shortcomings of the service were frankly admitted and Mr. Bell declared that the situation must be improved. He has been accustomed to passenger transportation where a matter of minutes is of more serious consequence than in freight movement. Consequently delays would mean more to him. Railways officials contributed to the discussion by locating the cause of the trouble.

Mr. Crombie stated that conditions were understood and that everything practicable would be done to give the service it was recognized was necessary. The reorganization of the fast freight service, he declared, would now permit of a fast freight office at Montreal following the cars through from the shipping point to their arrival at the Montreal terminals whereas previously this fast freight office only followed the cars to St. Rosalie and a hiatus existed between the St. Rosalie yard and the Montreal terminals.

It was further given to understand that when cars arrive in Montreal on schedule time or in time to permit of this, it would be entirely satisfactory to the distributors, if the cars were placed at Bonaventure for unloading at 8 a. m. on the day following that on which they were due to arrive in Montreal. When arrival does not permit of placing by this time, they are to be placed immediately upon their arrival at the Montreal terminals, special switching arrangements to be utilized, if necessary to, to provide for this placing.

Mr. Bell said he thoroughly appreciated the situation and guaranteed that certain persons in the local office would be made responsible for the tracing and placing of fish cars and the names of such responsible parties would be made known in a few days.

Sympathetic Reception Appreciated

Mr. Spooner, on behalf of the delegation, thanked Mr. Bell for the courteous and sympathetic reception

and felt assured that improvements would develop. He took occasion to remark that the potential business from fish traffic was enormous, but development of the trade was, in large measure, dependent upon good distribution service.

Subsequent to the meeting the secretary of the Canadian Fisheries Association was furnished with a list of names of railway employes in Montreal responsible for fish cars on different days and at different periods of the day, which information was transmitted to interested parties. Furthermore, Mr. Dalrymple communicated with the office expressing pleasure at the happy outcome of the conference and promising every assistance in maintaining dependable service.

Since the conference with the C. N. R. officials, the service has been improved.



A Silhouette of J. A. Paulhus
Souvenir of Atlantic City

NEWFOUNDLAND CLEARED OF COD

The Trade Review of St John's, Newfoundland, in its issue of April 28 says:

When the five vessels now loading are despatched to market there will be very little fish left in the St. John's stores. It looks as if all the fish including what is on the West Coast will be cleared out before the end of May. This circumstance happens very rarely and over 100,000 quintals of old fish nearly always remains in the local market when the new fish comes in. It will not be so this year. The small quantity that is now on hand is suitable only for the Brazil and West India markets.

It is true that there is a large quantity of old fish in Italy and Spain in cold storage left over after Lent but the price has since been reduced and the holdings are now going out fast in order to have stocks cleaned out as low as possible when the new fish season comes.

The same condition of affairs applies to Greece. Italy wants more fish just now in spite of the stocks on hand there, but it must be prime quality of which there is now very little to send them.

WHY FISH SHOULD BE KEPT COOL

Dr. E. G. Hood of Macdonald College has just completed a report on the preliminary investigation of the bacteriology of frozen fish that he has been conducting during the past year at the Atlantic Biological Station of the Biological Board and at the Bacteriology Laboratory of Macdonald College. He has confined his attention so far to the haddock, which is of such importance in the fresh fish trade, but the results are quite applicable to other fishes.

Decomposition or rotting of fish is due to the action of certain minute organisms, the bacteria. Dr. Hood finds that the number of bacteria that develop in fresh fish on standing depends largely on the temperature. The relative numbers of bacteria that he found in the same amount of the flesh after being kept for 24 hours at various temperatures were as follows:

32-34° F.	8
45-48° F.	11
60-70° F.	8,000
75-80° F.	46,000

This shows that if fish are left even for a few hours at a temperature as high as 60° they will be well on the way to rotting, even when they seem all right. Dr. Hood is correct in maintaining that such fish are undesirable both for fresh sale and for curing by smoking or salting.

Effect of freezing

If such fish are frozen and kept at low temperatures, they are, it is true, kept from going utterly bad, but the bacteria are not killed. They do not increase in numbers, but do remain as numerous as ever. Five fish with from 18 to 15,000 bacteria in the same weight of flesh were found in each case to have as many living bacteria at the end of two months in cold storage, as at the beginning. As the bacteria remain alive, they are ready to start operations as soon as the fish is thawed out.

Freezing merely keeps the fish in the condition they were in at the time of freezing. Good fish are kept good, and poor fish are kept poor.

Do frozen fish go bad more quickly than fresh fish? The answer is no. Fish frozen immediately after being caught were thawed out and kept at a temperature of from 60-70° F. After 24 hours the number of bacteria present was scarcely as great as in unfrozen fish kept at the same temperature for the same length of time. If fish are frozen when perfectly fresh, they will keep after being thawed out as well as perfectly fresh unfrozen fish.

Two matters of more or less common knowledge are demonstrated by this work, namely:

(1) If fresh fish are to be held after death for even a few hours, they must be cool (below 50°), or the rotting process will proceed rapidly even though not noticeable for some time.

(2) Freezing is an ideal method for keeping fish perfectly fresh. Poor fish are not improved by freezing, and spoil as quickly as ever when thawed out.

Annual Meeting
Canadian Fisheries Association
June 11 and 12
You Should Be There

Gaspereaux Run Escapes in Freshet

*Rush of Fish smashes weirs but fishermen stand on shore and bale till tired--
Fishery not proving profitable-- Notes from Fundy*

St. John, N. B. May 7.—The week beginning April 29 will occupy a prominent place in the history of New Brunswick, having been the period in which the Province experienced probably its highest freshets, suffered its most disastrous losses through floods and sustained its most prolonged interruption of traffic. The trouble from freshet and flood was general, commencing on Sunday night, April 29, and the waters started to recede only on Saturday, May 6.

The rail connection of St. John with Montreal, Boston and other Upper Canadian and United States points by C. P. R., was cut off at the onset of the storm period, as was the connection by C. P. R. with Lepreau, St. George, St. Andrews, St. Stephen and other Fundy centres. The St. John Valley line was likewise eliminated. Towards the week-end, the C. N. R. service failed and the city was completely isolated, so far as direct rail connection was concerned.

To the fish trade, as to other classes of business, the enforced suspension of export by rail proved a severe blow at a time when, following a winter of uncertainty hardships and loss, those in business hoped and expected that they would at last have an opportunity to carry on with some likelihood of an even break. Coupled with the inundation which paralyzed the central and southern sections of the province, and greatly inconvenienced other portions, came the ice-blockade in the north and east coasts, from the St. Lawrence to Chignecto.

Gaspereaux Rush Smashes Weirs

Among the phenomena of freshet and flood was a heavy run of gaspereaux in the St. John Harbor. In the narrow channel between Navy Island and Old Fort on the western shore, an area famous in Canadian History, especially since therein, some historians contend, was located La Tour Fort, there occurred on Tuesday last, a movement of gaspereaux so pronounced that one weir gave way under the weight of thousands of fish and the catch was lost. During several days, gaspereaux in countless numbers swept through that area, but the silvery horde was not harvested by the weirs, as practically all the nets gave way before the tremendous rush of fish and the great quantities of driftwood and ice that came down river in the freshet. Drift-nets were utilized to advantage, but only a very small, almost negligible portion of the possible catch was secured by the drifters. On two days, the jam of fish was so pronounced that men stood on the shore at the Old Fort and baled gaspereaux until the fishermen became tired. At least six weirs were destroyed among which were the Lord Harned, G. Wilson, McCallum, E. Butler, W. Spence and F. Lamoureux.

The price of alewives crashed down to fifty cents a hundred when the run started. Lack of an appreciable export market and the suspension of railway services have kept the demand to the measure of what may safely be stored for call later in the year.

The weir owners who had their nets ripped out in the freshet sustained losses of from \$500 to \$2,000. Besides the property loss, they have missed a splendid opportunity

to garner immense catches of gaspereaux. Only a few have begun to restore their weirs.

One of the weirs wrecked in the freshet was No. 2 Navy Island. The site was leased, along with two other lots by McCormick and Zatsman at the city's annual fisheries sale in January for \$1,206. The weir was struck by a barn which had been torn from its foundation far up river and carried through the falls into the harbor.

Another weir damaged is the famous "Diving Bill." It was so congested with fish that it collapsed. The "Diving Bill" site was leased for \$400.

Fishermen explain regarding the heavy run of gaspereaux that it was due to a combination of cold weather and freshet. The fish were late in moving towards the spawn-grounds at French Lake, Washademoak, Grand Lake and other water areas. When they arrived at the mouth of the river, the freshet was on, so that the fish jammed at the harbor head.

The First Salmon

The first Salmon taken in St. John Harbor this year was caught by L. Silliphant on May 1.

Trout fishing opened legally, on May 1 in New Brunswick and continues until September 30. Formerly, the season opened April 15, but the initiation was deferred owing to the lateness of spring. However, the recent freshets and floods have further postponed the opening so far as the angler is concerned.

It has been pointed out by provincial officials that all fishermen entering the woods must secure permits in order not to be inconvenienced by game wardens and fisheries inspectors.

LUNENBURG OUTLOOK GLOOMY

The Lunenburg fishing fleet sailed on their first fishing trip for 1923 the latter part of April. The total number of vessels is 72 as compared with about 100 last year. The departure for the banks was two weeks behind last year's date and the spirit of hope and enthusiasm that then existed is now not in evidence owing to the poor prospects as regards price. Last April the price was \$7.00, to-day it is only \$5.00 per quintal, so that it is easily seen why the fishermen of Lunenburg are discouraged.

At the time of the fleet's departure there were estimated to be 70,000 quintals of Lunenburg catch of last year yet unsold and about half of this is still in the hands of the fishermen. Their principal market, Porto Rico, is just now in a poor condition and is overstocked with fish sent there on consignment the past winter.

The Nova Scotia fishermen are in many cases dropping out of the business this spring and seeking other employment in the United States and fully one-third of the schooners that were at the Bank and Shore fisheries last year have been sold. They say that they cannot catch fish and make a decent living out of their work at less than \$6.00 per quintal and to-day the price at Lunenburg is only \$5.00 per quintal which after paying expenses, would this season, leave nothing for the fishermen.

Sardine-Herring Outlook Improves

Booth plant at West St John to resume operations this season-- Ottawa Considers banning exports under \$10 per hogshead.

St. John, N. B.—There is under consideration at Ottawa a proposal to incorporate in the license granted to sardine fishermen in the Bay of Fundy a clause providing that they shall not sell their catch for less than \$10.00 a hogshead. This has been recommended by the New Brunswick Government.

An argument in support of the export duty has been recently advanced as follows:

The Booth Plant to Operate

The Booth Fisheries, Ltd. have announced that they will operate this year their sardine-herring packing plant at West St. John and will put up 40,000 cases of fish. The plant when running to capacity employs 175 hands and its payroll would total \$30,000 for the year. Plans are reported to be under consideration for the addition of machinery for the manufacture of cans. Officials of the Booth Co. and of the American Can Co. recently inspected the factory.

Since it was built and equipped, the West Side plant operated only one season, producing 12,000 cases of sardine-herring. Some of that pack, about 1,700 cases, are still on hand.

Lewis Connors, president and general manager of Connors Bros., Ltd., stated recently that the firm's plant at Black's Harbor has been overhauled and made ready for an early start on the canning of sardine-herring. He predicts higher prices to the fishermen. Up to the end of April, no fish had been reported in Charlotte county. Connor's Bros., warehouse in St. John was recently robbed of goods valued at \$200. The goods were recovered.

Fred T. Eldridge, former mayor of Eastport, the great sardine-herring centre, and a member of the Seacoast Canning Co., is of the opinion that the industry will not strike its stride until some time this month, although the season opened April 16. He expects fairly brisk business with a smaller pack than usual on account of the lateness of the season. Fishermen he said, would restore their damaged weirs as soon as conditions permitted.

The agitation to have the Dominion Government place an export duty on all fresh herring and sardines caught in Canadian waters and sold for export at less than \$10 per hogshead is being followed with more than ordinary interest by the Maine canners, as such a duty would vitally affect their interests. The price of \$10 would have to be paid before the fish are removed from their weirs. If this amount is not paid by boatmen a duty of \$10 would be assessed by the Dominion Government. If the \$10 is assured there would be no further export duty.

If the great army of Canadian fishermen can secure \$10 for every hogshead of herring it is probable that the same prices will be demanded by Maine weir-owners, even if more than half of the catches are gathered up on this side of the border.

The outcome of the proposed Canadian herring-bill is being closely watched by Washington county sardine

canners. It may delay the annual opening of the plants until more particulars are known and the season's price is satisfactorily adjusted.

What Would U. S. Canners do?

A fisherman points out:

"Take one year with another not 25 per cent. of the pack of sardines can be caught on the American side of the line. Many years the catches are "nil" there, and what they get are large and make a very poor grade of fish to put on the market—for instance this last year's pack, or at least the part of the pack which came from down the American coast."

"Thousands of dollars' worth of machinery and buildings are in Robinston, East port and Lubec, Maine. Do you think these fellows will move these large plants to the westward simply to spite the fishermen on this side of the line in asking a price of \$10.00 per hhd. for their fish?"

At least 75,000 hhds. of fish are caught in Canadian waters in good years, from which the Canadian Government probably receives \$3,000 in the way of weir licenses. This catch will make 1,500,000 cases of sardines, and at a rate of \$10.00 per hhd. export duty would give the Canadian Government \$750,000 of revenue."

Of the thirty fish weirs lost when the icefields were carried out from St. Andrews, not more than ten may be rebuilt this spring since it is difficult to gather up the valuable stakes, poles, brush and needed supplies. In past seasons the majority of fish weirs had been repaired and made ready for the April schools of advance herring.

Without weirs erected in suitable locations the spring fish may be lost. The early fish are considerably scattered in the salt waters and seining cannot be satisfactorily carried on by boatmen as during the fall. There have been no noticeable signs of "feed" in the waters where herring are later found in abundance. They follow their natural food carried along in the swift running tides. Favorable winds and tides are necessary.

The Chamcook Plant

No word has been given out as to whether or not the Booth Fisheries, Ltd. will operate this year the Chamcook plant which is now under their control. This concrete structure was erected in 1911 by a company headed by a Mr. Coll of the Seacoast Canning Company of Eastport. Sir William Van Horne invested \$30,000 in the venture, it is said, and C. M. Bosworth was also a supporter of the industry.

The plant was equipped with a water tank system, tanks for the storing of olive oil, a department for the manufacture of cans and was served by a spur track, besides having through its grounds an extensive road system, a hotel, fifteen cottages, a farm and a fleet of motor boats were part of the up-to-date equipment and facilities. The total cost was estimated at half a million dollars. The plant was operated for two years and since then has been idle. Some of the equipment was transferred by Booths to their plant in West St. John.

U.S. Adds Frozen Smelt to Dutiables

Treasury Department interprets equivocal paragraph with severity--Test case to be heard-- Serious matter for eastern shippers.

What was the intention of the tariff makers of the United States in paragraph 1656 of section 201 of the Fordney-McCumber measure? Under the list of duty free commodities we find—

"Fresh sea herring and smelts and tuna fish, fresh, frozen, or packed in ice."

There is no doubt whatever that the United States has by precedent, for tariff purposes, distinguished fresh fish from fish, frozen or packed in ice. To confirm this differentiation it is only necessary to refer to the decision of the United States General Appraisers of November 13, 1902 wherein it invited attention to the fact that congress, by separately enumerating fish, fresh; fish, frozen, and fish packed in ice struck a distinction between the three classes of fish.

Reading over the paragraph of the tariff law quoted above would you say that herring and smelts, frozen or packed in ice, are duty free? Or would you say that herring, fresh only, was duty free, and that smelts and tuna, fresh, frozen or packed in ice, were free? Or would you say that all three fish, herring, smelts and tuna, were free, whether fresh, frozen or packed in ice?

Officials Are Puzzled

That is the problem confronting fishery interests and customs officers across the border, and treasury department officials at Washington.

It is positively impossible to say what the tariff makers had in mind. More careful punctuation would have left no room for doubt.

The collector of customs at Boston interprets the paragraph quoted at the beginning to permit of the free admission of herring and smelts, whether fresh, frozen or packed in ice. The treasury department ruled to the contrary, however, and ordered the duty to be collected on herring and smelt, frozen or packed in ice. The department points out that word 'fresh' at the beginning of the quoted paragraph is unnecessary if it was intended to admit all three classes free, whether fresh, frozen or packed in ice.

Mr. Gardner Poole of Boston, president of the United States Fisheries Association, offers the opinion that there should have been a period after the word herring followed by a capital 'S' in smelts and the paragraph read as follows:

"Fresh sea herring. Smelts and tuna fish, fresh, frozen, or packed in ice."

In rendering its decision, however, the treasury department interpreted the meaning of the tariff-makers as follows:

"Fresh sea herring and smelts. Tuna fish, fresh, frozen, or packed in ice."

There seems to be no doubt about the fact now that it was intended to make herring, frozen or packed in ice, dutiable, but as regards smelts there is patently a lack of clearness.

'Acto,' the house organ of the Atlantic Coast Fisheries observes: "It seems incredible that the word 'frozen' in paragraph 1656 is to be limited in its application to tuna fish. The whole Canadian catch of the variety in 1921 was 201,700 pounds, valued at \$6,095. This commodity is clearly too unimportant to have received any serious consideration from congress, standing alone"

Submitting Test Case

Through the United States Fisheries Association, the treasury department at Washington has been prevailed upon to apply the thirty day notice clause to its ruling of March 29 instructing its custom collectors to liquidate all entries covering frozen smelts with an assess of duty at the rate of one cent per pound.

This means that American importers who are being assessed for importations made since September 21, 1922, are absolved from payment of duty on all importations made to date.

On and after April 29, 1923, however, the ruling became fully effective and duty assessed at one cent per pound on all importations of frozen smelts.

The U. S. Fisheries Association is urging its members to file a protest with every payment of duty on frozen smelts, because unless such protest is made no refund will be made in the event of a reversal of the treasury department's decision. It is understood the Government has consented to a test case to determine the true interpretation of the paragraph, and those interested in the importation of smelts across the border are following the matter keenly and are expecting a reversal of the ruling.

The matter is of serious importance to Canadians. Most of our easterners forward their goods to American brokers on consignment. Expenses and commission are deducted from the sales price and the balance remitted to the consignee. This system means that the consignor pays the duty. It seems incredible that it was intended to admit fresh smelts and exclude the iced and frozen commodity. There is no conflict with American industry. By admitting the unfrozen article the market must want it. Then why not the frozen when that is the usual method of shipment?

Would Cost Exporters \$81,000

To show the seriousness of the situation if the interpretation is sustained, it should be observed that the catch of smelts last season was nearly 9,000,000 lbs. that for New Brunswick alone being over 6,000,000 lbs. At least 90 per cent of the total catch is shipped to the United States. If duty is exacted it will deduct \$81,000 from the shippers' receipts, providing the fish are all frozen.

A point of interest arising even in the event it is finally decided that smelts packed in ice or frozen do not come under the category of fresh fish, is as to whether or not considerable shipments from Nova Scotia and Prince Edward Island can be classed "packed in ice." The practice is to pack the fish in tight barrels, using a sufficient quantity of water to keep the fish from being closely packed, placing a 15 or 20 lb. lump of ice in the bottom of the barrel and another lump in the centre, for the purpose of keeping the water at a low temperature. This method permits the shipments reaching their destination in prime condition. The question is,—can this method of packing in iced water be designated "packed in ice?"

Considerable quantities of albacore or tuna fish are taken each year, particularly in the Hubbards, Lunenburg, County, district. The usual price is about .03c per lb. With particular reference to this fishery it is understood that Gilbert Harnish, Hubbards, is contemplating the establishment of a cannery for tuna, with every prospect of a good business.

Doings in the Lake Erie District

Ontario government opens new and up-to-date hatchery near Picton-- Controversy over fish licenses in Algoma district settled

According to word from Leamington, Ont., considerable loss was sustained by the fishermen on the north shore in the severe storm which raged on Lake Erie for several days about the middle of April. Mr. Dobbin's gill net tug was torn from her moorings and blown out on the beach, where she was smashed into kindling. The tug was a total loss with no insurance. John Loop, of Wheatley, lost his pond net boat in the same manner, it being damaged beyond repair. The boat was valued at \$2,000 and carried no insurance.

Licenses Confined to Britishers

A last-minute endeavor to remedy features in the Algoma situation which recently brought a delegation of several hundred residents from that district to the Parliament Buildings at Toronto, was indicated in a bill which the Drury Government has introduced into the legislature. The measure amends the Fish and Game Act, and, based partially on the report of the fish and game committee of the legislature, it also provides that none other than British subjects shall be allowed to take out trappers' licenses. This is one of the principal points for which the Algomans contended, their claim being that foreigners in their district were using terrorizing methods to monopolize the privileges which had been granted them.

Fishermen at Campbellford, Ont., who for some time have been working for a change in the regulations, have received word from the department at Toronto that, as result of their efforts 150,000 bass spawn will be sent there to be placed in the Trent River at Crow, Cassidy and Bradley Bays. The same number of speckled trout spawn will also be distributed in the creeks in the district. R. H. Cole will look after the placing of the spawn. The open season for pickerel will begin on June 15, instead of May 15, as at present, the former date being the first day of the open season for bass and muskellunge. There have been in the past numerous complaints that fishermen out after pickerel on May 15 did not confine themselves to the catching of that variety of fish, also caught the other kinds for which the season was closed. Two extra men will be put on duty at once to see that the regulations are strictly enforced in the Campbellford district.

Indians Fined For Fishing

The County Court stage at Peterboro was reset on April 25 for the resumption of the trial of ten Chemong and Alderville Indians, who were charged some weeks ago with having and catching fish out of season contrary to the Game and Fisheries Act. At the former hearing of the case the Indians had formally pleaded guilty, and the trial was adjourned for three weeks for argument and to enable the lawyers concerned to enquire into the rights of the Indians in respect to hunting and fishing, and their liability under the Ontario statute, prohibiting fishing during the closed season. After argument by counsel each Indian was fined \$10 and costs. The Indians declared they would

appeal the cases and seek relief from the Dominion Government, if necessary.

Officials of the Game and Fisheries Department fired guns to attract the attention of some men who were fishing in the mouth of the Moira River at Belleville, Ont., a few nights ago. As a result one arrest was made for the use of a scoop net and seven other charges for the use of scoop nets and grapples were also issued. Fish are plentiful in the river now and it is stated that many men are going out nights in boats to make their catches.

New Fish Hatchery

At Lake-on-the-Mountain, about five miles from Picton, Ont., the Ontario Government is establishing a new fish hatchery which, when completed, will be the largest in the province. The remarkable situation of the lake makes it eminently suitable for the location of such an industry. A stream of fresh water must be constantly fed into the tanks where the fish are being hatched in order to keep the eggs in motion. This can be done here with very little expense. The lake is situated at the top of a lofty eminence about one hundred and sixty feet above the level of the Bay of Quinte. It is only separated from the waters of the bay below by a ledge of lime-stone rock about eighty feet high and by a precipitous embankment which extends half-way round it. Years ago an artificial canal was cut, along which the waters are conveyed to the edge of the embankment, from whence they are conducted by a wooden reveway to the grist mill which is situated near the margin of the bay below. It is here that the hatchery is being built.

Hoover Gets Monster Sturgeon

When A. B. Hoover and sons were lifting their pound net at Port Dover a week ago, they found a monster sturgeon in the net. The fish was about seven feet long, and weighed 135 pounds, yielding four gallons of oil. This establishes a record for the lake for recent years.

Another Big Fish

While fishing for perch at Golden Valley, a 30-minute run from Wiarton, Sam Dunham, of Wiarton, caught a monster pike in perfect condition, measuring 40½ inches in length from snout to centre of tail and weighing 16 pounds two ounces, three hours after being taken out of the water. The bait used was a small perch, the giant pike was caught on a fly rod.

WHAT PROHIBITION CAN'T DO

Whatever else may happen,
Now that the country's dry,
The sailor will have his port,
The farmer have his rye;
The cotton still has got its gin,
The seacoast has its bar,
And each of us will have a bier,
No matter who we are.

Request for Erie Commission Renewed

Canadian Fisheries Association takes action to support request of affiliated body -- Toronto says matter under advisement.

The fact that the Lake Erie Fishermen's Association, a body affiliated with the Canadian Fisheries Association, had not succeeded in obtaining any action on its request for a joint commission, provincial and federal, to investigate outstanding fishery problems on Lake Erie, was submitted to the May meeting of the national executive of the parent body, J. A. Paulhus, vice-president in the chair.

The matter was discussed thoroughly. It was pointed out that the affiliated body adopted the resolution at its convention in January last and had submitted the request to the Government at Toronto through a deputation. The secretary reported that he had learned no move had been made in the matter by the authorities. The following resolution was unanimously adopted:

Whereas, the Lake Erie Fishermen's Association, a body affiliated with the Canadian Fisheries Association, by unanimous resolution in convention in January last, called upon the Government of Canada and Ontario to set up a joint commission to investigate outstanding fishery problems on Lake Erie.

Whereas, it has been learned by our association that no step has yet been made by the authorities to set up such a commission.

Be it resolved that, on behalf of our affiliated members, we urge the fisheries department at Toronto to approach the federal department with a suggestion for a joint fisheries commission for Lake Erie or, as an alternative, set up a commission of its own choosing, there being obvious reasons for the appointment of such a commission this year.

The secretary was instructed to take what action appeared necessary and subsequently forwarded a copy of the resolution to the department at Toronto and also to Ottawa.

The following reply was received from the department of game and fisheries, Toronto:

Toronto, May 5

Dear Sir:

I beg to acknowledge receipt of your favor of the 2nd instant, together with a copy of the resolution passed at a meeting of your national executive held in Montreal on the 30th ultimo.

This matter will have the further consideration of the department.

Your truly

(signed) D. McDonald

Deputy-minister.

When it was brought to the attention of the Canadian Fisheries Association that no action was being taken on the Erie request, the secretary, before referring the matter to the executive communicated with H. A. Short, Port Stanley, secretary of the Lake Erie body, to ascertain whether his association still desired the commission. Mr. Short's reply in part follows:

"We are still anxious to have that commission appointed. I am surprised to know that the Drury Government has done nothing as they have assured us they had already taken it up with Ottawa..."

It is quite possible that the department at Toronto, realizing that the summer was the best time to conduct

the inquiry, had deferred action until that season approached.

TO STUDY HABITS OF COD AND HADDOCK

The international committee on fishery research, which was instituted in 1919 at the instigation of the Government at Ottawa, met the first week in May at Toronto. For the first time there was a representative—Edouard Le Danois, assistant director of the French fishery office—from a European country. Heretofore the committee has comprised representatives from the United States, Newfoundland and Canada. Unfortunately it was impossible for the Newfoundland delegates to attend this time.

Plans were laid to facilitate the study of the life habits of cod and haddock this summer. It is generally known that these fish are caught in the largest numbers at those points along the Grand Banks where the warm waters of the Gulf Stream mingle with the cold waters from the Arctic currents; but since these currents shift from year to year, the problem has been for the fishermen to know where to carry on their operations. The officials hope to overcome that situation.

The method, started last season, which will be continued this summer, was to scatter great numbers of air-tight bottles upon the face of the Atlantic, allowing them to drift with the currents, and containing offers of rewards to those people who returned them to the biological board located at St. Andrew's, New Brunswick.

Last summer from 25 to 50 per cent of the bottles were returned, with the result that it was possible to compare the places where returned bottles were picked up with the locations where they were cast upon the waters, and to make a study as to the drift of the currents. It is generally believed that there is a regular system in the fluctuations of the currents; so the officials are confident that if science can discover the system regulating the currents then they will have taken a big step in the direction of helping the fishermen and adding to the value of the year's harvest.

Another plan to be adopted this summer will be to catch cod from as many points as possible, from Boston to Newfoundland, tag the cod, and offer rewards to all fishermen who return tagged fish. From this, they will be able to make a study of the habits of these fish and learn whether the fish have any special runways in the ocean.

Annual Meeting
Canadian Fisheries Association
June 11 and 12
You Should Be There

A Famous Instance

"You cannot keep a good man down,"

Is true beyond assail—

'Twas proven many years ago,

With Jonah and the whale. — "Boston Transcript."

The Industry Here and Elsewhere

Two New Fishermen

Two fishing schooners have been under construction and are now nearing completion at Ingonish. Capt. John Dunphy is fitting out a forty ton fishing schooner and trading smack and Capt. M. A. Kinnear will have a smart thirty-tonner ready for the water in a few weeks.

Extinction of Oyster Near

The oyster is threatened with extinction along the Atlantic coast, because of pollution of the beds by industrial waste. Dr. Thurlow C. Nelson, New Jersey biologist, warned the Central Atlantic States Association of dairy, food and drug officials at its meeting at Washington. So great has been the destruction of breeding and growing grounds that New England already is facing an oyster famine, Nelson declared.

Roumania to Pay On Fish Bonds

The recent arrangement made by Roumania to pay interest on its foreign debts is of substantial benefit to the Dominion of Newfoundland as well as to Canada. During recent years Roumania has been a large purchaser of Newfoundland codfish and these purchases were paid for in bonds. When these bonds depreciated in value and Roumania seemed indifferent about its obligations many of the Newfoundland holders of the bonds considered them a total loss. Advice has been received in St. John's, however, that Roumania has arranged to pay this month four per cent interest upon the bonds, and several million dollars' worth held in Newfoundland are thus going to bring some return to their holders.

Trout Season In N. S. Lengthened

The season for trout angling in Nova Scotia which has opened May 1 and closed Sept. 30, will hereafter open April 1 and close Sept. 30, according to a recent amendment to the special fishery regulations for Nova Scotia.

Duty on Repairs In Our Ports

Fishing vessels of American registry which undergo repairs in our ports beyond those rendered necessary by stress of weather or other casualty, must upon return to an American port pay a duty of 50 per cent ad valorem on same. The matter is dealt with in section 466 of the Tariff Act of 1922.

Newfoundland European Exports

Hawes and Company Ltd. of London, Eng. report that Newfoundland and Labrador exports of salt codfish to Europe during the year ending March 31, 1923, excepting shipments via Liverpool or New York and direct shipments subsequently lost at sea, amounted to 931,303 cwts as compared with 1,076,043 during the previous year (cwt 112 pounds).

Adrift 3 Days and 2 Nights

Lendall McComisky and Joseph Rose, of the Gloucester fishing schooner Grand Marshall, were three days and two nights adrift in their dory with neither food nor drink, after they strayed from their vessel on Brown's Bank. They made Clark's Harbor, N. S. May 7 in a condition of collapse.

Throughout the first day the men were enveloped in thick fog with half a gale blowing from the north-northeast. The wind blew harder through the night and they were at the mercy of the seas. A gale blew in the morning and their dory was almost filled and compass and oars were washed away. Another night passed without food or water, in running seas. Despair had

seized them, when on Saturday morning they sighted Seal Island. The wind was favorable from the southwest and they hoisted sails and made Clark's Harbor.

Fish Strikers Draw Dole

The fishermen of Aberdeen, Scotland who went on strike fourteen weeks ago in protest against the dealers of Aberdeen buying fish caught by Germans in the North Sea have been informed that they are eligible for Government unemployment pay. Twenty-five hundred men will receive fifteen shillings each per week, with five shillings additional for the wife of each married man, and one shilling for each child.

Artificial Pearls

Most common method of imitating pearls is to coat a glass globule with an iridescent substance made from the scales of the European fish called the bleak.

Study Habits of Groundfish

On the fishing banks of the New England coast during the latter days of April experts of the Federal Bureau of Fisheries marked with metal tags and released about 10,000 cod, pollock and haddock. These are the principal commercial varieties of fish and the tagging and release of the individual specimens is the first step in an inquiry which Commissioner O'Malley has instituted for the purpose of increasing knowledge about their habitat and life history. Posters have been prepared for distribution to the various fishing centres explaining the plan, and offering a reward of 25 cents for the return of any tag from a fish hereafter taken with a report on the locality and circumstances under which it was caught.

Better Service to Magdalen

Hon. J. E. Caron, Minister of Agriculture for Quebec, had an interview recently with the Department of Trade and Commerce regarding better steamship service to the Magdalen Islands. The present service runs from Pictou. What is proposed by Quebec is that there should be a service from Quebec, serving the Gaspé coast also, in summer, and presumably from Pictou in winter, when possible, although it is now frequently interrupted by ice conditions. It is probable the department will call for tenders for a service from both points and decide which is preferable.

Woman Attends Lighthouse

For five weeks, while her husband was ill on the mainland, Mrs. Harry Greenwood attended the lighthouse on Bon Portage Island, off the coast of Nova Scotia.

Lobster Season Extended

An extension of fifteen days, from June 1 to June 15, has been made in the lobster fishing season on the Nova Scotia coast from Halifax westward. This action was taken because, owing to the backward spring and the unusually late ice conditions, practically no lobsters have yet been landed, although the season opened on March 1. Representations in favor of the extension were made to the Minister of Marine and Fisheries by three of the Nova Scotia members, Messrs. Duff, Hatfield and Lovett, and the extension was based upon these.

Strayed out to Sea

Lawson Madden, of Baccaro, N. S., was forty-five hours in a small boat without food or water when he lost his way on April 21 and strayed seawards while tending his lobster traps. He was rescued off Port Mouton.

Norway Ratifies Treaty

It was reported recently that the Norwegian Government had been defeated in a vote on the proposed wine treaty with Portugal, which proposed to permit the importation of a certain quantity of wine on a reduced tariff on fish entering Portugal. Advices more recently, however, are to the effect that this treaty had been ratified after further concessions and amendments had been made barring out strong liquors such as brandy. This means that the Norwegians will be able to send their new fish into the Portuguese market under the favored nations duty.

Had a Good Fare

The LaHave fishing schooner J. Duffy, Captain Spindler, which fitted at Halifax and left that port the latter part of March weeks ago for the halibut grounds, arrived at Yarmouth, April 15 with a fare of 20,000 pounds of fresh halibut, 18,000 pounds of cod, and 7,000 pounds of ensk, all of which were purchased by Austin, E. Nickerson, Limited. The prices paid were sixteen and eighteen cents per pound for the halibut, two for cod, and one and a quarter cents for ensks.

Profitable Cargo Was Jettisoned

The Boston fishing schooner Helen T. Marshall, which went ashore in Barrington Bay April 17, was towed to Yarmouth two days later after being refloated by the tug Wanda, assisted by the S. S. La Tour. The vessel is badly damaged and a part of her false keel is gone. The schooner's full share of 60,000 lbs. of fish and all ice and supplies were jettisoned.

Gets St. Pierre Fishery Concession

A London (Eng.) cable says:

J. H. Anderson, a Canadian, well known in New York shipping circles, is in London for the purpose of interesting Anglo-Canadian financiers in a five-year fishing concession, which he is understood to have secured on St. Pierre, Miquelon, from the French Government. Anderson's concession is said to be a big one, amounting to a monopoly of the fishing, wharfage and storage rights for the island, and it is understood he plans to bring the fish to British and other markets.

Mr. Anderson is the man who, three years ago, sought a contract from the Ministry of Shipping for the repair of 14 ex-German ships interned in South American waters. The action of the ministry in sending the ships instead to German firms for repair caused much talk and question in Parliament at the time.

New Potential Racer Takes Water

Chester Basin, N. S. B. Hirtle, built for the Lunenburg Outfitting Company, was launched at Chester Basin, N. S. May 5 from the Chester Basin Shipbuilding Company yards. If she proves as fast as it is planned she will enter in the Nova Scotia fishing schooner elimination. She will be sailed by Captain G. H. Heisler who has helped the Bluenose in several of her races.

The vessel has a bow somewhat similar to that of the Bluenose, but is not as large as the champion. Her designer has not gone to any extremes, but has turned out a craft that is adaptable to both fishing and coasting. Her principal dimensions are as follows:

Length over all 138 feet.

Water line 108 feet.

Beam 26 feet 10 in.

Length of keel, 61 feet.

Depth of hold 11 feet 4 in.

Gross tonnage 130 tons.

Register tonnage 99 tons.

The measurements of her spars are as follows:

Mainmast, 91 feet.

Foremast, 78 feet.

Maintopmast, 50 feet.

Foretopmast, 43 feet.

Main boom, 77.6 feet.

Main gaff, 48 feet.

Fore boom, 32 feet.

Fore gaff, 32 feet.

Bowsprit, outside of knightheads, 16 feet.

The S. B. Hirtle will carry about 20,000 yards of canvas, which will give her about 10,000 square feet of sail area. She is to be equipped with gasoline engines and all modern hoisting machinery.

The Pigmy Among Fishes

Probably the smallest fish in the world are to be found in the mountain lake, Buhl, on the Island of Luzon, Philippines. This fish, which the natives call the smarapan, is the most minute vertebrate animal known to science. It weighs only half a grain, and half an inch is its maximum length.

Discuss Cold Storage in Quebec

The construction of a cold storage plant in the port of Quebec at a cost of \$500,000 is being studied by the board of trade and the members of the Quebec harbor commission. It is expected that the federal Government will make a loan of half a million dollars for the construction of the plant, and the city of Quebec, and the provincial Government will furnish \$26,000 between them every year for a period of five years, to defray the costs of maintenance until the plant will be able to maintain itself.

A delegation waited on the civic public works committee on May 2 to find out what the city was prepared to do. The delegation was composed of Gerard Power, chairman of the harbor commission, Edouard Tanguay, president of the Quebec board of trade, J. S. Royer, second vice-president, and J. A. Bouchart, secretary. On motion of Alderman Lesage it was decided to ask the finance committee to find ways and means of providing a sum of \$10,000 annually for five years, providing the federal Government makes a loan of \$500,000 and the provincial Government pays \$16,000 a year for five years.

N. S. Fish Production 1922

The total value of production of the fisheries of Nova Scotia in 1922, comprising fish marketed for consumption fresh and canned, cured and otherwise prepared was \$10,207,444, an increase over the previous year of \$428,821, or four per cent, according to a statement issued by the Bureau of Statistics. Cod, with \$3,555,727, lobsters with \$2,813,087, mackerel with \$934,138, together contributed eighty-three per cent of the total value of production for 1922. The total quantity of all fish caught and landed in 1922, was 2,709,076 cws., an increase over 1921 of 312,101 cwt.

Adrift for two Days

Adrift for two days, without food and but little water, forced to bail out their dory to keep it from sinking beneath them, Leo MacDonald and George Hemeon, members of the crew of the sch. Oretta Spinney Capt. Lemuel Spinney, of Gloucester (Mass.), landed at Port Micocheau, Richmond county, C. B., on April 15, after having rowed 130 miles.

Fishermen lose Lobster Traps

On May 7 Chedabucto Bay was still blocked with ice and all shipping tied up. Great damage had been done to the lobster traps and fishing gear. During the previous week one man only saved forty traps out of two hundred, and all fishermen report a loss of from twenty-five to fifty per cent of their gear. This great loss added to the unprecedented lateness of the season, presents an alarming outlook for the fishermen in this county.

and unless conditions for the rest of the season are exceptionally favorable, financial disaster can hardly be avoided.

More Disasters In French Fleet

The French cruiser *Regulus* arrived at Halifax May 10 with seven survivors of disasters several of whom suffered from frost bites and exhaustion.

The *France* and *Bretagne*, a St. Malo schooner, went down about two weeks previously when she struck an iceberg. Five of the thirty-five who made up her crew were picked up by the *Regulus*. What has happened to the remaining thirty has not been reported, but there is hope that they were taken aboard by others of the fleet, who have been unable to report their safety.

The most thrilling tale of the sea was told by two St. Malo fishermen from the schooner *La Tour du Pin*. They became confused while fishing from a dory in thick weather and could not pick up their ship. For ten days they starved and suffered the awful pangs of thirst without relief, and became so badly frost bitten that hands and feet were useless.

The loss of the St. Malo schooner *Raymond*, on the Grand Banks was reported a few days earlier, and it is believed that there have been disasters to at least five of the French fleet during this season's work on the Banks.

French Trawler Ashore

A fleet of tugs and wrecking steamers worked in vain for two hours April 22 in an effort to refloat the French trawler *Joseph Vanderwalle*, which went ashore at eight o'clock the previous night on the southern edge of Thrum Cap Shoals at the harbor entrance.

Trawler in Trouble

A message received on April 27 at the office of the Marine and Fisheries Department, Halifax, stated that the French trawler *La Provence* had lost her propellor and was out of coal in latitude 45.25, longitude 59.12. The United States cutter *Tampa*, off Sable Island, has been advised, but is believed to be too far away to be of any use. The Government steamer *Stanley* has been instructed to watch out for *La Provence*.

Canadian Sails Columbia

The boat with which Gloucester hopes next fall to lift the international fishing vessel championship cup now held by the Canadian schooner *Bluenose*, was launched, at Essex, Mass on April 17, and was christened *Columbia*. The launching was from the yards of Arthur D. Story. Miss Gertude Carey, of Lawrence, christened the schooner with a bottle of champagne.

The *Columbia* — 135 feet over all, 103 feet on the waterline, with a 25-foot beam and 14 feet 9 inches draught — is to follow the salt fisheries, unlike the other vessels that have raced as Gloucester's representatives. She is built somewhat along the lines of the *Puritan*, by the same syndicate, which was lost on her maiden trip a year ago, from the designs of W. Starling Burgess, creator of the *Mayflower*.

Captain Alden Geele, skipper of the new international challenger for the blue riband of the north Atlantic fishermen's races, is a Canadian, a native of Digby, N. S. which was also the birthplace of Captain Marty Welch, first winner of the international trophy. Captain Geele was master of the Gloucesterman "*Elsie*" — the second American contender — when that schooner rescued the crew of the first winner of the cup, the "*Esperanto*," when this vessel was wrecked on the sunken ribs of the "*City of Virginia*," off Sable Island two years ago.

"Killing Two Birds With One Stone"

Since commercial fishing started in Lake Winnipegosis the suckers and other coarse fish have rarely brought sufficient price to pay for handling them. Consequently the fishermen have devoted their energies to the taking of whitefish and other marketable species, and have not taken much toll of the coarse fish. The result is that the coarse fish have increased in numbers out of proportion to the better varieties. The coarse fish, such as suckers, destroy large quantities of whitefish eggs which further tends to keep down the supply of whitefish.

On the other hand there are numerous lakes on the Prairies in which fish are not found but in which only suckers and fish of that class will live.

The Department of Marine and Fisheries has, therefore, arranged to corral the suckers as they are ascending several streams tributary to Lake Winnipegosis to spawn this season. It proposes to stock as many suitable lakes on the Prairies, as feasible, with them, and to destroy the balance that cannot be used in this way. Anyone desiring to stock a lake with suckers should communicate immediately with S. J. Walker, the district inspector of hatcheries, at Winnipegosis, Manitoba, giving the following information:

Location of Lake, name of the nearest railway station, distance from station to lake, area, and greatest depth of lake, the kind of fish now in lake and the names and addresses of those who are prepared to furnish teams and otherwise assist in the transfer of the fish from the station to lake. All applications, with full particulars, should be in the district inspector's hands, at Winnipegosis, not later than May 5th. They will be considered in order of priority as received, and as there is a limit to the number that can be dealt with, the early applications stand the best chance of being filled, other conditions such as location and nature of the lakes being equal.

Maximum Fishing License \$1

In view of the reduction made in the fees on fishery licenses in British Columbia, following the recommendation of the Special Fisheries Commission investigated the fisheries there last year, it has been decided to adopt a similar course in the Maritime Provinces. Hereafter the maximum license fee charged there will be one dollar.

Lion Killers

A number of men were sitting in a village inn yarn-ing on various experiences. One of them had just concluded telling how he had killed a South African lion with a revolver.

"That's nothing," said another man rising from his seat. "Why, when I was in South Africa, walking through the jungle, I saw a great lion, but I had no revolver to shoot it with."

"Whatever happened?" asked the startled crowd.

"Why, I simply took out my pocketknife and cut his head off."

"What!" exclaimed the man who had first spoken. "Cut off the head of a lion with a pocketknife? Fiddlesticks, sir—fiddlesticks."

"Indeed I did, sir," answered the second speaker. "But perhaps I ought to say it was a dandelion." — *Pittsburgh Chronicle-Telegraph*.

The Industry in New Brunswick

St. John, N. B.—J. Stanley & Son, are preparing to set out 500 lobster traps off Mispec at the mouth of the St. John harbor, and plan extensive operations this year.

Reports from the north shore and the east coast from Newcastle to Shediac indicate that lobster fishing will be conducted on an unprecedented scale this season. Lobster men have purchased large quantities of equipment and, as a resident of Richibucto jokingly remarked, there will be a trap in use for every lobster caught. Shediac last year inaugurated the shipping of live lobsters in large quantities and will continue that class of forwarding this year.

The season of North and East Coasts will be later than usual in starting on account of ice. The factories at Burnt Church, Esemuniac, Neguac and Tabustinae will be operated on a larger scale than ever before. The season opened legally on April 26.

The Modus Vivendi Issue

The St. John Board of trade has received a communication from the Canadian Fisheries Association calling attention to a resolution passed at the April meeting of the executive in which is advocated the cancellation of the "modus vivendi," by which American fishermen are allowed certain privileges in Canadian ports, in excess of treaty rights. The St. John Board has sent out letters asking for the opinion of fish dealers in the matter and when replies have been received, the resolution will be dealt with.

The Halifax Board of Trade has already approved of the resolution.

Miramichi Exports

The exports of fish from the Miramichi District to the United States for the first quarter of 1923 amounted to \$307,917 according to the table issued by R. A. N. Jarvis, American Consular Agent at Newcastle, N. B. as follows:

Bass, fresh frozen, 12,369 lbs.	\$2,733
Cod and haddock, smoked, 79,000 lbs.	6,183
Eels, fresh frozen, 2,261 lbs.	245
Lobsters, canned, 3,744 lbs.	3,535
Herring, fresh frozen, 2,500 lbs.	125
Shad, fresh 9,175 lbs.	1,160
Smelts, fresh, 1,998,653 lbs.	293,273
Other fish, fresh, 16,370 lbs.	613

In 1922, the Miramichi sent to the United States 211 full carloads of fresh and cured fish, fish oil, clams and lobsters. These were routed as follows: Vanceboro, Me., 58 cars; Newport, Vt., 5 cars; Rouse's Pt, N. Y., 18 cars; Malone, N. Y., 116 cars; Detroit, Mich., 1 car; Buffalo, N. Y., 2 cars; Port Huron, Mich., 11 cars.

Smelt fishing through the ice on the North Shore this year did not prove profitable.

Russell G. Long, of Richibucto and Ernest Mark of Miscou Harbor, Gloucester Co., have been appointed fishery overseers. They will have the powers of a justice of the peace for all the purposes of the fisheries act and will be required to act as inspectors of canned fish under the meat and canned foods act.

Captain Daniel F. Grady, who has been connected with the Dominion salmon hatcheries at St. John, N. B. since the salmon spawning was first inaugurated in the Carleton mill-pond, and who has since been connected with the Little River hatchery was married to Mrs. Clara Wills, also of this city, on April 16, in the Church of the Assumption, west St. John by Rev. J. J. Ryan.

Eastport, Maine expects to have a new industry started this summer. A French firm has made arrangements to begin the manufacture of pearls from fish scales, and a start will be made in a small way this year. Next year they expect to go into the business on a large scale and employ quite a number of hands.

The new wing to the St. Andrews, N. B., biological station will be completed on June 1, the contractors, Kane & Parker, have advised.

ANOTHER NEW FISH PRESERVING SCHEME

A new method of packing fresh fish to preserve them intact during shipment to long distances, was announced recently at a meeting of the Fresh Fishery Congress held at Marseilles.

The public announcement follows:

"After being carefully gutted, the fish are washed and reduced to a temperature at about freezing. When the whole of the fish has reached this temperature it is packed in cases that are hermetically sealed. The cases contain 50 to 75 kilograms or 110 to 165 pounds. Each case must be provided with a thin zinc lining to which the cover is to be soldered on. It is then put into an autoclave where a vacuum is formed and the air is replaced by an appropriate gas mixture. After this all that is required is to keep the cases at a temperature of about 32 degrees.

"The first experiment was made in January with seven cases of fish numbered one to seven. The cases were then held 17 days before opening. Case No. 1 had been filled with herring and soles; No. 2, with red gurnet and soles; No. 3 with whiting and No. 4. The flat fish or soles came out perfectly fresh. Fried with butter, it was impossible to distinguish them from fresh caught soles. The fish was firm and white and the bones were quite uncolored. The eodfish, herring and whiting were almost equally good and satisfied all who sampled the fish that a great innovation had come in the fresh fish industry for France.

"These encouraging results will be followed by tests on a commercial scale.

"The gas mixture that is put in after the vacuum has been formed by the insertion of the autoclave is the secret of the process and the patentee has sold this secret out to the Government. The peculiarity about this gas mixture is that it retains in the fish the original flavor that it has when cooked fresh immediately after being taken from the water.

Potent

He hugged her in the shadowy hallway.
"Oh," she giggled breathlessly, "I never realized the power of the press until this moment."

Bad Weather Hampers N. S. Fishermen

Board and drift ice conditions on the Atlantic coast continued to badly interfere with fishing operations along the whole coast, with the result that the catches of ground fish during April were confined almost wholly to the steam trawlers. About 350,000 lbs. of cod and 550,000 lbs. of haddock were landed at Canso by the trawlers of the Maritime Fish Corporation, and about 1,080,000 lbs. of mixed fish at Halifax by the trawlers of the National Fish Company. The Schr. "A. Hubley" landed 3,000 lbs. of haddock, and the "Dorothy Earl" 2,000 lbs., all of which fish was sold to the National Fish Company.

The lobster fishing conditions in western Nova Scotia improved considerably during the month, and fair catches were made, particularly in Shelburne and Yarmouth. The total for the whole district was 11,791 cwt., valued at \$236,757. For the two months of the present season, - March and April, - the catch was only 12,511 cwt., having a value of \$278,437 as compared with 26,266 cwt., and \$496,631 in value for the same two months of 1922. In 1921, when the fishery was operated under most favourable conditions, the catch for March and April was 66,326 cwt. It will be readily seen, therefore, that the Department was fully justified in granting an extension of fifteen days, or until June 15, to April 1st-June 1 season.

The lobster fishing seasons for eastern Nova Scotia, Cape Breton and the Northumberland Straits, opened April 20 and 26. Little or no operations of value were possible, however, on account of ice conditions. It is confidently expected that good catches will be made, and the fishermen and cannery are looking for an average catch and pack.

Two new canneries have been constructed at Port Hood, Inverness County, - one by Messrs. H. A. Smith & Sons, and the other by Archie Campbell. The new canneries of the Lakeville Packing Company at South Cape George and Livingstone's Cove, and that of J. G. Rood, Lakevale, - all in Antigonish County, have passed inspection and are ready for operations. The J. A. Cesale cannery at Auld's Cove, was recently destroyed by fire, and cannot be rebuilt in time for this season.

In New Brunswick it has not been practicable to carry on any operations of moment. In the Grand Manan and adjacent districts of Charlotte County, where large damage was done, the weir fishermen by the recent destruction of weirs, wharves and gear, efforts will be made to repair or rebuild as quickly as possible. It is expected the prices for sardine-herring will be more favourable than for the past four years.

The oyster catch for the Buctouche and Coeagne districts of Kent County was 366 barrels greater than for the month of April last.

Nothing doing in Prince Edward Island. Lobster fishing cannot be profitably carried on until about the middle of May, as the ice conditions continue very bad.

Mackerel Scouting Service Improved

The Fishery Protective Cruiser "Arras" will continue the mackerel scouting service of the past several years. She will have added to her wireless equipment a broad-casting outfit, so as to enable the movements of the mackerel, and general conditions, to be transmitted to fishermen and vessels in possession of broad-casting receiving sets. It is arranged that messages will be broadcasted at stated hours each day between 7 A.M. and 9 P.M. The usual telegraph and telephone transmission of the movements of the fish will be continued, thus affording every facility for keeping the fishermen fully informed.

The Cruiser "Arlenx" was placed in Commission May 1st., and is now operating in the Bay of Fundy district of Nova Scotia and New Brunswick. She will follow the movements of the American seiners, to prevent purse-seining within our coastal waters, and assist our own fishing vessels. Both Capt. Barkhouse of the "Arras", and Capt. Milne, of the "Arlenx", are experienced men, of many years experience and good judgment.

On the Road

Owner (feebly): "What happened to us?"

Chauffeur: "A telegraph pole ran into us, sir. I never saw such road hogs." - Boston Transcript.

Almost an Offence

Dr. (at a dinner party): "The great advance in promoting longevity will come through study of the glands of internal secretion. The worn out glands will be supplanted or reinforced; we must first ascertain whether the thyroid, the adrenals, the pituitary, the pineal, the—"

Mrs. B. (blushing): "Doctor, do be careful."

One on the Judge

The prisoner was charged with pig stealing. There was only one witness for the prosecution, to whom the prisoner had admitted the offence.

The witness was Paddy Murphy. He was called to the witness box to give evidence.

"What I want you to tell is the exact words used by the prisoner when you saw him," said the judge, addressing the witness.

"He said, your honor, that he stole the pig," replied Paddy.

"No, no, he would not have used the third person," declared the judge.

"But your honor, there was no third person," insisted Paddy.

"Then he should have said, 'I stole the pig.'"

"Begorra, and maybe you did, but he didn't squeal on you!" answered Paddy, satisfied. - Pittsburgh Chronicle-Telegraph.

Irate Customer: "See here, waiter, I found a button in the salad."

Waiter: "Well, sir, that's part of the dressing." - Carnegie Tech Puppet.

Giant Squid a Dangerous Customer

Old skipper narrates thrilling story of loss of seineboat, drawn down by the tentacle of "the devil's servant"

By Herbert W. Murkland.

"Ever hear about the Great Squid? Probably you never did; ain't many people ashore that have, but the old whalemens out of Nantucket and New Bedford feared it—swore it was a servant of the devil and any ship that sighted it was doomed. Mebby that was true, anyhow it was the Great Squid that carried down the big seineboat from the old mackerel seiner, Glory Be, while she was cruising after mackerel in southern waters."

Settled for Good

Cap'n Clayt Morris settled the cigar comfortably in the starb'd corner of his mouth, puffed out two big clouds of smoke, looked into the binnaele box to see that the man at the wheel was holding true to the course, glanced out at the horizon to the eastward as if looking for some range to assure him he was headed straight and proceeded with the yarn that always followed some such remark.

The steam trawler Sea Pig was rolling lazily along over the long ground, swells, of the Atlantic on her way from Georges banks to the western banks off Nova Scotia. Fishing had been poor down on Georges and Cap'n Clayt wasn't one to linger long on poor bottom with no signs of fish.

"It was some years ago, when I was a good deal younger than I am now, he began, "when I was a hand on the old Glory Be. We was down on the southern mackerel grounds and hadn't had much luck. But this day we sighted a big school an' went after 'em. We had 'em well rounded up and was pursing up the seine—that is, the men in the boat was, for I was left aboard as a kind of ship keeper.

Came Up Unobserved

"Th' sea was smooth with only a ground swell run nin'—something like it is today, an' just a light breeze blowing. Everybody in the seine boat was busy's parcel of hornets after a boy that's just busted up their nest and didn't see the Great Squid when he came up.

"But I seen it. It seemed just as if something betwixt and between a gray-white and creamy white as big as a whole down east farm had come up out of the water and lay kind'a like a blanket on the water jelly like and movin' up an' down on the ground swell. Seemed to spread all over the sea for quite a piece, then up come a whole bunch of arms wiggling an' writhing and kind'a groping about as if tryin' to find something to grab hold of. Ugly! Well, I ain't seen nothing in my life more ugly lookin' than that fish or animal or whatever a squid is.

"Them arms moved slow-like, somethin' like th' squirming of big snakes, but all the time seemin' to be searchin' for somethin'. Give me a start when I seen the thing, but seems though I couldn't take my eyes off'n it. 'Twas just like a nightmare thing you

see in your dreams, an' I ain't ever goin' to forget how it looked.

Some Arms At That

"Th' fellers in the seine boat was too busy to see it even though it wasn't far from 'em. Must'a been more'n 100 feet from stem to stern of that fish or whatever you call a squid, looked 'sif it covered most of the Atlantic thereabouts, an' them arms was long enough to wrap right around the Glory Be, and then have some to spare.

"Old whalers've told me this Great Squid was a terror to the whaling fleets, but if a vessel did sight it an' live to tell it, a big sperm whale was shure to be sighted mighty soon after, cause sperm whales live on squid, and many a squid's arm has been found in a whale's belly when it was cut in the old days. But it'd been 40 to 50 years since the Great Squid had reported, an' then clear out in the India ocean.

"How it ever came to be in the Atlantic on the southern mackerel grounds I dunno, expect that Squid is mighty fond or mackerel. But it must'a traveled thousands of miles.

Creepy Looking Thing

"Well, there it was all quivery like jelly as to body, and kind of horny-like arms a squirming an' groping blind-like out of water. I couldn't see it had any eyes or any mouth, nor in fact anything that in anyway resembled a head.

"But all of a sudden I seen it kind'a double up on the water and hitch itself along, kind'a a cross between th' way a cattapillar crawls and a hop toad hops.

"I tried to yell to the boys in th' seine boat but all I got out of my mouth was a kin'a hoarse noise, somethin' like a big grandfather jug-a-room, you know them big bull frogs that sound like they was havin' a cross between Quiney sore throat an' a tied palate.

"On come that Great Skid hitchin' itself over the ocean nearer an' nearer to the seine boat, but my arms seemed frozen stiff. I couldn't move—all I could do was to stand there an' stare tryin' my darndest to make a noise an' gettin' nothin' out but a bunch of croaks.

"Like a streak of greased lightning one of them great snaky arms shoots out an' curls round th' seine boat an' seems to hug it tight. I can hear a splinterin' of wood, an' the shouts of my shipmate, then I went down for the count. When I come to there isn't a thing to be seen on the sea except a lot of busted up splinters of wood. Th' Great Squid was gone an' so was my shipmates. It might a been as if we was sailin' through a bit of wreckage.

"Well, what say we go below for a mug-up?"

Insulin Important Fishery By-Product

Halifax, N.S. — Considerable interest is being taken in the work being carried on by the Biological Board in conjunction with Arthur Boutilier of the National Fish Company, for the production of insulin for the cure of diabetes.

It will be remembered that some months ago the Canadian Fisherman had an article dealing with the discovery by members of the Biological Board, that certain varieties of fish, such as the monk-fish and skate, possessed insulin properties, to a high degree. Captain Rigby of the Biological Station, St. Andrews, has accompanied the steam trawler "Venosta" to the fishing banks and secured and preserved the desirable portions of the fish; the first shipment of which has already gone forward, with gratifying results. Mr. Boutilier has received word to this effect and will endeavor to increase the supplies. This novel and important humanitarian industry will be watched with much interest.

United States Experimenting

The following taken from the most recent Fisheries Service Bulletin, issued by the Government at Washington, D. C. is appropos.

"The discovery announced last year by workers in the Toronto University that an extract from the pancreas of animals is a palliative of diabetes, and the

later discoveries that the active substance, called "insulin," can be prepared from the pancreas of fishes, have suggested that the development of this possibility might be of considerable importance in the fisheries of this country. Accordingly, arrangements have been made by the Bureau of Fisheries and the hygienic laboratory of the Public Health Service to co-operate in an investigation of the possible production of insulin from fishes. The Bureau of Fisheries is to do the field work in studying the sources and collecting the material, while the hygienic laboratory is to do the laboratory and experimental work, including preparation and standardization of the pancreas extract.

"A. A. Ellsworth, who is doing the field collecting, went to Fernandina, Fla., in April, where he is now collecting pancreas from sharks at a shark fishery. About 36 sharks a day are being taken. The pancreatic glands of each shark weigh 200 grams or more (around one-half pound).

"It may be noted that the viscera of fish when used at all are used for producing fertilizer and oil, low-priced products. This is the first effort to produce high-priced biological products for medicinal purposes from the glands of fishes. Fish, of course, contain the numerous glandular substances that are found in other animals."

Canada and Newfoundland Must Cure Better

An indication of the importance of taking great care in the cure of codfish is to be found in a statement in the *Trade Review* of St. John's, Nfld., from a correspondent in Spain. It is said the merchants in Spain who used to deal in Labrador fish are tired of trying to sell a poor quality, and are now handling, on a big scale, the Iceland "Labrador cure." Every day, the communication continues, Iceland fishermen are making greater efforts to perfect the cure of the fish, whereas it is just the reverse with shipments from Newfoundland. The Iceland fish is well cured, dry, white, and looks much better than the true Labrador, which is altogether too wet and is badly washed. The information from Italy is to the same effect. Large shipments of Icelandic fish have recently been received, and are described as "very nice soft-cured fish, quite clean, well washed and free from pickle." It is even cleaner and whiter than the French. Unless the Labrador cure is improved, it is said the future will be very unfavorable for it both on the Spanish and Italian markets.

N. S. Backward, too

The dried and pickled fish business in Nova Scotia at the moment is just about as dull as it could possibly be. A considerable quantity of codfish was taken over from the Lunenburg bankers a few weeks ago on a basis of \$5 per quintal delivered Halifax, but even this low cost has not enabled exporters to greatly increase their sales. The Porto Rico Market, which a short time ago was improving, has since suffered a relapse. Recent

returns would only give exporters \$5 per quintal which figure leaves nothing for overhead expenses and profit. The Jamaica market too is depressed both for codfish and herring because of continuous consignments by sailing vessels from Newfoundland. In Cuba the market is congested by supplies from various markets, and the same is true of the principal markets of Europe and South America; no wonder then that exporters are feeling low in their minds. However, the darkest hour, as the saying goes, is just before the dawn, so perhaps it may be they are nearer the light than immediate conditions would indicate. One must hope for the best.

Sometimes, we are told, it happens that our great successes are born of adversity. It may be then that from the present trials of our codfish producers marked benefits will come... For at least several generations, the Lunenburg fisherman has been content to produce a dried codfish which was only especially suitable for a very restricted market — the major portion of the West Indies. This market, taking one year with another, was a good one and capable of absorbing the entire Lunenburg catch; consequently there never seemed to be any need to worry about other prospects for business, particularly if the preparation for doing so involved extra expense or labor on the part of the fishermen. But the new and trying situation of the present has brought a reconsideration of this view; in fact exporters are forcing such. They are now urging that all codfish taken shall be cured by methods which will enable them to be marketed in a wider field.

News Snatches from Pacific Coast

Feed Bear Meat To Young Fish

The fish at the Lakelse hatchery almost live off the country, declared James Catt, superintendent of the salmon hatchery at that point, who met the Board of Trade council at Prince Rupert recently to discuss hatchery matters and particularly the transfer of salmon eggs from one watershed to the other.

Telling about the manner in which they feed the young fry at Lakelse, Mr. Catt said they gave them bear meat, goat meat, deer meat and in fact almost anything they were able to get. They might have got the department to send in liver from a butcher's establishment but that would mean needless expense so they gave them the same sort of food they ate themselves. A favorite food of the young fish was fish meal as made at the reduction plant here. This was made largely from halibut and was very good fish food but it was a little too invigorating for a regular diet and so they interspersed with other kinds of food.

Cured Fish Shipments

To supervise shipments of mild cured herring and salmon, similar to those made from the port last year, E. M. Urell, representing the Northern Products Co-Operation of Seattle, arrived at Prince Rupert recently from Astoria, Oregon. This fish, purchased from canneries in the district, will be shipped east over the Canadian National Railways to the Eastern States.

Higher Prices to Canadians

Canadian schooners marketed a choicer grade of halibut at the Prince Rupert fish exchange on May 1st than Americans with the result they received nearly as much for the first class fish and from 1½c to 2c more for seconds. There was a total of 88,300 pounds offering, four American boats having 62,000 pounds and six Canadians, 26,300 pounds. The following day Canadian halibut boats again received higher prices for their catches than American boats.

Whalers Out

The steam whalers got away from Victoria before the end of April going to the various stations on the west coast of Vancouver Island and the two stations at Queen Charlotte Islands. The first sailed April 25 and the fleet was actively at work by May 1.

F. E. Burke Home From Europe

In a humorous review of conditions as he found them in the course of a tour over Europe, F. E. Burke, chairman of the B. C. division of the Canadian Manufacturers' association, at a luncheon in the Hotel Vancouver recently entertained a large gathering of local members of the wholesale bureau of the board of trade. Conditions in Great Britain, he said, were not nearly so black as they were painted.

Potential Business In Gas Engines

The change in the regulations allowing the use of gas boats in the salmon gill netting in district No. 2, which has been announced for the next year, will make a lot of business for the vendors of engines, if it is decided to equip all the boats with power. There were in the district 2940 gill net licences issued last year, made up as follows:

- Nass River, 304
- Skeena River, 1089.
- Queen Charlottes, 5.
- Fitzzhugh Sound, 136.

Bella Coola, 165.

Rivers Inlet, 1012

Smith's Inlet, 179.

There is a possibility that many of these boats will continue to fish as before but they are sure to be routed from the business in time and the power boats will take their places.

Japs In Siberian Waters

Permission of Japanese fishermen to operate in Siberian waters, denial of which by the Soviet Government threatened to cause a rupture with Tokio, now has been granted, according to a Tokio despatch. Moscow is reported to have acceded to the personal appeal of A. A. Joffe, the Soviet envoy, who is in Tokio. It is understood that the passports of Japanese fishermen would be vised for Siberia.

Record Landing at Prince Rupert

Halibut fares totalling 3,010,000 pounds landed at Prince Rupert during the month of April make a record breaker in the quantity of fish handled here in a single month. Last month, March, 2,040,600 pounds were landed here and in April 1922, 2,300,000 pounds. The catch for the present month is segregated as follows: American fish, 2,300,000 pounds; Canadian fish, 710,200 pounds. Good fishing weather and the inducement of high prices prevailing pretty well throughout the month were the principal reasons for the record total. The highest price of the month was paid on April 25—18c to the Antler with 20,000 pounds of American fish. The lowest price for first class was 11c on April 7. Generally speaking, throughout the month, Canadian fish was paid about 2c lower per pound than American.

N. S. Fishermen to California.

Thirteen fishermen from the fishing fleets of Nova Scotia have gone to San Francisco. The party was the vanguard of seventy-five selected fishermen from the fleets of Nova Scotia who are proceeding to California under contract with the Union Fish Co., of San Francisco. The fishermen are being mustered for the San Francisco Company by Captain Shea, of Halifax, and are being selected for their particular experience in cod fishing. The company by special arrangement with the United States Government is permitted to import seventy-five of these men for the purpose of bolstering up the cod fishing fleet of the California coast.

Dogfish Catch Limited

The catch of dogfish for reduction purposes along the east coast of Vancouver Island and the northern part of Puget Sound has been somewhat below the high expectations with which the season started, but this is attributed to an actual shortage in the run of fish, coincident with the failure of the herring run in those waters, which is followed by the dogfish. It is felt that the method of catching dogfish has been satisfactorily worked out, the principal problem remaining being to get operations down to a cheap enough basis to make them pay. Some dogfish traps have been used this season, but have not produced results up to expectations, the greatest production being by long-lining. Several plants are now working on dogfish in a fairly large way, and have evidently gotten the method of handling the fish down to something like a standard basis which makes the business commercially feasible.—

U. S. Tariff Instructions

In the interest of uniformity the treasury Department at Washington recently issued detailed instructions to customs collectors covering the procedure to be followed in the transshipment of products of American fisheries occurring prior to entry into the United States.

"The attention of this department, the instructions said, "has been called to the diversity of practice at many of the ports, in the treatment of products of American fisheries, under Articles 436 and 437 of the customs regulations of 1915. Paragraph 1630 of the tariff act of September 21, 1922, provides for the free entry, among other things, of 'spermaeti and other fish oils of American fisheries, and all fish and other products of such fisheries.'

"Where free entry is made of such products, collectors may require additional proof by affidavit or otherwise, where doubt exists that such importation is in fact the product of an American fishery, as defined to T. D. 32138, the provisions of which are hereby reaffirmed.

In all cases of trans-shipment of such products, whether by vessel or rail, they must be accompanied by consular forms, Nos. 157 and 158 (combined manifest of products of fishing vessels and certificate of American consul) to be entitled to free entry, or bond given for the subsequent production thereof. Such form should be accepted in lieu of consular invoices.

"The use of 'special earwise manifests' should be discontinued in all such cases, and where entry is to be made at a port in the United States without inspection at the port of first arrival the shipment should, in addition to the above requirements, be accompanied by inward foreign manifest, as required by Section 463 of the Tariff Act of 1922 and TD 32772."

39 Carloads of Halibut

Thirty-nine carloads of halibut were shipped East from here the first of April making the heaviest single week's business in the history of halibut fisheries in Prince Rupert. On April 9 the heaviest list of arrivals of the year recorded, fourteen schooners marketing 394,500 pounds.

Halibut Treaty Held up

The halibut Treaty is still lost in the mazes of diplomatic circumlocution. The delay caused by the expression of the U. S. Senate in accepting it, in which they referred to "any other part of Great Britain," is still giving pause to the ablest minds in the Chancelleries concerned.

Canada advised Ambassador Geddes that there did not seem to be any difficulty in the full observance of the treaty, even with the puzzling Senatorial expression included, but the British Ambassador is apparently determined to be sure as to whether the expression means to apply inclusively to England, Scotland and Wales, or to the British Empire.

Judging from statements made in the U. S. Senate. Senator Jones, who was the author of the 'cryptic phrase, meant it to cover "any part of the British Empire," but Ambassador Geddes thinks it wise to have it referred to the experts in London and to defer any action until they have delivered their considered opinion. When this will be, no one is rash enough to guess, but anyway there is nothing doing with the treaty in the meantime.

After Seal Poachers

Six patrol boats of the bureau of fisheries have been directed by executive order of President Harding to patrol the waters of the North Pacific frequented by the fur seal and sea otter and search any United States

vessels suspected of violating the international convention providing for the protection of such animals.

The boats are directed to seize suspected vessels and the crews and bring them into the most accessible port of Alaska, California, Oregon or Washington for trial. The nations party to the convention are the United States, Great Britain, Japan and Russia.

FISH EGGS BY PARCEL POST

Experiments have recently been made by fish culturists in Canada and the United States in shipping fish eggs by parcel post. Early in the year the successful shipment of 50,000 brook trout eggs between the United States hatcheries at Craig Brook and Grand Lake Stream, Me., was reported in the press. This shipment was in transit for a period of thirty-three hours with a loss of 785 eggs.

A similar experiment made by the superintendent of the Canadian hatchery at Banff, Alberta, was attended with even greater success as it was in transit for a period of fifty-two and a half hours and all the eggs were alive and in a healthy condition at the end of their journey. This shipment consisted of 150 eyed Atlantic salmon eggs. The parcel was posted at 10 a. m. April 14 and reached the Port Arthur hatchery at 2.30 p. m. on the 16th. The eggs were in a special container made of light tin four inches in length, depth and width. It was separated on all sides by one inch of dry sawdust from the outer box, which was made of light wood.

In packing, two inches of moss was placed in the bottom of the tin container, then the eggs, encased in cheesecloth, placed in the centre, and packed with moss all around and on top, as firmly as possible, without crushing or injuring the eggs. Before covering, the tin package was held under the overflow of one of the troughs to make sure that the moss would be thoroughly soaked. All the surplus water was then drained off, so that the mails would not be injured by leakage. The tin container was placed in the wooden box and packed on all sides with one inch of dry sawdust. The outer box was enclosed in one ply of light wrapping paper.

It is not proposed to utilize the mails for the shipment of fish eggs as the packages are too heavy, but the experiments are interesting as an indication of what eyed fish eggs will stand in the way of shipment if they are properly packed.

In addition to packing that will guard against shock, fish eggs in transit must be protected against sudden or considerable variations in temperature and must also be supplied with sufficient moisture.

ALI BABA AND THE FORTY THIEVES

It was early in the morning. He flung wide the massive portal, sweeping the interior with a piercing glance. Ten men sprang to their places and came to a swift attention before his severe scrutiny. There was a tense silence—no word was uttered. He calmly passed down the row of uniformed men standing at attention.

Then, with sudden energy, he flung off his hat, threw off his coat, and cast off his collar. He swung around, he faced the waiting line. His face was dark, and his glance was keen and stern. He picked his man. He advanced with a firm but cautious tread. He stopped two feet away. In a low voice, full of meaning, he said, "I want a shave and a haircut."

— "Gargoyle."

American Poacher Fired Upon

Unfortunate Happening Off Vancouver Island results in One death--Pertinent comment by Toronto Globe

J. M. Yorke died as a result of wounds received when the Seattle fishing schooner *Siloam*, suspected of poaching, was fired on and captured by the Canadian patrol boat *Malaspina* on April 24, and the *Siloam*, which was scuttled before being deserted by the crew, foundered.

The other four members of the crew of the *Siloam* escaped in a small boat.

The *Siloam* was captured after the schooner, struck broadside by a volley of shots from the patrol boat, had been scuttled.

The rest of the *Siloam's* crew succeeded in escaping inland on Vancouver Island, whence they managed to make their way to Seattle.

The *Siloam* is said to have fled when the *Malaspina* appeared. After a chase of a mile the *Malaspina* sent a volley through the cabin of the *Siloam*. The *Siloam* paused long enough for all her crew, except the wounded man, to take to the small boat, and disappeared. Discovery that the *Siloam* had been scuttled was made after the wounded man had been taken on board the *Malaspina* and the United States boat taken in tow. The wounded man was removed to Quatsino Sound and *Siloam* was towed towards shore.

Inspector J. A. Motherwell, who received here a report of the episode from Capt. Holmes Newcombe, of the *Malaspina*, said he believed that this was the first time a Canadian patrol boat had fired on a United States craft in Canadian waters.

There is no doubt about the *Siloam* being in Canadian waters, according to Captain Newcombe. It was off Cape Cook where she was surprised by the *Malaspina*.

"Had Live Fish Aboard"

"She was about one mile off-shore with gear down and live fish aboard," said Captain Newcombe.

The speed of the *Malaspina* enabled her to run alongside the *Siloam* and Captain Newcombe again ordered the captain of the fisherman to stop.

"What the hell do you want?" angrily shouted Captain Courage. The captain of the fisherman pointed a rifle at Captain Newcombe, but one of the members of the *Siloam's* crew pulled the rifle down.

As the master of the *Siloam* had persistently refused surrender, Captain Newcombe ordered four members of his crew to fire with rifles.

The first volley was deliberately sent wide and when the *Siloam* still persisted in her efforts to get away, a volley was fired into the pilot house.

Official Statement

Regarding the foregoing, the Department of Marine and Fisheries, Ottawa issued the following statement:

At noon today the fishery protection steamer *Malaspina*, Captain Newcombe, sighted the U. S. G. schooner *Siloam*, of Seattle, engaged in fishing within one mile of Solander Island (about one mile off the west coast of Vancouver Island, near Cape Cook). Upon sighting the schooner the captain of the *Malaspina* blew three whistles, the usual signal to stop. No attention having been paid to this signal, the *Malaspina* fired three

blank shots across the bow of the schooner. The latter continued. Two solid shots were fired, but still no attention was paid. The captain of the *Malaspina* then hailed the captain of the schooner, requesting him to stop, but he declined to do so. Two solid shots were fired, but missed, after which the *Malaspina* ran alongside and demanded that the schooner stop, warning the captain that if these instructions were not obeyed the vessel would be sunk. The schooner insisted in paying no attention to this warning; consequently, no alternative was left to the captain of the *Malaspina* but to fire a volley at the pilot house, resulting in one of the crew being hit in the shoulder. The schooner then stopped and the crew brought the wounded man on board the *Malaspina*. After placing the wounded man on board, the schooner's boat headed for the shore, the *Malaspina* lowered a boat at once and a line was put on board the schooner, when it was discovered that the crew had scuttled her before leaving. The *Malaspina* then endeavored to tow her, although full of water, into Quatsino, to obtain medical aid for the wounded man. The provincial police, the Mounted Police and fishery officers were immediately notified, and asked to assist in apprehending the four men of the schooner's crew who escaped.

Would Have Caused Trouble in Europe

The *Toronto Globe*, commencing on the episode, observes:

"An incident of this kind in Europe would set two nations by the ears, but Washington and Ottawa will dispose of it without loss of dignity or temper. The Hearst papers and their understudies may rage and Anglophobes attempt to make bad blood, but there will be no serious public excitement on either side of the line. There will be an inquiry and report by the Canadian authorities, and if the Washington Government is not satisfied a reference will be made to some commission or tribunal. When an event like this happens both countries reap the reward of their intimate relations, and their habit of adjusting differences by direct and amicable negotiation. The permanent machinery set up for dealing with the waterways and other boundary questions is a valuable precedent and influence.

"Both countries may have need of these neighborly traditions if a graver episode arises through the run-running activities in boundary or coast waters. Any day there may be a tragedy of a much more sensational character than the one reported from Vancouver Island. It might not yield easily to diplomacy, and might raise difficult questions of international law. It would be settled by peaceful methods, of course, but it might make a great deal of ill-feeling in the meantime. The mere possibility should prompt the Canadian Government to use the utmost vigilance and co-operate closely with the United States authorities in repressing the law-breakers, who are an international menace."

Canners Unfairly Treated, says DesBrisay

Salmon canner takes view that Japs, having been nationalized, must be given opportunity to make living--More profitable employe than Whites or Indians.

The Canadian Government itself is heavily handicapping the salmon canning industry on the British Columbian coast in its race with the industry in the United States, for foreign markets, according to M. Des Brisay, of Vancouver, B. C., a prominent member of the trade, who was in Montreal recently on business.

Mr. Des Brisay claims that unfair discrimination by the federal government against the Japanese engaged in the salmon fishing on the B. C. coast is a direct blow at the canning industry. He further believes that a question of British fair play and the integrity of Canada's word is at stake through the refusal of government officials to grant rights to the Japanese fishermen, which they were promised when they became naturalised Canadian citizens.

According to the Pacific coast merchant, the Japanese fishermen are better than either the whites or Indians engaged on the coast in the same class of work. Canning factories have found that the men from across the sea can be depended upon to bring in a larger catch of fish and to entail less initial expense when engaged on the work than the others, and are much to be preferred as fishermen.

It is a practice of the canning factory officials to provide the fishermen with motor boats and nets, and with other means of catching the fish. Every year this is done and the fishermen are then paid high prices for their catches. In the case of either white, red or yellow men, the price paid for the salmon is the same, but in the initial outlay and the cost of equipping the fishing fleets, it has been found by experience that this, in the case of the Japanese is only about half of what is entailed in the case of either the white man or the Indian.

Politics Blamed

Mr. Des Brisay claims that politics on the west coast is responsible for the fact that every year the Government refuses the right to a certain percentage of the Japanese who apply for permits to engage in the salmon fishing.

This is an obvious injustice, the canning man says, inasmuch as the yellow man has the same rights as his white fellow-worker, and has had his claim to these rights ratified by the naturalization form given to him when he takes the oath of allegiance.

Every year, the Government makes an announcement of the percentage of Japanese engaged in the industry from whom permits will be withheld. Generally this announcement is made in plenty of time to allow the canning officials to engage other fishermen and to make all arrangements for dealing with the catch. But, Mr. Des Brisay states, the salmon industry on the Pacific coast has been sorely hit this year, by the sudden and unexpected reversal of the Government's announcement, according to which plans have been made.

It was announced last fall that only about 15 per cent of the Japanese applicants for permits would be refused this season. Following this announcement a

federal commission toured the coast, and as a result of reports made to the fisheries department at Ottawa, it was announced that 40 per cent of the Japanese would not be allowed to engage in their trade this year. Mr. Des Brisay believes that this reversal of the Government's former decision is "merely a matter of political juggling." The animosity towards the Japanese on the Pacific coast, he says, was responsible for the Government's move which tends to drive the bulk of the fishermen from the trade altogether, and which, this year, will entail the loss of thousands of dollars to many canning firms affected.

According to Mr. Des Brisay the United States laws governing salmon fishing and the treatment on the Pacific coast below the border, make it possible for the American canning man to take strides which bring him far in the lead of his Canadian competitor.

"There are constantly appearing letters from our trade commissioner in other colonies and foreign lands, saying that this or that country offers a splendid market for Canadian salmon," Mr. Des Brisay added. "but how can we hope to compete with the United States canneries if our Government is trying to cripple us in this matter."

ATLANTIC SALMON ESTABLISHED IN B. C.

The Department of Marine and Fisheries is in receipt of further encouraging evidence of success in its efforts to acclimatize and establish the Atlantic salmon in the Cowichan River, Vancouver Island, British Columbia, in the recent capture of two such fish by anglers.

One which had spawned last autumn and was, therefore, in a somewhat emaciated condition, was caught on April 10 on its return journey to sea, where they attain most of their growth and recuperate after spawning. It weighed twelve pounds and was thirty-five inches long. This fish, in prime condition and fresh run from the sea, would probably weigh twenty pounds.

The second fish, caught on April 15, was a female in prime condition ascending from the sea, and weighed ten pounds.

For several years, small numbers of Atlantic salmon fry have been distributed in the Cowichan river, in an experimental way. The capture of specimens, in various stages of growth up to mature fish returning from the sea, demonstrated that conditions were suitable, and the acclimatization of this valuable food and sporting fish was taken up on a larger scale last year with every expectation of success. It is proposed to concentrate on the Cowichan river until the fish are established there, and then stock other suitable streams of the province from that source.

Annual Meeting
Canadian Fisheries Association
June 11 and 12
You Should Be There

Water Pollution Menace

Further heavy losses to migratory waterfowl along the southern coast of Nova Scotia from fuel oil are reported by the chief Federal migratory bird officer for the Maritime provinces. Mergansers, murre, loons and hundreds of dovekeys have been coming ashore dead and dying along the coast from Seal Island to Cape Cod as well as on Cape Island and other islands along the Atlantic sea-board. The birds' feathers were heavily coated with a thick oily substance like crude oil. It is presumed that some of the oil-burning steamers bound for Halifax had fouled the water and the birds in landing to rest or feed had become mired with the heavy substance and losing their power of flight had perished. The destruction of migratory waterfowl by this means is causing deep concern among game conservationists along both the Atlantic and Pacific coasts and efforts are being made to secure legislation to counteract this new menace to bird life.

Slaughter Permitted in Quebec

On reports from the Department of Colonization, Mines and Fisheries of Quebec, to the effect that great black-backed gulls are seriously destructive to young of the Eider Duck, a species valuable as food and for its down, in the county of Saguenay, and this information having been confirmed by the federal game officers, it has been ordered that any British subject domiciled in the county of Saguenay, may kill great black-backed gulls by shooting, within the County of Saguenay, from one hour before sunrise to one hour after sunset, from June 15, to October 31, both dates inclusive provided that the birds so killed shall not be sold or offered for sale or shipped or transported from one person to another, except that they may be shipped or transported as a gift to persons authorized to take or possess such birds for scientific purposes.

For reason that the red-breasted mergansers are seriously injurious to the fisheries of Quebec, it is ordered that any British subject domiciled in the province may capture by trapping or kill by shooting American and red-breasted mergansers within the counties of Rimouski, Matane, Matapedia, Bonaventure, and Gaspé, Province of Quebec, on the south shore of the River St. Lawrence, and within the county of Saguenay, on the north shore of the Gulf and River St. Lawrence from one hour

before sunrise to one hour after sunset, from April 1, to August 31, both dates inclusive.

For like reasons, superintendents of fish hatcheries in the province of Quebec, any salaried provincial or federal game officer duly appointed for that province, or any owner or any lessee of fishing areas in the province, the bona fide employees of such owners or lessees, and the members of fishing clubs which lease fishing rights, may kill loons by shooting, within the province from one hour before sunrise to one hour after sunset, from April 1, to October 31, both dates inclusive.

That's Why

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Official Organ of the Canadian Fisheries Association
A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada
and Technical Education of those engaged in the Industry.

VOL. X

GARDENVALE, P. Q., MAY, 1923

No. 5

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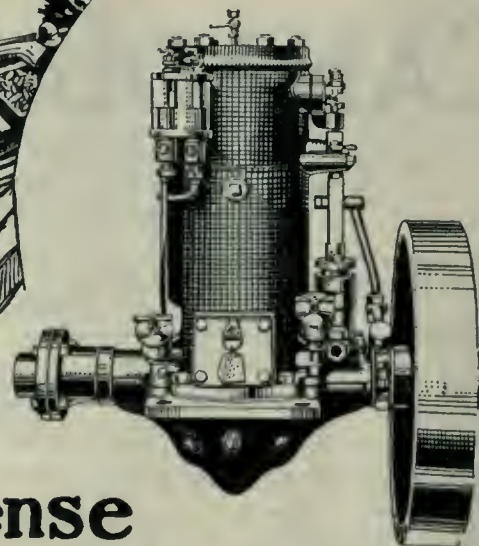
Published on the 17th of each month. Changes of advertisements must be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication, these will be paid for at our regular rate.

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J. J. Harpell, President and Managing Director
GARDEN CITY PRESS, Gardenvale, Que.
Telegrams and Express Ste. Anne de Bellevue, Que.
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Official Organ of Canadian Fisheries Association

"CO-OPERATION AND PUBLICITY"

The 1923 convention of the Canadian Fisheries Association was surprisingly successful. The word surprisingly is used advisedly. It had been expected that the business depression of the last couple of years and the unpropitious outlook this spring would be an adhesive to keep members close to their business. That they realized the convention was business, and business on a large scale, was indicated by the presence of the busiest men in the industry. Fortunately, too, the gathering was representative with the single exception of the Pacific coast. Members from the west had been in consultation with the eastern members of the executive within recent weeks and the past president, Mr. Hager, is coming east later in the year for a conference, so that cohesion and unanimity of purpose between east and west will not be in any way sacrificed.

Members in Montreal are deserving of the warmest congratulation for organizing the convention. They took hold of things when enthusiasm was not general and they forced things through to a successful conclusion. When everybody is enthusiastic it is a comparatively simple matter to raise a big noise, but when the reverse is the case, the man who sticks her through has a lot to his credit.

Many important issues were raised at the convention. A complete report of proceedings is printed in this issue so that it is not necessary to make a review here, though we should like to attract attention particularly to the discussion which took place on co-operative advertising and the decision that was made to invigorate the association by introducing a new form of assessment which is calculated to produce enough revenue to adequately carry on the work required of it.

Congratulations to J. A. Paulhus on his elevation to the presidency. He has won his spurs by ability and consistent interest and hard work. He gives promise of putting new life into the organization and without any undue delay we expect him to apply the surgical knife and introduce the monkey gland treatment. He selected as his motto, and that of the association — co-operation and publicity — and he made an accurate diagnosis of the symptoms when he hit upon those two points.

In dealing with the question of co-operation Mr.

Paulhus employed decorously circumspect language. His position and the occasion required that. Here, we need not be so circumspect. The industry, yes, more than that, the members of the Canadian Fisheries Association have not been co-operating for their mutual advantage or for the good of the industry. It has been our experience that members showed a bit of interest only when they had some particular selfish aim to serve. This, mind you, has not been general, but it has been too general to make for the good of the association. The Canadian Fisheries Association is established on broad lines. It is hoped by improving conditions in the industry generally to make the lot of the individual in the industry more prosperous and to make the industry itself more valuable to the people to whom it belongs. If individuals are to continue kicking away the propping we are never going to get our structure raised, and members are kicking away propping when they cease to give support beyond than their membership fee or when they are moved by petty jealousies to withdraw their active help. Mr. Paulhus well said in his inaugural address: "There may be co-operation in competition." Co-operation does not mean a general amalgamation of business enterprise. That is not to be desired nor has it ever been thought of. But such co-operation as that suggested in a general publicity campaign proposed by Mr. Boutillier, is constructive co-operation, as is any unified action in effort and in money, if necessary, that will bring about a condition in any division of the industry which is universally desired.

Regarding publicity itself Mr. Paulhus is a firm advocate. He is an apostle of the doctrine that advertising will sell for you. And he is right, providing, of course, that you sell what you advertise. He indicated a plan of raising a national fund and there is a suggestion, made by Mr. Boutillier, of inducing the trade to submit to an annual levy for the purpose of advertising fish regularly. It is trusted Mr. Paulhus will succeed in his effort. He may be confident that the executive is behind him in the enterprise. Furthermore, during his term of office, he can do no greater service to the association and no greater service to the industry of this country, than by helping to stimulate a healthy demand for the resources of our seas, lakes and rivers.

More power to him and a snap of the fingers to the man who believes in his doctrines and will not support him,

A POLITICAL COMMISSION IN THE EAST

In line with our recent forecast, the standing committee on marine and fisheries of the House of Commons has unanimously recommended the appointment of a commission of seven members to thoroughly investigate and report upon the fisheries of the east coast. Concurrence in the report has been moved in the House by William Duff, M. P. but the motion was allowed to stand over when the leader of the Opposition requested that "if it is carried it be on division."

Mr Duff, chairman of the committee, feels that two years will be necessary to properly conduct the investigation, and to one who has any idea of the situation in the east, his estimate seems conservative. If the inquiry is not going to be thorough it would be a thousand times better to let things stand as they are. There have been royal commissions in the past and there have been resultant reports, but the upshot of the whole thing has been the building up of an extremely complex arrangement and the introduction of policies and regulations which, in the judgment of people concerned, are totally inadequate and unsuited to present day conditions. If it is the intention of the commission to clear away this debris and make an attempt to start on bed rock foundation, all well and good, but if it is intended to build a superstructure on the present foundation, all is far from good.

From past experience it must be appreciated that the ultimate report is not going to be satisfactory to all. It is a physical impossibility for any set of men to accede to the viewpoints of all and define any policy whatever. Some must be disappointed, but time must be taken to insure that the commission gets the proper and complete evidence to warrant that its final judgment on any particular question will be for the good of the industry as a whole. The lobster situation alone, as we remarked many times before, is a complicated issue that would engage the lifetime's attention of a battalion of Philadelphia lawyers to straighten out. There are numerous other questions almost as knotty, and any body of men who set out upon the task should be thoroughly alive to what they are up against.

It was the opinion of the committee that Quebec, as well as the Maritime provinces, should be represented on this committee, which view, considering the interwoven interests, we most strongly endorse. We must confess that we are not without misgivings on the score of a political commission. In the maritimes the people carry politics to a very fine point and the danger confronts us that politicians may be unduly swerved in their judgment. If the commission is to report in the interest of the industry as a whole it must be politically unbiased, which on the face of it, to put it mildly, is paradoxical as applied to the proposed arrangement. It would be our suggestion that the commission be composed of representatives of the House of Commons, men from the industry, with a chairman of independent

standing, a judge or someone of equally discriminating talent.

There is positively no reason why the matter should not be frankly discussed now. It must be conceded that politics played too heavy a role in the Pacific coast inquiry. We consider it no reflection upon the individual members to say this because it is the business of a politician to play politics. But considering the matter from the viewpoint of the industry, it is our opinion that the interests of all would be best served and without injury to any members of the House, by setting up a composite commission. We recommend this suggestion to the consideration of those who have the say so.

NOW FOR A RAPPROCHMENT

That the policy we advocated, as a vehicle of expression for the Canadian Fisheries Association, regarding the abrogation of the *modus vivendi* license on the east coast, is a popular and businesslike policy, was demonstrated in the attitude of Parliament when the minister of marine and fisheries announced that he would bring down a resolution making our proposal effective. The action was not only warranted but a logical sequence to events over which we have no control, was, to epitomize, the view of all shades of political opinion in the House. Particularly enthusiastic endorsement came from the Progressive benches and it was a gratifying spectacle to find this body of natural producers on the soil stand in support of their right wing regiment, the natural producers of the sea.

The policy of excluding American vessels, it would appear, has been quite decisively fixed though we have been awaiting effective developments. Those in the industry are impatient for immediate exclusion, but it must be borne in mind that the issue has ramifications which are not obvious to one unacquainted with international affairs. We must be satisfied that our point has been gained, providing no unreasonable time is allowed to elapse.

Apropos, Mr. Short of Digby made an interesting revelation at the convention a few days ago, when he told of American vessels entering our outports and buying up our Canadian fish, salting it, and carrying it back to the United States, duty free, of course, being American bottoms. That is but one of many illustrations which we could recite where present arrangements are not affording our Canadian people the protection they deserve.

It is interesting to observe the verge of a rapprochement during the trip of the New Brunswick Tourist Association to Boston. Premier Veniot grasped a very favorable opportunity to comment upon the situation and a press report credits him as follows:

"The Premier regretted the American federal regulations barring Canadian fishermen from United States harbors and said it might be that, while Canada had not as yet taken any action savoring of reprisals, yet the time might come when, in justice to all the Canadian

Government might have to act. He appealed to the New England people to help prevent even the appearance of a breach in the good relationships."

PROTECTION, TREATY OR NO TREATY

Ever since the Senate at Washington attached that whimsical rider to its ratification of the halibut treaty we have been urging Ottawa for information as to whether the terms of the treaty would be effective this fall. We thought, originally, that our long task was fulfilled when the treaty was arranged between Ottawa and Washington and it was with the deepest chagrin that we watched the U. S. Senate throw a monkey wrench into the works.

It has been a serious question, infinitely more serious than the general public would believe, to study the possible effect of the rider. It involves a question of constitutional precedent. The Washington rider really meant that Canada was making a treaty applicable to other parts of the Empire. In effect the treaty will never apply to other dominions but the fact itself establishes, or rather may establish, a precedent dangerous to the integrity of the Empire. Were we to ratify the treaty as amended we must seek the approval of the other sections of the Empire, and as the affair is strictly a matter between Canada and the United States, it is not businesslike, to say the least, to adopt this circuitous method of treatment, when there is no earthly possibility of a South African or a New Zealander molesting the North Pacific halibut sanctuary. Were we not to secure the approval of the other dominions, whose nationals have been included by the United States, it would create an extremely embarrassing situation for Downing Street, to put it mildly.

It is difficult to say just how the respective governments will ultimately surmount the difficulty but assurance has been given our Pacific Coast people by Hon. Mr. Lapointe who on June 6 announced in the House of Commons that as the rider made by the U. S. Senate made it impossible for Parliament to ratify the halibut treaty this session, the Government proposed to introduce substitutional legislation to replace the treaty until such time as it is constitutionally consummated.

This is gratifying news. The point of prime importance is that the halibut need protection during the propagating season. Constitutional difficulty over arranging a treaty to that end is a secondary consideration. As long as the protection is afforded it rests with our authorities to find the necessary vehicle to meet all constitutional differences.

PISCATORIAL PARAGRAPHS

Following a backward spring and poor fishing, our fishermen in the east have been blessed with good runs of all varieties. It is difficult to say just now how they will fare financially during the whole year but present prospects are bright.

American halibuters in the north Pacific have for some time been landing their fares at Ketchikan, Alaska, and transshipping by boat to Prince Rupert, B. C. to be expressed to the eastern American markets. Already Prince Rupert has lost a good deal of its business in outfitting American vessels and this diversion of trade in landings is bound to be felt. At the same time natural conditions would seem to justify a large degree of optimism as to the return of this business. The indirect routing of American landings via an American port is not a natural one. It consumes an extra day in transit and the service is not as reliable. It is possible that Americans are responding temporarily to an appeal to patriotism in patronizing an American port, but where Prince Rupert is so obviously the logical point of landing, patriotic sentiment will not very long prevail against sound business judgment. Prince Rupert is strategically situated to cope with all competition and a temporary reverse is not to be construed as a permanent defeat.

Mackerel scouting by the Canadian fishery patrol boats is not proving popular and we anticipate petitions to the department at Ottawa to have it discontinued. Although a few Canadian boats seine for mackerel, it is not a Canadian occupation, consequently information broadcasted by our patrol boats is of little service to our fishermen. On the other hand our American friends are taking the tips of our scouts to the disadvantage of our own fishermen. In other words it is a good help to Americans, but no help to Canadians. That is the way fishermen put it. We have taken the trouble to explain that the department would have no hesitancy in discontinuing the scouting if it were known that it is so unpopular.

BODY OF WHALE BUT EXTREMITIES OF A TURTLE

A strange sea monster was cast upon the Chilean coast by the recent tidal waves, which appears to be a cross between a whale and a turtle. Fishermen at Lurin, 25 miles from Lima, reported a huge cutaneous floundering in the shallow waters of the bay. Then they sent out word it was an unknown monster of the sea, and that they had killed it.

The director of the Natural History Museum of the University of San Marcos and the official taxidermist made a trip to Lurin for the purpose of studying and classifying the strange visitor. They found an animal with the body of a whale, but with a head and extremities resembling those of a turtle.

After examination they came to the conclusion that it belonged to the family of "Balaenidae," cetaceans, inhabiting the South Pacific waters. It is supposed that it was carried along by the Humboldt and thrown up on the beach by the tremendous surfs following the tidal waves of the Chilean earthquake.

The specimen was brought to Lima for mounting, and will be preserved in the University museum.

No Acrobat

Stage Manager: "All right, run up the curtain."
Stage Hand: "Get out. I ain't no squirrel." — "By the Way."

C. F. A. Convention Is

Many delegates attend important gathering in Montreal and enjoy hospitality of local branch-- J. A. Paulhus succeeds to presidency

The 1923 convention of the Canadian Fisheries Association went off big. From beginning to end the affair was an unqualified success. During the two days, June 11 and 12, it was in session delegates were kept on the jump all the time, either discussing business affairs or enjoying themselves in devious ways as guests of the Montreal members. Ladies who accompanied their husbands to the convention went on several excursions with the entire party and during the periods when members were in business session the women folk were entertained by the wives of Montreal members.

J. A. Paulhus of Montreal succeeded A. L. Hager in the presidency, Arthur Boutilier of Halifax was chosen first vice-president; F. E. Burke of Vancouver, second vice-president; and J. T. O'Connor of Montreal third vice-president.

Important resolutions were adopted at the meeting, but for the purpose of giving to members a record of the meeting to preserve, the business will be dealt with in chronological order.

The Programme

June 11

- 10.00 a.m. Meeting National Executive.
- 1.00 p.m. Trip to harbor and inspection of most up-to-date cold storage plant on the continent.
- 4.00 p.m. Business meeting. Reading of reports.
- 8.15 p.m. Exhibition special fishery motion pictures.

June 12

- 10.00 a.m. Business meeting. Election of officers.
- 12.15 p.m. Entrain for Garden City, home of the "Canadian Fisherman."
Inspection of Garden City Press.
Inspection Macdonald College.
- 7.00 p.m. Annual banquet at Mount Royal Hotel.

The new Mount Royal Hotel, the largest and finest hostelry in the British Empire, was the headquarters

of the convention. The business meetings were held in one of the numerous convention halls while additional rooms were reserved as offices and a centre for a variety of purposes.

Jos. T. O'Connor was in charge of registration. As each delegate affixed his name to the book, he was supplied with a programme, a copy of the constitution and a bundle of tickets admitting him to all features of the programme. This group of pasteboards advised each delegate as follows:



THE REPAIR SHOP

ROOM 1074

LIKE A CHINESE RESTAURANT
OPEN AT ALL HOURS

Where broken down spirit, parched throat, loss of Appetite and similar ailments quite prevalent in arid localities will be properly treated

ROOM 1075

WHERE THE WEARY MAY REST
GOOD FOR ANY NUMBER OF REPAIRS



"FROM THE WATER TO COLD STORAGE"

DON'T FEAR DAN MAGRUE'S FATE

THIS TICKET IS SIMPLY A PASS TO TOUR THE HARBOUR ON THE SS "HUGH ALLEN" AND THEN VISIT THE MOST UP-TO-DATE COLD STORAGE ON THE CONTINENT

Go on board 1 P. M. (Daylight saving)

LUNCH SERVED ON BOARD BOAT



Some of the delegates snapped in front of Mount Royal Hotel

A Tremendous Success

Resolutions adopted call for department, re-organization of Biological Board and expenditure of government publicity appropriation-- New assessment system



"OURSELVES AS OTHERS SEE US."

(No insinuations of course)

This entitled bearer and other fish to attend our special motion picture entertainment. These films have not yet been shown and they are all about fish.

Attendance is one of the obligations of the
ANNUAL MEETING

8.15 P. M. MONDAY, JUNE 11th.

(Daylight saving time)

PLACE OF ENTERTAINMENT ANNOUNCED
AT MEETING



A TRIP TO ST. ANNE'S

Don't be frightened; no churches
to be visited

BEARER WILL ACCOMPANY PARTY TO GARDEN-
VALE (STE. ANNE DE BELLEVUE) TO VISIT HOME
OF "CANADIAN FISHERMAN" AND MACDONALD
COLLEGE.

LUNCH AT GARDENVALE

(Daylight saving time)

TRAIN LEAVES WINDSOR STATION 12 15 P. M.
TUESDAY, JUNE 12th.



ANNUAL DINNER



WHERE FISHER FOLK FOREGATHER THERE'S
USUALLY ROUGH WEATHER.

BEARER WILL BE ADMITTED TO ANNUAL DINNER

7 P. M. TUESDAY, JUNE 12TH,

DAYLIGHT SAVING TIME

MOUNT ROYAL HOTEL

Commission; J. N. McIntosh, Ottawa; H. B. Short, Digby, N.S.; O. Tremblay, Montreal; J. E. Dight, Montreal; William B. Cohen, 1005 Main street, Montreal; Jos. T. O'Connor, Montreal; A. S. Duolos, Edmonton, Alta; J. A. Kuhn, Montreal; Ed. Piché, Gardenvale, P.Q.

Executive Meeting, Monday 10 a.m.

The first gathering of the convention was on Monday morning, when, in the absence of the president, A. L. Hager, of Vancouver, Mr. Paulhus, then first vice-president, took the chair.

Mr. Paulhus at the outset most cordially welcomed the delegates to the convention. He expressed pleasure that the attendance was so representative. He trusted that the meeting would be a success and he felt sure that each one who attended would go home perfectly satisfied. He regretted that the president was un-



J. A. PAULHUS
The New President of C.F.A.

Among those registering on Monday morning were: W. H. Morrison, 119 Youville Square, Montreal; A. H. Brittain, Maritime Fish Co., Montreal; J. E. Cassidy, 1019 Main street, Montreal; Chas. Matte, Dominion Fish & Fruit Co., Quebec; W. J. Gould, Montreal; Lewis Connors, Blacks Harbor, N.B.; W. A. Found, department of marine & fisheries, Ottawa; Arthur Boutilier, National Fish Co., Halifax; J. J. Harpell, Gardenvale, P.Q.; James H. Conlon, Gardenvale, P.Q.; T. W. C. Binns, Ottawa; A. Lapointe, Ottawa; George Birse, 881 St. Lawrence Boulevard, Montreal; D. J. Byrne, Leonard Fisheries Ltd.; W. H. Love, Montreal; F. A. Bellevance, Montreal; H. G. Connor, Maritime Fish Corporation; I. J. Franklin, Montreal Harbor

avoidably absent, and read the following telegram which he had just received:

Vancouver, B.C., June 10.

J. A. Paulhus,
Montreal, P.Q.

I sincerely regret my inability to be present at the Montreal gathering of the association. Kindly convey my greetings and best wishes to all. May the convention prove successful in every way and, in pledging my wholehearted support to my successor in office, I sincerely hope that in the years to come the association will continue its useful work and become more influential and stronger than ever. Hope to meet you all in Montreal before the year is out.

A. L. HAGER.

The meeting regretted the absence of the president and realized that if it had been possible to attend he would be present. His kind sentiments were thoroughly appreciated as was indicated by the applause following the reading of his telegram.



W. A. FOUND

Assistant deputy minister of fisheries, who attended convention

Business Agenda

The first item on the agenda for discussion was the matter of assessment. It was explained by the chairman that a good deal had been said during the year at various executive meetings about our system of assessment. He referred to a report presented some time ago by the secretary-treasurer in which alternative systems were adopted.

The secretary, being called upon for information, explained that he had made a report on the assessment system followed in other organizations. In the Canadian Manufacturers' Association members pay on the basis of the number of employees. Members employing fewer than ten, pay \$15 and the scale is graded up to a thousand and more employees, with a maximum annual assessment of \$1,000.

In the United States Fisheries Association there is a

fixed rate for each division of the industry as follows:

Producers, individual fishermen..	\$10.00	
Producers, firms, corporations, etc.	20.00	to \$200.00
Wholesalers	20.00	to 200.00
Retailers	10.00	
Cold Storage Houses	20.00	
Chain stores, first member.. . . .	10.00	
Each additional	5.00	
Smokers	20.00	to 200.00
Canners and salt curers	20.00	to 200.00
Shell fish firms	20.00	to 200.00
Associate	10.00	
Executives, managers, etc. of firms		
already members	10.00	
Suppliers	20.00	to 200.00

The amount payable by members between \$20.00 to \$200.00 is optional with members although it is expected they will be conscientious in establishing the amount of their dues.

The secretary added that certain other organizations pay a percentage of payroll, some according to their capitalization and others according to the volume of their turnover.

Mr. Boutilier of Halifax offered some exceedingly constructive suggestions on the question of assessment. He said that if the association was to function as it should it must be possessed of adequate finances to carry on. He was unable to say offhand what scheme of assessment should be adopted but he believed the question should be settled at the present convention. Without delving into the matter the plan which appealed to him most was that adopted by the Canadian Manufacturers' Association.

Mr. Connors of Blacks Harbor, N.B., was of a similar impression as Mr. Boutilier. He thought the question of membership was closely identified with that of membership and felt that a good deal of the financial problem would be solved by extending our membership. He advocated placing application blanks in the hands of present members and urging them to seek new members. The new members in turn could be invited to assume a similar task.

Mr. Brittain of Montreal concurred in what had been said by both preceding speakers. He was equally impressed with Mr. Boutilier as to the vital necessity of balancing our budget and he thought, too, that Mr. Connors' suggestion regarding increasing membership was a good one. He felt assured that Mr. Connors should be on the membership committee for the coming year.

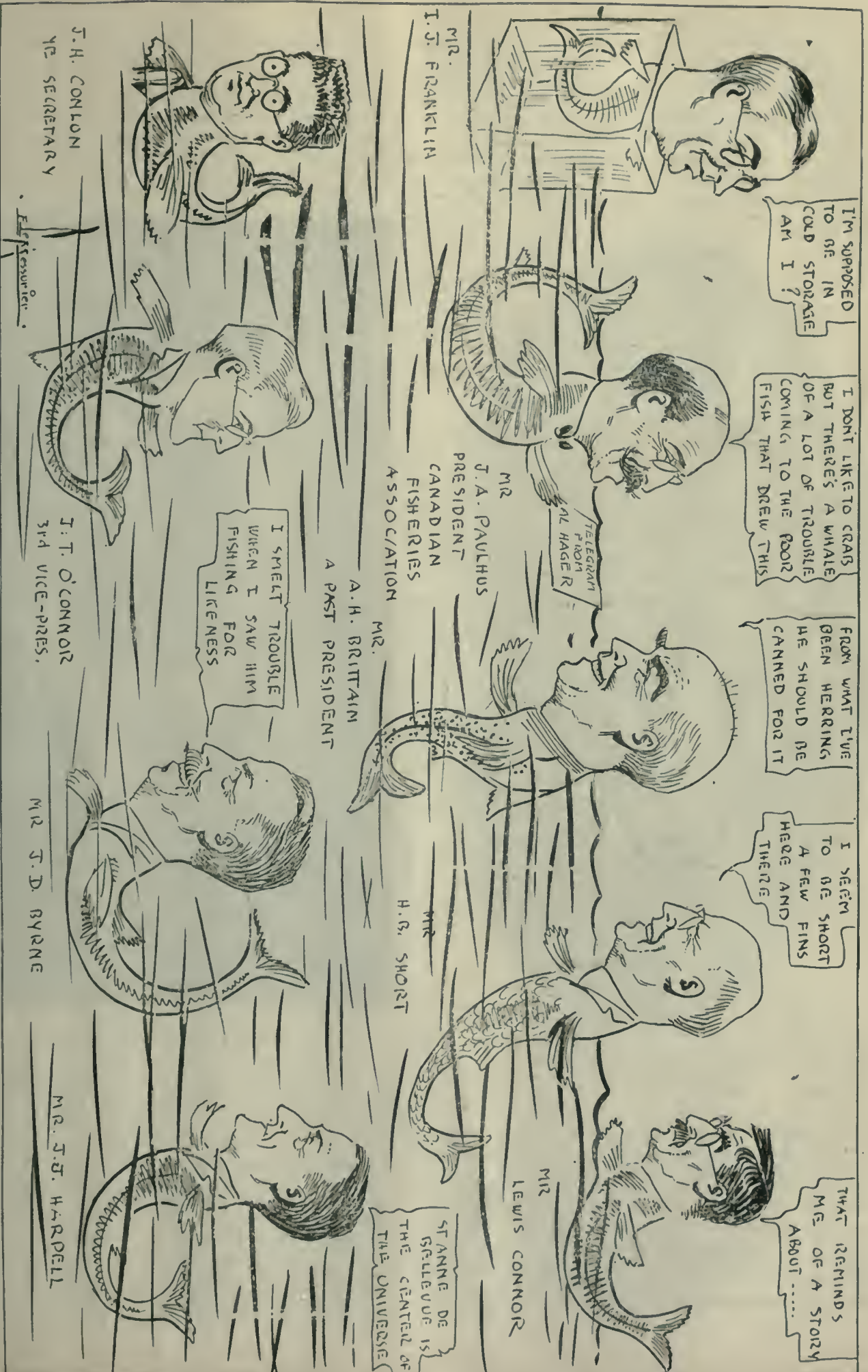
Mr. Byrne of Montreal suggested that a committee be appointed, including Mr. Boutilier and Mr. Byrne, to take up the question of assessment during the convention and report at a subsequent general meeting.

The resolution was unanimously adopted and the chairman appointed to the committee Messrs. Boutilier, Byrne, Brittain and Binns.

Mr. Harpell, because of other engagements on behalf of the convention, declined to accept appointment on this committee but took occasion to remark that a tonnage levy on the output of mills had proved a most satisfactory manner of securing the necessary funds to run the Pulp & Paper Association.

To Increase Fish Consumption

The chairman introduced a most important subject and one which is very close to his heart in advising some more general scheme of developing the consump-



I'M SUPPOSED TO BE IN COLD STORAGE AM I ?

I DON'T LIKE TO CRAIS BUT THERE'S A WHALE OF A LOT OF TROUBLE COMING TO THE POOR FISH THAT DREW THIS

FROM WHAT I'VE BEEN HERRING HE SHOULD BE CANNED FOR IT

I BEGIN TO BE SHORT A FEW FINS HERE AND THERE

THAT REMINDS ME OF A STORY ABOUT



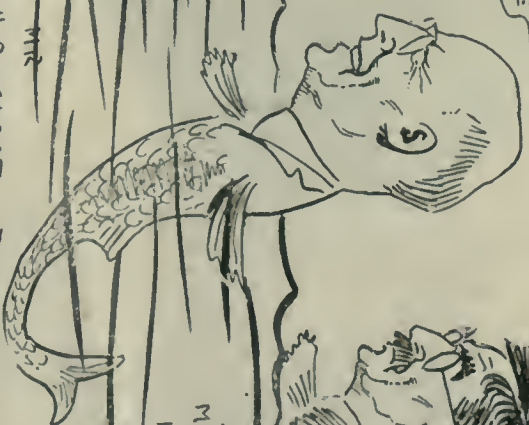
MR. J. FRANKLIN



MR. J. A. PAULHUS
PRESIDENT
CANADIAN
FISHERIES
ASSOCIATION



MR. A. H. BRITTAIN
A PAST PRESIDENT



MR. H. R. SHORT



MR. LEWIS CONNOR

STANNE DE GALLEVE IS THE CENTRAL OF THE UNIVERSE



MR. J. H. CONLON
V.P. SECRETARY



MR. J. T. O'CONNOR
3rd VICE-PRES.

I SMELT TROUBLE WHEN I SAW HIM FISHING FOR LIKENESS



MR. J. D. BYRNE



MR. J. B. HARPELL

Editorial

Courtesy Montreal Star

tion of fish in Canada by means of publicity. He told of having approached the Hon. J. E. Perrault, minister of colonization, mines and fisheries in the Quebec Government for a liberal grant to increase fish consumption in the Province of Quebec. It was the intention also to approach Ottawa for generous assistance and likewise other provinces of Canada.

Mr. Boutilier, speaking on the question, felt that the industry was looking too much to governments for action and not taking enough upon itself. He spoke of what he had done himself in the Maritime provinces to stimulate fish consumption and he told of concrete instances of effective results. He thought to be consistent fish people themselves should eat more fish. Personally he used one pound a day six days a week. If everyone else in the industry would do the same it would account for 2,000,000 pounds annually. If everyone in the country ate only one pound a week the volume of consumption annually would approach 500,000,000 pounds or more than one half our total production.

Mr. Boutilier suggested that all producers, wholesalers and retailers be assessed annually one-tenth of one percent of their sales. In that way an amount would be constantly developing for the purpose of advertising fish in a national way. In the past we have not been aiming high enough, he felt.

Mr. Connors of Blacks Harbor offered the suggestion that one way to stimulate demand for our own fish was to keep Americans out of our ports, to prevent them from selling fish in our bays and harbors and restricting their accessibility to our market to a similar extent to which they restrict us in theirs.

Mr. Binns of Ottawa agreed with Mr. Boutilier that the matter of publicity and propaganda was not entirely the responsibility of the Government. He felt that the retailers have been going some in the past and he exhibited printed display posters and other forms of publicity which his own firm, the Canadian Packing Co., had adopted. The wholesalers, he thought, had not done enough to advertise fish. Their publicity effort was expended chiefly on advertising their particular firms as a source of fish supply.

Mr. Byrne also contributed to the discussion, after which Mr. Paulhus expressed pleasure at the splendid points brought out by the speakers and felt confident that the prosecution of some scheme along the lines suggested during the coming year could be very safely left in the hands of the incoming executive.

Finance Committee Report

The Chairman called upon H. G. Connor for the report of the finance committee which was as follows:

"Gentlemen: Your finance committee, which was appointed 15th April 1922, begs to report cash in the Bank on the 8th of this month, at the time the last financial report was submitted by the secretary to the executive, of \$283.09 and no outstanding bills payable.

"It is regretted that an audit of the books has not been completed in time to present a statement of the financial affairs since the last convention held at Vancouver three years ago, but an audit will be made as soon as possible and a statement presented to the incoming executive. In this connection your committee wishes to state that all expenditures are now authorized by resolution of the executive and that each member of the executive receives a copy of the statement as presented and approved at each meeting held.

"Membership fees collected this year to date, amount to about \$900.00, leaving a number of subscriptions still unpaid, which will be collected as soon as possible.

"It has been found, however, that the revenue derived from the present scale of fees is totally inadequate to carry on the work, and during the past three years whenever it has been necessary to defray the cost of any special expense, such as engaging legal counsel to appear before the Board of Railway Com-



ARTHUR BOUTILIER
Halifax, now first vice-president

missioners to fight increase in freight or express rates, moneys spent for advertising, etc., expenditures of this nature have always been taken care of from a special fund donated by several of the members in close touch with the work of the association. It was also found necessary in November of last year, owing to lack of funds, to discontinue the comparatively small salary of the secretary, since which time Mr. Conlon has been carrying on the work without remuneration, with the exception of an honorarium of \$200 voted to him recently. Also in December last Mr. Harpell voluntarily cancelled an old indebtedness of \$1,411.40, which was largely incurred by advances to Mr. Wallace, the late secretary, on authority of the association, and this

generous action on Mr. Harpell's part was highly appreciated.

"It is felt however, that if the association is to continue its usefulness, and particularly to carry on an aggressive policy, some means of increasing the revenue will have to be devised; otherwise, it cannot be expected to carry on successfully owing to lack of funds. Several schemes of assessing members have been submitted to the executive, particularly those in use by the Retail Merchant's Association and the Canadian Manufacturers' Association, and the secretary, Mr. Conlon, made a written report some months ago, giving details of the methods of assessment used by the said associations, also recommendations in regard to assessing our own members, which report is on file, and it seems quite necessary that some definite action should be taken in this regard at this meeting.

"Your committee desires to record its appreciation of the sympathetic help and co-operation of the retiring finance committee, composed of Messrs. Spooner, Byrne, O'Connor, Brittain and Paulhus."

It was moved by Mr. Boutilier, seconded by Mr. Short and passed unanimously, that the report be adopted as read.

Nominating Committee

At this juncture the chairman appointed a nominating committee composed of A. H. Brittain, D. J. Byrne, Arthur Boutilier, J. T. O'Connor, T. W. C. Binus, with the chairman.

Regarding Membership

Mr. Paulhus raised the question of extending our membership and thought that during the coming year a good deal of energy must be applied in this direction. He suggested the appointment of a special committee to look into the matter at once and make suggestions.

Mr. Boutilier and Mr. O'Connor contributed to the discussion. It was finally decided to leave the question in the hands of the incoming executive with the suggestion that a strong committee for the purpose be selected.

Separate Fisheries Department

The chairman introduced the subject of securing a distinct and separate fisheries department at Ottawa. He explained what had been done by the association and the co-operation that had been secured from other organizations to attain this reform. So far, however, we have not secured what we have been after. There are indications, however, that we are getting nearer to it. Soon the matter will have to be settled. Changing conditions in the industry make it necessary that the administrators of our fisheries have a free hand and are not encumbered by interference from outside individuals of another department. The new executive, he assured, would continue to strive for the objective and he was hopeful of results.

Mr. Boutilier suggested leaving the matter in the hands of the new executive entirely, but Mr. Byrne strongly advised that a resolution on the subject be prepared for submission to the members in general meeting, to indicate to the authorities at Ottawa that the issue is too important and too vital for us to forget.

The latter suggestion was approved.

The Modus Vivendi

Another issue of moment was presented for discussion by the chairman in the modus vivendi license given to American fishermen on our Atlantic coast authorizing them on payment of a nominal fee to use our ports for practically all purposes.

Mr. Connors of Blacks Harbor spoke strongly for the abrogation of any special privileges until such time as our American friends see fit to reciprocate in like manner. He felt that the valuable resource we have in our fisheries should be protected and if we failed to do so we were neglectful of our great heritage and open to castigation by future generations.

Mr. Brittain, for the benefit of those who had not had the opportunity of following association affairs closely, explained what the Canadian Fisheries Association had done in this regard. The situation as regards the feeling of the industry in the east had been



J. T. O'CONNOR

Montreal, Third Vice-President First retailer to stand in line for presidency

thoroughly canvassed and when it was found that there was positive accord in favor of conserving our natural rights for ourselves, the national executive adopted a resolution calling upon the government to revoke the special license and revert to the treaty of 1818, permitting our neighbors to use our ports only for the humanities, fuel, water, shelter and repairs. He stated that other organizations, such as the national executive of the Canadian Manufacturers' Association, had given their support to our stand and he felt there was every prospect that the Government would adopt

the policy of exclusion, judging by newspaper reports of events at Ottawa. Mr. Brittain reviewed the history of the *modus vivendi* license, and was most emphatic in his declaration that, in fairness to our fishermen and in fairness to the people of the country, the proprietors of the resource, the present lopsided arrangement should not be endured.

Mr. Short concurred absolutely in the stand the association had taken and told of his efforts to have the same resolution adopted by the Nova Scotia Sea Fisheries Association, a new organization which has sprung up in southwestern Nova Scotia and which, he said, would very likely affiliate with the parent organization. The iniquity of the situation was quite obvious. The speaker stated that at the present time the Americans are sending vessels to our outports, buying up our fish and salting them right there, and carrying them home free of duty. "How can we hope to compete with them in the United States if we continue to tolerate this license? Could we do the same thing in their ports? I don't think we could get away with it very long."

Mr. O'Connor drew the attention of the meeting to a recent announcement made in parliament by Hon. Mr. Lapointe to the effect that he intended bringing down a resolution revoking the *modus vivendi* license, and he remarked that the stand of the minister was heartily endorsed by all sections of the house, most particularly the progressives.

Mr. Byrne felt that the most important feature was not that Canada would gain so much, but it was the only means she had left to bring to the attention of the American people the unfairness of the situation.

Mr. Boutilier remarked that during the time the American duties were off the Gloucester fleet dwindled and the fact that a duty was put on seemed an acknowledgement that they cannot successfully compete with Canadian fish. He did not know whether the United States would consider any bargaining proposition, but he insisted that the *modus vivendi* privilege should not be renewed until the United States reciprocates with a similar privilege.

I. J. Franklin, cold storage expert with the Montreal Harbor Commission, explained what was required to revoke the duty against fish in the United States. While the president apparently had the full authority to raise or lower the duty by fifty percent, in actuality it required an act of congress on the recommendation of the tariff commission. He felt that the trade in the United States finds the tariff has affected them adversely and he suggested that individual fish men get in touch with individuals in the United States and suggest that they bring the matter to the attention of the tariff commission and ask for a modification. He suggested, too, taking the matter up with the United States Fisheries Association. He told of a recent conversation he had with Gardner Poole of Boston, president of the United States Fisheries Association, and said Mr. Poole felt as strongly on the fish tariff question as anyone at this meeting. He stated that the tariff on fish was not a blow directed at the Canadian industry. In effect that may have been the result. The tariff was the concoction of a small group of men at Washington who, he feared, had in many instances had ulterior motives to serve. Information he had received disclosed that the fish duty came about because certain people at Washington submitted to it in acquiescence to a few in return for some liberal concession.

Mr. Found, assistant deputy minister of fisheries at Ottawa, was asked by the chairman to make a few remarks to the meeting as to where things stood on the *modus vivendi* question. The latter replied that what had been said by preceding speakers fully covered the situation and there was nothing more that he could add just at the present time.

The executive meeting adjourned and the delegates and their wives adjourned to the front of the hotel where they were photographed.

Harbor and Cold Storages Inspected

The entire party went by car to the foot of McGill street where they embarked on the S.S. Sir Hugh Allan which had been generously placed at the disposal of the association by the Montreal Harbor Commission. Lunch was served on board and by the time the entire party had lunched, the steamer was just about docking at the cold storage plant. From the boat they went under the guidance of I. J. Franklin to inspect the monumental cold storage plant. Before leaving the steamer, however, Mr. Paulhus, on behalf of the association, took occasion to thank Mr. Michael Fennell, secretary and general manager of the harbor commission, on behalf of its members for the courtesy which had been shown and asked him to explain to the commissioners that their action was very warmly appreciated.

The trip through the cold storage plant was particularly interesting. Members of the association, most of whom had cold storage and freezing plants of their own, were impressed with the splendid equipment. The inspection was made additionally valuable by the intimate talk of Mr. Franklin, who explained the layout of the plant, and went beyond that and discussed the merits of brine freezing as against freezing in air. He was convinced that brine freezing was the best method of freezing fish and pointed out as one economic advantage that there was no shrinkage whatever in brine freezing, while there was as high as a ten per cent shrinkage in air frozen fish. Furthermore, the freezing was more thorough in the brine process and the fine flavors of the fish and the texture of the flesh were better preserved by reason of that fact.

Mr. Franklin accepted an invitation to attend a moving picture entertainment in the evening and discuss the cold storage and freezing question.

Back to Work Again

From the cold storage the party motored back to the Mount Royal Hotel. The women of the party were entertained at social affairs by the Montreal ladies, while the men adjourned to their convention hall for their first general meeting.

In the absence of the president, Mr. Paulhus read the presidential address, which was as follows:

"Gentlemen: The period during which I was honored to hold the presidency of the Canadian Fisheries Association was a trying one for those in the industry and I must say that it has been difficult at times to keep the interest of members. Nevertheless it has been an active period for the association and I feel that much has been accomplished. Events that have transpired during my term of office make it abundantly clear that such an organization as ours is necessary. It has been demonstrated time and time again that we must co-operate for our mutual advantage, and the benefit we will derive for ourselves will be in exact proportion to the amount of interest and energy we throw into the organization.



F. E. BURKE
Vancouver, Second Vice-President C. F. A.

"As I have said, the period since the last convention in Vancouver, has been a difficult one. Following the years of prosperity during the war there was a calamitous slump. Foreign markets which had been buying our cured pickled and canned fish, were impoverished. Strong competition developed from sources closed during the war. The outlook was far from rosy when the United States, our biggest market outside of Canada, raised a high tariff wall against us. Immediately we experienced a further slump in trade and many in the industry were inclined to be discouraged. The effects of the Fordney tariff are gradually passing but undoubtedly there will be a permanent loss of trade in the courser varieties of fish as long as the United States adheres to the policy of high protection.

"We have passed the worst. Ahead we have much to encourage us. Foreign trade is improving, but unfortunately in the east, fishing conditions have not been good and the fishermen have not been making money. It has been necessary to prolong the lobster and smelt fishing seasons and it hoped that the concessions will enable fishermen to make good their earlier losses.

"During my term of office we have annually celebrated National Fish Day. The event last fall was most successful. The idea of a National Fish Day to attract the attention of the public to fish foods is a splendid one and I feel that we should get together to make each succeeding celebration better than the last. Heretofore, the celebration has been in the hands of local organizations. Before long it may be possible to co-operate and advertise the event in a national way.

"I will not go into detail on the activities of the association since the last convention. You are all more or less familiar with its work. We have been successful in promoting a treaty between Canada and the United States for the protection of the halibut of the North Pacific. An unforeseen obstacle arose in a condition imposed by the United States Senate when ratifying the treaty. It is possible the treaty will not be effective this year, but Ottawa gives assurance that if the treaty is not effective legislation will be enacted to make the terms of the treaty effective until such time as the treaty is properly consummated. I need not dilate upon the importance of this convention. Our halibut resources were disappearing at a rapid rate and the vanishing point was not far off. Now, however, we may feel encouraged. The fishing grounds are to be protected during the months when the halibut spawn.

"We have succeeded also in inducing the government at Ottawa to rescind the special privilege given to American vessels in our Atlantic ports. The modus vivendi license has not yet been revoked but Ottawa advises that the principle of closing American vessels from our Atlantic port has been decided upon and it only remains to set a date when the government's decision will become effective.

"It may be worth while to make reference to a misunderstanding which seems to prevail. Many on the Pacific coast got the impression that the exclusion of American vessels applied to the Pacific coast as well. That is not so. The two coasts are dealt with by separate orders-in-council, and as conditions are entirely different, the two coasts must be considered separately. We have endeavored to make this point clear.

"Let me make brief reference to the most successful

convention held in Vancouver. The attendance was large and many important matters came up for discussion. Our friends on the Pacific coast were most hospitable in their reception to visiting delegates and the occasion is one that will be recalled with happy recollections by those who had the good fortune to be present.

"I need hardly remark upon other features of the association's work. In concluding let me ask each member to get behind the organization and boost it. Let each help to bring in new members. Let us make the organization as strong numerically as it should be. It is to our interest to do this. Only by uniting our forces can we hope to direct legislation and influence the policy of fishery administration. We have fifty millions of dollars invested in the industry and anyone who cannot appreciate the necessity for organizing to protect our interests is indeed shortsighted.

"I wish the incoming officers every good fortune and during the next twelve month I am confident that the association will show new life and will demonstrate again its usefulness."

It was moved by Mr. Brittain, seconded by Mr. Connors and unanimously approved that the report be adopted.

Remembrance to Mr. Spooner

Mr. Binns apologized for interrupting the progress of the meeting but suggested that the first business the meeting should do was to send a bouquet of flowers to Mr. Spooner, accompanied by an appropriate message, conveying the sympathy of this meeting at his indisposition and hoping for his permanent recovery at an early date. Mr. Binns said he had visited Mr. Spooner's home and found that he was somewhat improved but he was still unable to receive anybody.

Mr. Short and others at the meeting expressed regret at Mr. Spooner's illness and all agreed that the course suggested by Mr. Binns was most appropriate and would let Mr. Spooner realize that he was not being forgotten. Everyone missed him but we wanted him to know that his absence was felt and regretted.

The chairman advised Mr. Binns that he anticipated the programme by a minute or so. He had proposed to make the self-same suggestion when he called for the report of the committee on transportation, but he was extremely pleased that it had come up in an informal way as it did as he felt it more thoroughly demonstrated the universal sympathy for Mr. Spooner. Mr. Paulhus spoke appreciatively of what Mr. Spooner had done for the association in the past and said that his pre-convention efforts were deserving of the highest commendation.

The proposal of Mr. Binns, seconded by Mr. Short was adopted unanimously and the necessary instructions were given.

Secretary-Treasurer's Report

The report of the secretary-treasurer was submitted by Jas. H. Conlon as follows:

"Gentlemen: Since the last convention many changes have taken place in the industry and some within our association. Frederick W. Wallace resigned as secretary-treasurer the first of last year and the undersigned succeeded him.

"During the 1922 calendar year collections were very slow and the fees did not produce enough to carry through the year. Since January fees have been slow

and your secretary has not kept after members strongly, hoping that some new scheme of assessment might be evolved. Last fall the association was carrying a debt of approximately \$1,400, which J. J. Harpell had advanced from time to time. Mr. Harpell was generous enough to wipe out the debt and leave the association free. At the present time we have not enough funds in hand to carry through the year and there is grave doubt that the present fee of \$10 will ever net sufficient to carry on satisfactorily. It is my opinion that we should adopt some new scheme of assessment and during the next year we must get after new members.

"Since the undersigned took over the office of secretary-treasurer we have acquired a new branch at Lake St. Clair, and the Lake Erie Fishermen's Association has become affiliated. A new fisheries organization is being started on the south shore of Nova Scotia and it is altogether likely that it too, will join the parent body. There are strong reasons why these numerous fishery organizations should be linked together and it behooves us to keep them affiliated and not let them stray away.

"It is not necessary here to go into details of the finances and membership. The former has been treated thoroughly in the report of the finance committee and the latter is handled in detail in a separate report.

"It is trusted that during the next year means will be found to adequately increase our membership and to properly balance our budget."

In moving the adoption of the report Mr. Short took occasion to make reference to the fact that the Nova Scotia Sea Fisheries Association would very likely affiliate and thought it a mistake to urge at the present time any other form of union. He spoke of the initial meeting of the body and of Mr. Conlon's visit later. It was proposed, he said, to introduce the matter of affiliation at the next meeting and he would make it a point to be on hand and recommend union with the parent body which, he thought, was highly desirable from the viewpoint of the new organization.

The report was also discussed by Mr. Binns, Mr. Byrne and Mr. O'Connor and unanimously passed.

Report of Publicity Committee

On behalf of Mr. Harpell, chairman of the publicity committee, Mr. O'Connor read its report, as follows:

"Gentlemen: The efforts of your committee during the period since the last convention have been spent entirely on an endeavor to make the association better known and to acquaint those in the industry with our activities. The Canadian Fisherman, our official organ, has published from month to month, items concerning the association and from inquiries that have come to us from non-members it is obvious that they are having the desired effect.

"Members will no doubt be aware that we have altered our policy as regards newspaper publicity not very many months ago. Heretofore we had been inclined to keep our business to ourselves, but the value of newspaper publicity has already been proved. We have been fortunate in establishing friendly intercourse with the local dailies and through them we have acquired quite ready access to the Canadian Press service. It is my firm belief that this form of publicity should be continued with discretion as it not only keeps our members promptly informed on developments but it also brings to the attention of the authorities and the general public the action we have

taken and the policy we advocate on any particular issue.

"The National Fish Days since the last convention have been quite popular. Our members have contributed a good deal from their own pockets to advertise the occasions, and from our office we have sent out to the press a good deal of propaganda. Furthermore, we furnished the fisheries department, Ottawa, with a set of specially written articles to be sent out under its name. All of the newspaper articles have been widely used.

"Quite recently we have had made electroplates of the association crest for use on stationery, etc. Some of these are already in use, but every member should be using one. It might not be a bad idea to so arrange that when fees for 1924 are due an additional amount be added to those who have not yet secured



A. H. BRITTAIN

Chairman Convention Committee who made a success of his job

an electro. Using the crest on printed matter and anywhere else it may be used in our business, aids materially the cause of the association. It keeps it before the eye of everyone in the industry.

"During the next year I hope each section and branch of the industry will maintain an active publicity service for the purpose of keeping the association alive and before the public. The coming year should be a banner one for the organization and publicity is to be one of the most important factors in making it so.

"Let me convey my best wishes to the new officers. I trust they will have success beyond measure in their work and I hope to have the pleasure of listening to reports of a most progressive and inspiring nature when the next convention comes round. I have been purposely brief in my resumé of publicity work. A good deal has been of a routine nature. I have merely

touched upon some of the main features, but these will give some indication of what has been done."

Adoption of the report was moved by Mr. Binns and seconded by Mr. Brittain, and passed.

Publicity Matters Discussed

Mr. Short strongly advised the use of liberal advertising as a means of increasing fish sales, and he suggested that the publicity of the various producing companies should be co-operative with the publicity being carried on in other departments of the industry.

Mr. Connors took the view that the wholesalers and producers should assist retailers in advertising the commodity to their mutual advantage.

Mr. Boutilier said that his company, the National Fish Company advertises for the retailer as well as for the others. In each town where the company sells fish, advertising is conducted by the firm in the interests of the retailer and the company as well. He had data which indicated beyond question the efficacy of this manner of advertising. Mr. Boutilier suggested other lines of educational work. In the schools more attention should be paid to fish. Even in the kindergarten children should have books containing pictures of fish and during later periods children should be taught something about the nature of our fishery resources, their place as a food and the natural history of the different species. Right through the school career this campaign of education should be conducted. It would have the ultimate effect of familiarizing our people with fish foods and acquainting them with it wholesomeness its wonderful adaptability to culinary treatment and its economy.

Mr. Byrne was of the opinion that the Government should assist in a campaign of education. Dealers would be glad to help in every way, but the campaign must be on very broad lines. He felt we would be perfectly right in approaching the federal and the various provincial governments for grants and it was his belief that the most of it should be spent in newspaper advertising. Mr. Byrne remarked that during the war when food supplies were running short, the Government came to the fish dealers and asked them to stimulate fish production and distribution, in order that meat might be reserved for shipment overseas. The Government came in its time of need. Now when the industry feels a broader demand is necessary, the Government should not forget the service the industry has rendered in the past.

Mr. Brittain felt that everyone was agreed as to the desirability of conducting co-operative advertising. He remarked that the association had already approached the Quebec Government for a grant of \$20,000 to stimulate fish consumption in Quebec province and that it was expected we would ask Ottawa for a grant of \$50,000. To administer this fund it is suggested to set up a special committee, composed of members of the executive of the association and representatives of the various contributing interests. The next point was how the money should be spent. Personally he believed in advertising fish in season. He made reference to an advertisement of the National Fish Co. which had recently appeared in the east dealing specifically with the mackerel. It was an impressive display and he felt that if that same display could have been made across Canada demand would have outstripped supply. A similar plan may be adopted with Gaspé salmon and other seasonables, as well.

Mr. Brittain said that he had been advised from Toronto that one of our members had a conversation with Ottawa in which it was suggested to re-establish the one-third rebate on shipments as a means of stimulating consumption. That members stated that the money would be much better applied in publicity, and he (the speaker) was of a like opinion.

Mr. Binns commented favorably on a fish cook book recently issued by the fisheries department and drew attention to a chart of fishes in season. His only regret was that the chart did not include freshwater fish. He also spoke of the information given in the book as regards per capita consumption and asked if there had been any increase to date.

It was explained to Mr. Binns by the secretary and Mr. Found that it was impossible to make these figures accurate, but in a general way they were correct. The chairman and others offered the suggestion that business returns would indicate the fish consumption is gradually climbing.

Mr. Short concurred in the idea of publicity to stimulate our national fish appetite. He stated that only twenty percent of our production is consumed in Canada. We produce millions of pounds of fish on our east coast that must find a market outside the country. Our hake used to go to South America. Now they can't buy it because of their depreciated exchange and our fishermen, because there is no demand at home, must throw it away.

Mr. Paulhus was highly gratified at the interest which was aroused in this matter and thanked the members for contributing their views. He felt that the matter would be one which would engage the immediate and serious attention of the new officers.

It was moved by Mr. Byrne, seconded by Mr. Short, and unanimously passed, that the report be adopted.

Report of Transportation Committee

Mr. W. R. Spooner, chairman of this committee, being absent through illness, Mr. Paulhus asked Mr. Brittain to submit a verbal report.

Mr. Brittain reviewed briefly what the committee had done since the last meeting. It had taken cases to the railway commission and it had on several occasions interviewed railway executives on different issues. He felt sure that Mr. Spooner could have submitted a most interesting detailed report if he had been able to attend. The committee had been very active and had been successful in getting some good results and he felt sure that under Mr. Spooner's direction it would continue to function actively.

Mr. Boutilier, in moving the adoption of the report, drew attention to the unsatisfactory refrigerator car service from the east. At present shippers can get a car if they have 20,000 pounds to move, but if there is only a ton the car is not available. He considered it just as important to carry the ton in good condition as it was to carry the 20,000 pounds. He suggested as a remedy that all trains leaving the east carry an express refrigerator car for less-than-carload lots of perishable merchandize.

Mr. Binns, seconded the adoption, noting that all parts of the country are the same, with regard to deficiencies in transportation service and discriminatory charges, and he felt there was much for this committee to do. He gave several illustrations of personal grievances.

Mr. Brittain remarked that many such cases must be handled by individuals themselves as they are simply matters of adjustment between the individuals and transportation companies.

Mr. Boutilier brought to the attention of the gathering a report recently issued by the U. S. Fisheries Association in connection with a request by express companies for higher express charges on fish. This report showed express charges on shipments ranging as high as 146 per cent. on the invoice value of the shipment. The general average charge was 27.76 per cent. on the invoice. It was suggested that a similar report be prepared by our association and the information held in reserve for some future emergency.

Mr. Byrne, who had been selected as a delegate to attend the convention of the United States Fisheries Association last year reported that while he was there this express question came up and a fund was raised at the meeting to fight the request of the companies for higher rates. On behalf of his own company he contributed to the fund as he felt that any increase in rates in the United States would find a reflection in rates on this side of the line.

The matter was referred to the incoming committee on transportation.

Mr. Found makes announcement

The chairman asked Mr. Found if he would make a few remarks and asked specifically if a programme had been laid down for the expenditure of the \$25,000 recently made by Parliament for "the development of the deep sea fisheries and fish consumption."

Mr. Found complimented the association on the splendid gathering and expressed sincere pleasure at being present. He recalled the infancy of the organization when the department took a deep interest in helping the association along. No one was more anxious for the expansion of the association that was the department.

"You have asked me a concrete question regarding the application of a certain vote and I am sorry I cannot give you a concrete answer. Some of our aims were badly upset by your association in taking away from us one who had prepared himself to do much for the industry. I refer to your secretary.

"We have reasonable ground to hope for a considerable step forward on behalf of the industry in a bill which is to come before the session of Parliament tomorrow. Today an order is on the paper for a bill for the amendment of the Biological Board Act to enable a change in membership. We have been without a scientific division in the department and we have hoped to have the board so reorganized so as to represent both the department and the industry itself, along with the scientific end. It should be better qualified than any other institution. It is necessary to get more money from parliament. The supplementary estimates have not yet been brought down but we are living in hope that our aims will be provided for.

"I am glad, indeed, that you all discourage the renewal of the rebate. I feel that it would not accomplish anything like the results to be obtained through a general newspaper publicity campaign. I do hope that something will be arranged. While I am not in a position to make any statement as regards what the department's attitude will be in connection with your request for a specific grant, I think you would be making a mistake in not asking for it."

Considerable interest was evinced in Mr. Found's statement as to the reorganization of the Biological board and it occasioned much favorable discussion both in and after the meeting. His attitude regarding newspaper publicity was considered very gratifying.

The first general meeting was brought to a close and the visiting delegates were entertained at private dinners.

Fishery Motion Pictures

At 8.15 in the evening delegates and their friends were entertained at a programme of motion picture films dealing with the fishing industry. The projection room of the Board of Censors for Quebec was used, having been loaned for that purpose, and the films shown were ones that had been made by the Dominion Government Moving Picture Bureau at Ottawa under direction of the Publicity Division of the Fisheries Department. They described salmon fishing on the west coast, fish propagation, tuna fishing off the Nova Scotia and numerous other phases of the industry. Most of the films had not been shown previously. The programme concluded with a special film showing how our energetic president advertises his business.

There was a break in the programme for the purpose of hearing Mr. Franklin, cold storage expert with the Montreal Harbor Commission, give a technical talk on freezing fish and holding fish in cold storage. His ten-minute talk was of extreme interest and the appreciation of the meeting was evident by the bombardment of questions at the close.

Second General Meeting

At the opening of Tuesday morning's meeting the chairman read a telegram from our Prince Rupert friends which evoked applause.

Prince Rupert, June 11.

J. A. Paulhus,

Vice-president C. F. A.

Please accept our sincere regrets that we cannot be present at annual meeting of association this year. We wish you a successful and enjoyable time and the new officers can depend upon our continued support on all matters brought forward for the good of the fishing industry in Canada.

T. H. JOHNSON,
J. W. NICHOLLS.

Nominating Committee Reports

Mr. Brittain reported on behalf of the nominating committee as follows:

President, J. A. Paulhus, Montreal.

First Vice-president, Arthur Boutilier, Halifax.

Second Vice-president, F. E. Burke, Vancouver.

Third Vice-president, J. T. O'Connor, Montreal.

Secretary-Treasurer, James H. Conlon, Gardenvale, P. Q.

Directors: Nova Scotia, H. B. Short, Digby, Wm. M. Hodge, Loekeport, and H. R. Silver, Halifax.

New Brunswick: J. G. Robichaud, M.P., Gloucester, N. B., F. P. Loggie, Loggieville, N. B., and Lewis Connors, Blacks Harbor.

P. E. Island: Hon. C. J. McLean, Souris, P. E. I., and J. J. Harpell,

Quebec: H. G. Connor, Montreal; W. R. Spooner, Montreal and D. J. Byrne, Montreal.

Ontario: F. T. James, Toronto, Roy Langskill, Toronto, and T. W. C. Binns, Ottawa.

Manitoba: W. J. Guest, Winnipeg and J. E. Simpson, Selkirk.

Alberta and Saskatchewan: J. W. Skelly, Calgary and A. S. Duolos, Edmonton.

British Columbia and Yukon: T. H. Johnson, Prince Rupert; R. C. Gosse, Vancouver; J. S. Eckman, Vancouver; Henry Doyle, Vancouver and H. B. Bell-Irving, Vancouver.

Committees: Transportation, W. R. Spooner, (chairman); Organization, membership and publicity — H. G. Connor, (chairman); Scientific Division — Dr. A. G. Huntsman, Toronto, and Dr. C. McLean Fraser, Vancouver.

The report of the committee was adopted as read, on motion of Mr. Short, seconded by Mr. Lapointe.

New Assessment Plan Approved

Mr. Boutilier reported on behalf of the special committee appointed on new modes of assessment, recommending the following to replace our flat rate of \$10.00 per member and our sustaining member system:

- (a) Members employing fewer than 10 employees, \$15.
- (b) Members employing 10 to 14 employees, \$25
- (c) Members employing 15 to 29 employees, \$35
- (d) Members employing 30 to 59 employees, \$50
- (e) Members employing 60 to 99 employees, \$75
- (f) Members employing 100 to 149 employees, \$100
- (g) Members employing 150 to 249 employees, \$150
- (h) Producers, individual fishermen \$10
- (i) Executives, managers, etc. \$10

The committee recommended that this new plan be put in effect in 1924. For the balance of 1923 it suggested that any difference between budget requirements and membership fees be made up by payments from sustaining members.

The report was favorably discussed by Mr. Connors of Blacks Harbor, Mr. O'Connor and Mr. Binns, all of whom appreciated the fact that more money was necessary and that the plan recommended seemed the best way to meet the situation.

On motion of Mr. Boutilier, seconded by Mr. Connors the report was adopted.

Mr. Cassidy of Montreal strongly advised a vigorous membership campaign and he promised his hearty cooperation to make the organization one hundred per cent strong in Montreal.

Mr. Binns proposed that lists of our members be prepared and a copy sent to each member. He felt that if any preference was to be shown in dealings between fish people, it should be for fellow members in the association.

The chairman concurred in the suggestion and promised that it would be acted upon at the earliest possible time.

Spending Fisheries Appropriation

The following resolution, moved by Mr. O'Connor and seconded by Mr. Short was unanimously adopted:

"Whereas, it has been brought to our notice that an appropriation of \$25,000 has been made by the Dominion Government for the development of our deep sea fisheries and fish consumption and

"Whereas, the publicity division of the fisheries department has not been functioning for a year or more, therefore

"Be it resolved, that this meeting do strongly urge upon the minister of marine and fisheries that he do immediately reorganize the publicity division and apply the appropriation of \$25,000 made by parliament, for publicity purposes."

Renew Demand for Department

The following resolution was moved by Mr. O'Connor, seconded by Mr. Brittain and adopted:

"Whereas the Government of Canada has been reluctant to respond to our suggestion that fisheries administration should be made a separate department, therefore

"Be it resolved, that we do again urge upon the Government the vital necessity of establishing a separate fisheries department, without affiliations or associations, at the earliest possible moment."

Department's Action Endorsed

The deep interest that was aroused over the announcement of Mr. Found respecting the bill to reorganize the Biological Board was reflected in the following resolution which was proposed by Mr. Boutilier and seconded by Mr. Brittain:

"Whereas it has been observed in the press and elsewhere that steps are being taken to amend the Biological Board Act with a view to reorganization of the board, therefore

"Be it resolved, that the association commend this idea and urge that the board be so reorganized as to bring it into direct contact with the industry by the latter having direct representation on the board, and further

"Resolved that the department of fisheries undertake without delay a vigorous campaign among the producers and curers of fish looking to proper improvement in the product."

An Old Friend Arrives

Just at this juncture an old friend arrived on the scene in the person of F. W. Wallace, former secretary of the association and editor of the official organ. His appearance was the occasion for a rupture in proceedings and the entire crowd welcomed him with "For he's a Jolly Good Fellow" and vigorous cheers. He was accorded a place of honor beside the president and was not only invited but compelled to participate actively in the balance of the programme.

A Trip to Gardenvale, P.Q.

At noon on Tuesday the entire party entrained for Gardenvale, the home of the Garden City Press, where the official organ of the association, the Canadian Fisherman, is published. They spent the entire afternoon as guests of J. J. Harpell.

Immediately upon arriving, the party was driven by motor to Senneville Golf Club where luncheon was served. Mr. Harpell was the host. On his right was the new president, Mr. Paulhus, and his left Miss Bessie Harpell. Following a most delicious luncheon Mr. Harpell welcomed the party to Gardenvale and trusted that all would enjoy the outing.

Mr. Paulhus on behalf of the party, expressed the keenest pleasure at the kindness of Mr. Harpell. He had been a warm friend of the association since its inception and as the association increased in years Mr. Harpell's affection for it seemed to increase. He had been most generous in more ways than one and he felt he could hardly thank him sufficiently for the splendid outing he had provided for the delegates to the Canadian Fisheries Association.

Mr. Paulhus spoke of the splendid work being done by Mr. Harpell's institution in various fields and commented upon the wonderful development of Gardenvale

since 1918. He regretted sincerely that Mrs. Harpell's indisposition prevented her from being present. However, on behalf of the organization he asked Mr. Byrne to make a little presentation to Mr. Harpell and another to Miss Harpell for her mother.

Amid applause Mr. Byrne presented a handsome walking stick to Mr. Harpell and a bouquet of flowers to Miss Harpell.

Following luncheon the party motored through the residential community of the Garden City Press and then visited Macdonald College, where Dr. Hood received the delegates and piloted them about.

The party then returned and visited the plant of the Garden City Press, where a very interesting hour was spent in studying the work of putting a magazine together.

The delegates entrained for Montreal at 5.30 and conducted a lively sing-song en route, which kept the party engaged almost up to the hour of the annual banquet which was served at the Mount Royal at 7 o'clock.

The Annual Banquet

The banquet hall off the mezzanine floor was filled to overflowing. In addition to the convention delegates there were a few outside guests including Captain Wallace, Duffy of Boston and I. M. Atwood, Boston, treasurer of the United States Fisheries Association.

The tables were set in a square with Mr. Paulhus presiding at the head and the executive officers and guests ranged on either side. The repast was most enjoyable. At the close, Ernest LeMessurier, the Montreal Star's artist, entertained with clever sketches accompanied by appropriate vocal selections.

Before Mr. Paulhus had an opportunity to rise, Captain Wallace asked for time to make a few remarks. He spoke in glowing terms of the attachment of Mr. Paulhus to the organization, and explained the custom of Roman days when a warrior returned triumphant. The laurel wreath was the emblem of the victor, and the crowning was conducted in all the pomp and glory known to the Empire. On behalf of the gathering he crowned the president with a laurel wreath amid loud cheers, and the coronation was followed by an ovation to the new president in which "He's a Jolly Good Fellow" was sung lustily.

Mr. Paulhus thanked Captain Wallace for his kind remarks and the membership generally and trusted that he would fulfill the task imposed upon him to the satisfaction of all. He proceeded to read his inaugural address. It follows:

"Gentlemen,"

In rising to address you, I have in mind a fish story which I read only a few days ago.

"A coloured man went fishing one day and hooked such a big one that he was dragged into the river. After much struggling he managed to get ashore, his line and rod floating and being pulled away further in the stream. He paused a moment, scratched his head, and said: 'Well, let me see. Is it a nigger fishing or a fish niggering?'"

"There has been no niggering here to-day. There has not even been a nigger on the fence, having been elected unanimously to the presidency of this association.

"Let me thank you most cordially for the honour, and assure you at the same time of all my endeavours to fulfil the important duties and shoulder the serious responsibilities inherent to the position.

"I am perfectly aware that I don't possess all the qualifications that are required but with your help and guidance and following in the footsteps of my worthy predecessors, we may expect some progress, and new lease of active life to the Canadian Fisheries Association.

"It is now three years since we had a change in the executive of our association, though our constitution calls for a yearly election, but for reasons that I need not explain as you are well acquainted with the facts, we had against our will to postpone until the present day this election.

"I don't intend to surprise you when I state that the fish interest like any of our basic industries has suffered materially from the reaction of the war period. The disruption of business the world over has had very depressing effect with us. Due to the depreciation of exchange in European countries and the enforced high tariff south of us, the fish trade has been and is practically at this juncture between the devil and the sea. Most of our members have been directly hit by the upheaval, and logically have set at work intensely in order to restore the devastation where possible and save their commitments from further losses, and this accounts for our association's not having had during the few years past the support it was entitled to.

"Happily a resourceful group of our members in spite of almost unsurmountable difficulties have managed to steer our ship of affairs clear of the rocks of a stormy sea, and, due to their homeric vigilance and insuperable efforts, our association is navigating today in comparatively placid waters.

"There are hopeful signs in the commercial horizon at present though our activities shall have to be restricted to the home market in future. But if we take advantage of our position, if we are good strategists, I believe the time is not far distant when the dawn of normal prosperity will be with us again, followed, let us hope, by a bright sunshine of a profitable business, and contentment in all the different ramifications of the fish industry.

Co-operation and Publicity.

"To help the return of normality and better times in our industry we must lay a plan of action and I come to you to-day with two suggestions which I am confident you will endorse readily. What I have in mind as a corollary and a help to what we have accomplished in the past, is, more co-operation and publicity.

"Co-operation, if I am not mistaken was a plank in the platform when our association was formed, and to what extent it has been adhered to, I leave it to you to judge.

"For my part, I feel that it has been lacking in efficiency and method. Too much of the force which should have been directed into a main channel diverted into so many small stream meandering haphazardly in the fields of indifference and false wisdom. We have forgotten a most important item that there can be co-operation in competition and that, after all, what matters the most in an institution like ours is not so much the individual benefit that can accrue at a given time but the advancement on the road of progress of the industry as a whole, for the good of all concerned.

"This past experience will be a lesson for the future; already one may discern in the atmosphere of fish activities an inclination to more co-operation. The different local organizations that have come into existence lately are nothing but the natural consequence of the idea, and, unless we of the main organization can ramify in one unit these vital elements, there is danger of dis-

location and loss of power towards the realization of our objective. There is no doubt in my mind, however, that these independent organizations will have to join us, affiliate with us, if they are consistent with their interests. They cannot reasonably expect to settle all the different intricate questions that are arising, and are bound to arise in the future operations of our fishing industry and only with our help and counsel, will they be able to tackle and solve the arduous problems.

"Nevertheless, these institutions are a lesson of co-operation to us. They will serve a good purpose and remind us of the appropriate sentence: United we stand, divided we fall.

"Let us not forget this axiom: without cohesion, without that *esprit de corps* which should be the mainspring of our association, we strive in vain against dangerous odds, without ample funds to carry out our work, without the spirit of good will and sacrifice, no organization can expect to surmount the difficulties of the day, nor survive the uncertainties of the future.

"My second point is publicity. No subject is so much under the limelight in one day as is Publicity. It is constantly opening up new horizons to the human vista, giving wider scope to the best thinking brains of our generation. The scientific, as well as the economic world, stands startled at its wonderful possibilities. It surpasses in its creative power the most vivid imagination. Still, we can have this marvelous agent to work for us. This giant of commercial enterprise is willing to assist us, is capable of restoring, reviving and giving fresh impetus and new vigour to our momentarily slumbering industry.

"It has accomplished for us nearly a miracle in this city. Montreal is now, due to the attraction and power of advertising, the largest per capita fish eating population not only of this country but of the whole continent. This feat is the consequence of proper publicity done by the organization as a whole and its members individually.

"It is an example that should stimulate our efforts but we cannot do all this alone. We must have assistance, and I feel sure that the association will support me when I shall make a vigorous appeal to both our provincial and federal governments to grant us funds in order to keep up the campaign we have started and kept up under so many difficulties.

"We have created for the benefit of the country an institution which has been copied since by our neighbours beyond the frontier and which is advocated now in Europe particularly in England.

"The "National Fish Day" will stand as a monument to future generations, the living expression of the best medium of publicity ever recorded in the history of industrial developments of our era. But with all these endeavours to our credit, we shall not feel satisfied and lay upon our laurels. I emphatically say no. It is imperative that we shall do more publicity. Like charity, Publicity must begin at home. So, it is incumbent to all the members of this association to spread diligently the gospel of fish propaganda. If we are really imbued with the idea of fish industry expansion, then our apostolic zeal should have no limit.

"No one can contradict the statement that in the realm of food products fish is rapidly becoming an essential.

"Every indication points that the time is fast coming when fish as a food will be selected as a corrective, and an antidote to indiscriminate or improper diet.

"Already the use of fish as a food in certain quarters is recognized as a specific to combat and cure certain

prevailing ailments, which according to expert opinion are a menace to public health.

"When these facts are taken into consideration and in view of the vastness of our fisheries and their possibilities for the future welfare of the community, let us co-operate in a common effort by publicity and all agents at our disposal, to the cause we have so earnestly at heart and contribute thereby to the wealth and comfort of the people of this country."

The evening concluded with the singing of the National Anthem. Thus ended the 1923 convention of the association, one of the most successful and most enjoyable in its history.



T. W. C. BINNS

Ottawa, valuable member elected to Ontario directorate

Notes of the Convention

J. T. O'Connor is the man who put the register in registration.

During the course of the convention Alf. Britain was inspired by the Muse. This is what he perpetrated:
 I'd Like to be a little fish
 And live down in the ice
 And have the girls skate over me
 Now wouldn't that be nice
 —And he got away with it, too.

Mr. Connor, that is, Lewis Connors of Blacks Harbor, N. B. the man who puts the tin around sardine-herring, in addition to doing a hundred and one other things, was one of the most interested and most enthusiastic delegates to the convention. It was his intention to remain for only part of it and then proceed to other business but he became so enraptured in the proceedings that he could not tear himself away. He stood out boldly and frequently for the abrogation of the *modus vivendi*. Mr. Connor was impressed with the work of *LeMessurier* on his profile and was heard to remark; "You can't beat them. These artist fellows can read your face in any language. 'Everybody enjoyed Mr. Connors' company and it was evident that he enjoyed the convention. He showed concrete evidence of his disposition toward the association by presenting a substantial cheque to the general fund. Come again, Mr. Connors. Let's have you with us every year."

Rooms 1074 and 1075 were popular during the convention but in a crisis the keys were hard to locate.

Everyone was pleased that Joe O'Connor was elected third vice-president. It is a tribute to the man and a tribute to his branch of the business. He is the first man connected with retailing to stand in line for the presidency, and it should be definite proof, if that be considered necessary, that the retailer is considered an important factor in the association. Joe is happily endowed to gracefully fill any office of the association. We need not add that he is an Irishman.

Undoubtedly the most valuable contributor to the discussions was Arthur Boutilier of Halifax. Upon every subject presented to the meeting he had some concrete suggestion to make and invariably his ideas were good. It was he who suggested an assessment of one tenth of one percent on sales to build up a fund for newspaper advertising. It was he who suggested the new scale of assessment. As happens in most cases of the kind, his good work did not receive public recognition, but everyone at the convention appreciated his worth. Mr. Boutilier has sincerity and conviction behind his ideas and he arranged to be at a future meeting of the executive to discuss the execution of progressive policies. More power to him. This coming year we expect all kinds of activity within the association and as Mr. Boutilier is due to succeed to the presidency he will have the necessary pep and vigor to build upon Paulhus' foundation. There are prosperous times in store for the C. F. A.

Mr. Binns of Ottawa has missed few, if any, of our annual conventions. He is another example of a retailer to whom the association looks for counsel. There is room in the organization for more like him.

It frequently happens in associations, whether industrial or social, that a man passing from the presidency mounts to a throne of retired inactivity and is content to let George do it. Alf. Brittain is not of that type. It is four years since he was president but he is a consistent attendant at all executive meetings, is always ready with a helping hand, and as chairman of the convention committees he is deserving of congratulation.

It is too bad none of our friends from the Pacific coast could be present to receive a reciprocal welcome to the one which they gave easterners at the last convention. Their warm messages, however, left no doubt that they are with us strong.

Many of our members, including the presidents of affiliated bodies, who had intended coming but found at the last minute they could not, were thoughtful enough to remember us by wire. Among these were A. S. Brown, president of the Lake Erie Fishermen's Association and W. C. Cartier, president of the Lake St. Clair organization.

H. G. Connor succeeded Mr. Spooner as the financial lord and was a most willing worker whenever occasion required. That his energy and ability are thoroughly appreciated is evident from the fact that he has been selected to be chairman of the finance committee, chairman of the organization and publicity committee and chairman of the membership committees — all jobs that require the attention of an active man. Connor is not the type of man to put himself forward; he is of the sturdy, determined class, who "build while others boast".

Mr. Found of Ottawa was an interesting and interested guest. He was a good listener and seldom spoke. When he did he had something to say worth while listening to.

D. J. Byrne just got back from a business trip in time for the convention but he forsook his office when business must have been humming, to play his part.

There was some confusion among delegates over O'Connor, Connors, Connor and Conlon to know who was who. There was never any confusion, though, in finding who was there. What's that?





A. L. HAGER
Vancouver returned in favor of Mr. Paulhus

What Great Lakes Folk Are Doing

Special Correspondence

Canadian fishing interests generally were interested in the announcement of the installation of broadcasting apparatus on Marine Department scouting vessels which observe the movement of mackerel schools. It is stated that information in regard to the schools will be sent out not only by radio telegraph but by the telephone broadcasting apparatus. In this way, in-shore fishermen, having receiving sets, will have the fullest opportunity to avail themselves of the moving schools of mackerel.

Reports from Fenelon Falls, indicate that illegal killing of fish in Cameron, Sturgeon and Balsam Lakes is going on and that repeated efforts are being made to the Department at Toronto to afford some protection during the spawning season, but so far without results. M. H. McCallum, a well-known resident of Fenelon Falls, states that the lakes are becoming depleted of the finest fish that swim and laments the fact that no effort is being put forth to prevent it.

Seventy-five million whitefish eggs have been hatched at the Government fish hatchery at Sault Ste. Marie, Ont. This consignment of fry were placed in the Great Lakes. Two million whitefish fry have been dumped into St. Mary's River just below the Sault. At the present time there are very few trout in the hatchery. A shipment of breeding trout will be taken in shortly. Five hundred thousand salmon fry were placed in St. Mary's River, near Blind River, on an order from the Department of Game and Fisheries.

The dismissal of theft charges against four South Walsingham citizens in the court at Simcoe, Norfolk County, Ont., puts finis to what at one time promised to be a "romance of the lakes," but which on subsequent investigation proved just an ordinary tale. The cases arose out of the wreck of the steamer "City of Dresden" last fall off the Lake Erie shore five miles west of Port Rowan. When she foundered she was carrying 500 cases of whiskey. Much of this cargo was washed ashore and it was in connection with the commandeering of salvaged wet goods that the citizens were charged. The proceedings were cut short by the admission of the Crown that there were cut short by the admission of the Despatches from Simcoe last November carried the story of a Port Rowan woman risking her life to save the crew of the ill-fated City of Dresden, while men of the vicinity were busy gathering in the whiskey, so that there was little left for the provincial officers to seize on their arrival. Subsequently numerous citizens of Port Rowan contradicted this story and gave an emphatic denial that citizens took any of the liquor saved from the vessel.

24 lbs. Salmon Trout

One of the largest fish caught in the history of Lake Timagami was landed a few days ago by E. B. Hamelin, one of a party of eight residents of Cleveland. It is a salmon trout, weighing twenty-four lbs, and is nearly three feet in length. Mr. Hamelin was fishing with a guide and another member of the party in a canoe, with a light steel rod, and small brass hook. During the afternoon and in about ten feet of water, he

hooked the beauty, which took the canoe around in circles before he was landed with the gaff, when the hook was found just on the upper part of the mouth.

Toronto wholesale fish dealers report that fish from the Ontario lakes are coming in freely and receipts have been fairly heavy for some time. Lake Superior and Georgian Bay fish, however, have been about a month behind, although they also started to come in at the end of May. Prices are now down considerably, there having been a drop from 25c. per pound, f. o. b. Toronto, to 16 and 17c. The lake Ontario men had been getting very high prices for the fish and as a result consumption has been adversely affected.

Walter M. Hodge, of the Lockeport Fish and Cold Storage Company, Lockeport, N. S., was in Toronto during May and incidentally took in the Woodbine races.

According to deputy-minister of Game and Fisheries MacDonald, Toronto, the new hatchery under construction at Glenora in the Bay of Quinte, will when completed, be the finest hatchery in Ontario and one of the finest in the Dominion. Although it will not be finished for another year it has been sufficiently advanced for a hatch-out of pickerel this summer which was quite successful. The deputy-minister states that the point selected for the hatchery is the best that could be obtained from a nature standpoint and when completed whitefish, salmon trout and game fish will be hatched. The hatchery is in charge of Richard McCullough.

The department of Game and Fisheries at Toronto has been busy on fry for some time and has put out a large quantity of speckled trout fry in suitable streams all over Ontario. Up till the end of May no bass had been put in the lakes but it is planned to stock some of the lakes during the summer with liberal supplies.

Wanton Destruction of Fish

Dismissing the indiscriminate slaughter of fish at various points on the Great Lakes, a leading fish conservationist had this to say to the Canadian Fisherman: "One has but to travel the backwaters of the north country any day to witness the slaughter of both game and coarse fish, evidently legal, for the season is open for pike suckers and pickerel. Right within the confines of towns, where rapids roar loudly, or in more modulated tones, boys, men, and even women, are spearing fish supposed to be suckers, but many a pickerel or lunge or even bass, feels the sharp pointed barbs of the spear and is taken. It seems strange that the Government will spend large sums of money on hatcheries and the shopping of fish-spawn and young fish fry to replete our fast-depleting fishing grounds, and yet allow the wilful destruction of both game and coarse fish by spear, dynamite, nets, etc. For, remember, the young suckers mud-eats, etc., are the main diet of our game fish and the wilful destruction by spear, clubs, rocks, nets, of the coarse fish by the hundreds as they spawn in our northern waters, and leaving them to rot along the rocky shores, seriously reflects upon the public administration of these resources. More fish and game war-

dens should be appointed for a certain period in the spring to stop this, if not illegal, then very destructive work. I hope the Canadian Fisherman will lend its influence along the line of better fish protective laws before this country becomes shorn of game fish."

George Rose of Meaford expects to have his new boat ready for the fishing trade within a few weeks. The boat which is being built by Messrs Watts & Co, Collingwood, Ont., will fish in Georgian Bay waters.

The tug Misford, which was taken over by the Government as a patrol boat, was in Toronto Harbor early in June on her way to Midland for alterations and repairs. The tug, which is in charge of Capt. Hobbs, was formerly owned by Misner & Teford, of Port Burwell, Ont.

Successful Spring Season

After having had a successful spring season the Lake Erie fishermen are getting ready for their summer season and have excellent prospects. A large quantity of blue pickerel were landed during the spring. In

Southampton, the fishermen there have had fair lifts of blue fins and white fish. Prices are holding up well in the New York, Chicago and Buffalo markets, which have taken practically all the catch from that port. In the Ontario Peninsula, however, particularly in the Warton district, the season is about six weeks late, due to the ice. At Collingwood, for instance, at the beginning of June, there was still a great quantity of ice a short distance off shore. At Tobermory and Stokes Bay, in the Georgian Bay, they have had exceptionally good fishing this spring and there is every indication that the season all through will be a good one in that district.

The gallant Capt. Robinson, formerly of the Government service on the great Lakes, is not now actively connected with the fishing industry but is busy building up Port Dover's reputation and adding to its advantages as a summer resort. The captain is just now building a good-sized bowling alley which he reckons will furnish amusement for the natives of the port as well as for many visitors.

What Fish Retailer Can Do To Stimulate Business

From time to time, many stories have been written in regard to catching, and curing Fish of all varieties, but very few articles have appeared in this journal appertaining to the distribution of fresh Atlantic Sea fish in the Inland centres of Ontario, west of Toronto. The producers are apt to think they have their troubles when making shipments to Montreal, especially in the hot weather, but what of the retail dealer, inland. For instance take shipments from Canso, N. S. The distance from shipping point to say, Galt, Ontario, is approximately 1,300 miles, yet the system of packing and icing fresh fish has made such progress that 99%



When fish arrived irregularly

of the shipments arrive in first class condition even in the hottest weather. This is the easiest part-getting the goods to the retailer-but think of the man who has to sell several thousands pounds of fish each week in lots from a pound up. Your correspondent recently visited a retail fish dealer in the town of Galt, population 13,000. To merchants in the larger centres, no doubt, it would perhaps seem that there was no much chance for success in the fish business in a town of that size, but there is one live merchant who reaches out and does a big business by going after it. He has five or six peddler wagons, similar to those in the illustration which cover the town of Galt, and surrounding country for a radius of about ten miles in each direction. His slogan is the only one applying where fish is concerned QUALITY first, last and all the time. On arrival of his shipments of choice, fresh haddock, cod, fresh fillets and other varieties of salt and fresh water fish, they are first carefully washed. All slime and blood is removed, and fish

re-packed in ice. Those going to the store, are placed in an ice and salt cooler over-night, but fish for the peddler-wagons are given special attention. First of all, the wagon box is half-filled with crushed ice, then alternate layers of fish and ice are added until the box is filled. They are left this way all night, until about five o'clock the following morning.

The boss, who is fond of work, gives them a final covering of ice, and the men then start on their rounds. They are given a supply of different varieties of fish, such as white-fish, trout, herring, haddock, cod, fresh fillets, etc., and each man has his own territory, so that he is enabled to get acquainted with his customers, and know their likes and dislikes. These five or six salesmen can dispose of about one thousand pounds daily, but it must not be supposed that it has been an easy matter to develop this business. People had to be educated into eating fish, and to have faith in the quality of fish offered for sales. Further, it was hard to get good salesmen who would take an interest in this kind of work, but by going after the business and supplying quality goods, Mr. Despond of Galt, has done a great deal toward giving the consumer, fresh fish every day in the week and every month in the year.



Regular Delivery: All's well

When asked if he found business dull during the summer months Mr. Despond stated that he does as much or more business during the summer as he does in winter, which goes to show that quality and service, combined with "pep," will keep the wheels turning every week in the year.

Bright Prospects After Poor Spring In N. B.

Big runs of All varieties--Lobster Catches as whole Satisfactory--High Price Paid for first Sardine-Herring.

By THOS O'LEARY

St. John, N.B., June 8.

A survey of the Province of New Brunswick this week determines that the province still retains its proud position as a great producer of food-fish.

Marked activity is indicated in the fishing industry in all centres of that important means of livelihood.

Following a "backwood" spring and the handicap of the masses of ice which locked the seashore and inland waters until an unusually late date, the fisher folk were finally able, late in May, to begin operations on an extensive scale.

From the north, east and South coasts advice came of "runs" of shad, cod, herring, mackerel and salmon, while lobster fishing was conducted on a scale that promises, despite earlier adverse weather conditions, to result in a satisfactory catch and pack.

Exporting of iced fish to American points has been pronounced from practically all provincial coastal points. The demand has been heavy and constant for shad, lobsters and salmon, and the price has been remunerative.

The cost of transportation by freight to Boston, together with customs' charges, duty, commission, etc. amounted to almost one-third of the price received for the fish on the Boston market.

Dealing with the fish in the order of their advent, the gaspereaux season brought a very heavy "run" in St. John Harbor, but the southern market failed to make its usual demand for the catch, owing, dealers say, to the quantities of dried fish available in the several southern centres of consumption.

The fishermen received an average of thirty cents a hundred for the ale-wives, which, cured and barreled, are offered wholesale for \$5.

The gaspereaux season is nearing its end and the "blue backs" and "green backs", the last of the ale-wives, are now being caught.

Best Shad Season in Ten Years

The present season for shad has been characterized by fishermen as the best in the last decade. The "run" was heavy in St. John harbor and the fish were splendid specimens.

The price to the fishermen ranged from 75 cents to 25 cents a fish, according to the catch.

The local market absorbed a considerable quantity of shad and exports to the Boston and New York markets were heavy. The price in the American centres opened at 40 cents a pound and averaged 23 cents. By weight, the fish were from 2 to 9 pounds.

At this writing, shad are becoming scarce. The season closes on May 20.

Fishermen advise that the first schools of shad were females, the second were males and the last schools were females.

At Chatham, large catches of shad were taken in salmon nets.

A feature of the shad fishing season in St. John

was the introduction by fishermen themselves of an increased size mesh. This has proved more effective, it is contended by fishermen, than any other method or measure yet adopted to protect and preserve the shad supply and surpasses in result the achievement due to artificial propagation.

In consequence, the prohibition of a mesh smaller than $5\frac{1}{4}$ is advocated. That measure, along with better protection for the spawning grounds would ensure a continual supply of shad.

In support of the proposed limiting of the mesh to $5\frac{1}{4}$, it is pointed out that few shad less than $2\frac{1}{2}$ pounds in weight are caught in the $5\frac{1}{4}$ mesh. At 2 pounds, the shad is productive and thousands of 2 lb. fish have escaped the harbor nets, due to the larger mesh, and made their way towards the spawning grounds. Should the use of a smaller mesh than $5\frac{1}{4}$ be prohibited upriver, the passage to the spawning area would thus be unobstructed.

It is a remarkable thing that there is no appreciable demand in the Upper Canadian centres for shad, which are a most appetizing, splendid fish. Fishermen assert that a low freight rate and better service for handling fish would soon establish a Canadian market and thus obviate the necessity of shipping across the border.

Some fishermen advocate that the season for shad open ten days earlier; further, that the ban on sea shad be lifted during the months of July, August and September.

In support of a change in the regulation concerning sea shad, it is submitted that the fishing of shad en route to the spawning grounds is permitted while shad merely engaged in fattening up are protected.

Fishermen find it difficult to understand why shad which are engaged in perpetuating the species may be taken and protection afforded fish which are indulging in the gentle art of putting on weight.

St. John Market Invaded

For the first time in the history of salmon fishing here, the St. John market was, early in the season, practically flooded with salmon caught off the Nova Scotia coast. In other years, the St. John fishermen had the market all to themselves and the first fish brought high prices. This year, fishermen had to be content with 30 cents a pound.

The reason is that Nova Scotia fishermen, operating in the Fundy, took in their mackerel traps a large number of salmon which were on their journey to the spawning grounds along the St. John river. The Nova Scotia catch cut off the usual St. John run. The fish offered for sale here were beauties, the smallest being thirty to forty pounds in weight.

Local fishermen in consequence of the unusual catch off Nova Scotia, have so far found the salmon fishing

season a poor one in catch and price. Wholesalers who handled the Nova Scotia catch talked of it in terms of tons where formerly salmon were diseussed as single fish. A large amount of money was made by the Nova Scotia operators.

The Government hatchery at Little River will commence taking salmon on June 11. The price is \$5.25 per fish.

Eel Fishing for U. S. Markets

Eel fishing for the Boston and New York markets will commence at an early date and the usual number of men will engage in the industry.

Sardines \$12.50 a Hogshead

"The harbor is full of sardines", fishermen reported on June 8. One weir had been ready for the run and was filled. The price offered is \$12.50 a hogshead and a boat came from Eastport for the harvest. Several weirs are in the course of erection and it is expected that about half the usual number will be in operation this summer. Within three weeks, twenty weirs will be in use.

A fairly prosperous season is anticipated in St. John county, as Charlotte did not this year enjoy its usual heavy run early in the year; hence, the supply will have to come from St. John county to meet the demand of the packers. For this year, and on account of the proposed export duty of \$10, the price is expected to hold above that figure.

Connors Bros, factory at Black's Harbor, Charlotte county, was the first sardine plant in New Brunswick or Maine to commence operations this year. The Connors' factory started receiving and packing sardines about the middle of May. The price at the beginning of the canning season was \$17 a hogshead. Last year's price was generally \$5.

The sardine catch for this year will be quite small compared with former years for Charlotte county fishermen, who expect to have barely fifty per cent. of their weirs in operation this year, according to R. E. Armstrong, secretary of the Board of Trade, who returned from St. Andrew's recently. Mr. Armstrong said that the demand for the fish is not so great as in former years, although he heard of several instances in which as high as \$22 was paid for a hogshead.

A portion of the building of the Union Sardine Company at Lubec, Me., collapsed at noon on May 26 and eleven persons were seriously injured, while several others received minor injuries.

Besides the Connors' and Lubec factories, an Eastport plant was in operation at the end of May.

Lobster Season Good In N. B.

The Province of New Brunswick has this year experienced a most successful season in the lobster fishing industry, according to reports received from the various centres where the industry is carried on.

Factory owners and fishermen from Shediac to Tracadie refer to the season as successful.

Many live lobsters are being shipped from Shediac and vicinity to the United States. Tracadie Gully, Gloucester County, Point Sapin, Kent Co., and Esequimiac, Northumberland Co., report heavy catches.

Over six tons were received in one day at a factory operated by the W. S. Loggie Co., of Loggieville and Chatham.

It is estimated, that there are 40,000 traps—fishing

in 20 miles of water—ten miles either way from Esequimiac. The labor in handling such a vast number of traps is very great, but not so great as in the days of the old sail boat which had to be rowed when the air current failed. Motor boats have aided the fishermen.

A big lobster business is also being done on Prince Edward Island, Magdalen Islands, Bird Rock, and Anticosti.

Lobsters at the rate of 300 pounds to the boat and in some cases much higher are already being taken by the fishermen along the Northumberland Strait coast, according to Charles Robinson, assistant fire marshal, who returned recently from a trip to Point Sapin and Esequimiac.

One large packer who had about fifteen boats working for him, received over 5,000 pounds of lobsters in one day. The factories are busy canning the catch.

Caraquet county enjoyed a heavy catch of lobsters in the last ten days of May and shipments of live lobsters to the American market were brisk.

Lobsters under nine inches are not shipped, with the result that the Caraquet market was glutted with small fish. There is a shortage of cans in some places, and all the packers and can-making establishments are busy, many working overtime.

A marked improvement in the lobster industry in Charlotte County towards the latter portion of May, with both price and demand good.

The lobster fishing season for St. John county has been extended for fifteen days from May 24, owing to extraordinary conditions prevailing during Spring.

The Dominion Government has also granted an extension of 15 days to lobster fishermen in the Northumberland Strait. This action makes the concession general in the Maritime Provinces. The extension was granted because of the late starting of the season, mainly due to heavy ice along the shores which prevented the fishermen from using their boats and maintaining their traps in position.

The traps are set in 50 to 60 feet of water and are generally baited with herring chopped fine

The fishermen have been fortunate in having fine weather.

Cod were caught in St. John Harbor in May, for the first time in a considerable number of years. Good catches were reported by Lorneville fishermen.

St John, N. B. — A. C. Finlayson of the department of marine and fisheries, Ottawa, recently made his annual early summer inspection of the local salmon hatchery at Little River.

Mr. Finlayson said the results at Little River had been exceptionally good this year and some very fine fry, of both salmon and trout had been developed. He found everything in first class shape and the new ponds were working splendidly.

Smelts are being caught in large quantities in the St. John river.

The annual run of smelt on the Petiteodiac river began on May 13.

Superfluous

"Pa," said the humorist's little boy, "what 'superfluous' mean?"

"It means something unnecessary, my son."

"Gimme a 'zample."

"Well, for instance, writing jokes for the laughing hyena." — "Boston Transcript."

Fishermen Refuse to Sell and Release Catches

*Market conditions, they say, do not warrant low price of one-quarter cent for haddock.
Mackerel strike in Heavily*

Special Correspondence

June 12—Large catches of mackerel have been taken during the last week or so from all of the traps in the vicinity of Yarmouth, and the run of those fish over the week-end seems to be unprecedented. At the Bluff Head trap off Lower East Pubnico, a total of 350 barrels were taken from it, and yet the trap was left half full of fish. At the Pubnico Point trap 250 barrels were taken and still it was far from empty. The Sanford and Beaver River traps were only partially emptied when the trapman took about 260 barrels from each. The Burns Point and Cranberry Head traps were also only partially emptied, yet 200 were taken from the former and 150 from the latter. Murder Island and Yarmouth Bar traps, which have done little or nothing previous to the past week, had 150 barrels respectively. Netters and drifters also did well and struck the mackerel very plentiful, totalling over 60 barrels, and one boat with one man brought in 3,100 lbs.

Large catches have also been taken in other districts of the South Shore. It is very greatly to be regretted, however, that the price of the catch is the lowest ever known. This week, in the Halifax district, only two cents apiece is being offered, or about one cent per pound. The large catches that are being landed in the Boston markets make it impossible for shipments to be made to that port, as the prices at Boston are less than the cost of barreling, icing, labour, transportation and duty from Halifax. To make the situation still more difficult, some of the dealers have considerable stocks of last year's catch remaining in cold storage, for which twenty cents apiece was paid.

Fishermen Refuse to Sell

Not only has the market for fresh mackerel gone to pieces, but the prices for haddock and herring, of which there have been large catches, have also struck rock bottom. For instance, large catches of haddock have been recently taken by the Ingonish, Cape Breton, fishermen. The price offered, however, was one-quarter of a cent per pound, with the result that some of the fishermen refused to sell, and are opening their traps and allowing the fish to escape. One trap for fish is poor this year and that even at a quarter of a cent a pound liberated his night's catch of 20,000 haddock. Monday every trap along the coast was again filled up, but the fishermen in their war against the buyers, again let the fish at liberty.

The Ingonish fishermen claim that the buyers are able to pay better than a quarter a cent a pound and some of them go so far as to declare that the buyers have formed a combine to keep prices at a low level. The buyers on the other hand claim that the market for fish is poor this year and that even at a quarter cent a pound they are running a risk of losing money.

Reports from points all along the Cape Breton coast state that never in the past forty years have fish of all kinds been so plentiful. Haddock swarm along

the coast and clog the fish traps. Salmon are being caught in large quantities. The waters of some Cape Breton harbours are virtually alive with spring herring. Huge catches of herring were taken in nets at St. Ann's Harbour a few days ago at spots where fish were never before known to have schooled.

Happily, however, the new stock of dried fish is being disposed of at good prices, some sales being made at \$7.00 per qtl. Offers for last year's stock on hand remains at \$5. per qtl.

Lobster Fishery Improves

The lobster fishery, which opened under most unpromising conditions has very greatly improved. The prospects are that its spring pack will be somewhat greater than last season, especially in view of the extensions of the fishing season for the various portions of the coast.

As this fishery is the best bet for the fishermen, it is being prosecuted by an increasing number of men each season. The growth in the number of fishermen and traps is rather alarming, causing well founded apprehension that the fishery cannot much longer stand the drain. Indeed, in some districts it has become so depleted that the fishermen are taking the initiative to prevent further depletion.

The commission proposed by Wm. Duff, M.P. to investigate the conditions in connection with the Atlantic fisheries, will, if appointed, have its head full in dealing with the lobster fishery alone.

SEASON EXTENDED

Because of the backward season the fishery for gaspereau in the tidal waters of streams tributary to Minas Basin, Chignecto Bay and the Strait of Northumberland, in Nova Scotia, was extended until June 15.

The lobster fishing season generally was extended to give the fishermen allowance for the loss sustained at the opening of the season when fishing was impossible.

A NEW RACER

A new contender for schooner racing honors has been launched at Mahone Bay. This is the sweet lined Keno, designed by C. A. MacLean.

JARVIS TAKES AN AILSA CRAIG ENGINE

The Canadian Boat and Engine Exchange, Toronto, through its managers, Chas. O. Peters, announces, that Commodore Jarvis, the great Canadian yachtsman, has selected an Ailsa Craig "Kid" engine for his new schooner yacht "Venture" which is now preparing for the Bermuda race. The "Venture" is now being converted from sloop to schooner rig at Haresehoff's Shipyard, Bristol, R.I. The Canadian Boat and Engine Exchange, 43 Yonge street, Toronto, has the Canadian and United States agency for the Ailsa Craig.

British Columbia Notes

Review of past two years -- Analysis of Jap License Reduction -- Bell -- Irving loses cannery

Vancouver, B.C., May 25 —

The fisheries patrol steamer "Givenchy" has just left Vancouver for the sea lion rookeries just north of Vancouver Island and opposite Smiths and Rivers Inlets. It is the intention to destroy as many sea lions as possible on the Virgin and Pearl rocks by means of clubs in the case of the pups and machine-gun and rifle fire in the care of the adults. Last year one trip was made with a view to obtaining information as to the most favorable time and method but it was found that we were a little late for the pups but it is expected that this month these will be found in large numbers and that it will be a simple matter to dispatch them very economically by means of clubs.

It has been satisfactorily demonstrated that these mammals consume great quantities of salmon and it is hoped that their elimination may result in increased runs.

Up to the present time the carcasses have not been made use of although several years ago one hunter obtained a considerable number of sea lion hides for which he received 8 cents per pound. This party expects to go sea lion hunting again this summer for the purpose of marketing the hides which are manufactured into very good leather.

Spring Salmon Fishing

The fishing for salmon at this time of the year is confined to trolling for the spring variety off the west coast of Vancouver Island. The trollers go as far out as thirty and forty miles to the fishing banks and dispose of their catches to the Canadian mild curers, cold storage, and fresh fish dealers, who maintain buying stations along the shore at most convenient points. The Americans from Puget Sound also purchase large quantities of this variety and during recent years have been obtaining a very large proportion of the catch. his fishing has, up to this year, been, done largely by the Japanese fishermen but with the department's policy of reduction of the Oriental fishermen this season's licenses have been divided fairly equally amongst the whites, Canadian Indians, and Orientals.

At the present time the trollers in the Barelay Sound vicinity are on strike owing to the price of 8 cents per pound for red springs and 3 cents per pound for white springs which has been offered by the buyers. This price is controlled by the Americans.

Stocking Streams with Sport Fish

The department has been giving considerable attention during the past few years to the stocking of fishless streams and lakes with suitable varieties of food and sport fishes as well as restocking those which have, through overfishing or on account of other reasons, become depleted. Atlantic salmon have been brought out from the east and placed in the Cowichan Lake and River in small quantities up to last year when the number received was increased very materially. It is very gratifying to find that the mature fish are returning in satisfactory numbers to the spawning areas

and some very excellent sport has been had this spring particularly. Returning fish weighing up to eight, nine and ten lbs. have been taken on the fly and with the increased efforts of the department in connection with the Atlantic variety it is expected that the angling in the Cowichan, Alberni, and Lakelse districts will be greatly improved although there is an excellent supply already of such varieties as the cutthroat and steelhead trout.

Eggs of the Kamloops trout variety have been taken at the Lloyds Creek eyeing station near Kamloops during the past two seasons and have been distributed in the eyed stage over the numerous lakes and streams requiring attention. The results with this variety have been particularly satisfactory resulting in increased demands for further supplies. The Kamloops trout attain a size of thirty-five and forty lbs.

Reduction in Oriental Licenses

The reduction to Orientals of 40% in all varieties of fishing licenses with the exception of the salmon trolling variety where the reduction has been 25%, is shown in the appended statement which compares this season's figures with those of last year, giving each variety separately.

Variety of License	Issued	Available
	1922	1923.
Salmon Trolling	332	250
Salmon Curing	9	5
Salmon Gill-net	1989	1193
Boat License	165	99
Buyers License	41	25
Herring Curing	10	6
Herring Purse-seine	5	3
Herring Gill-net	19	11
Crab	6	4
Smelt Drag-seine	9	5
Smelt Gill-net	27	16
Anglers Permit	1	1
Miscellaneous	193	116
Grayfish Gill-net	89	53
Total Licenses issued during 1922 . . .	2895	
Total Available for 1923		1787
Reduction		1108

Statistics of B.C. Production

Attached is a comparative statement showing its values of the different varieties of fish caught in British Columbia during the past two years.

Species	Estimated Value	Value
	1922	1921
Salmon	\$13,130,000	\$8,577,602
Halibut	3,918,000	3,636,076
Herring	863,000	963,407
Cod	226,000	232,638
Black Cod	121,000	142,558
Pilchards	106,000	101,945
Clams	68,000	41,390
Crabs	61,000	46,889

Soles	60,000	20,174
Oysters	33,000	21,136
Flounders	17,000	8,397
Perch	16,000	19,496
Red Cod	10,000	10,667
Shrimps	8,000	13,066
Sturgeon	5,000	5,415
Smelt	5,000	19,430
Oetopus	3,000	2,933
Skate	3,000	7,609
Abalone	1,500	.....
Oulachons	1,000	1,185
Whiting	1,000	318
Bass, Shad, Trout, Hake, Tom Cod	2,000	239
Whale Products	159,000	.....
Fur Seals	19,000	46,980
Grayfish (exported)	10,000	.....
Fish Oil	23,000	7,110
Fish Meal	34,000	23,110
Fish Fertilizer	15,000	3,900
Poultry Shell	2,500	.....
Sea Lion & Shark Hides . .	100	.....
	<hr/>	<hr/>
	\$18,921,100	\$13,953,670

The above figures include the values of fish landed in British Columbia by American bottoms.

The estimated value of fish of various species used for home consumption in District No. 1 is not included in the above.

Indirect Routing Inaugurated

Says the Daily News, Prince Rupert (issue May 23) : "The shipment of halibut and salmon arriving here yesterday by motorship from Ketchikan for trans-shipment East over the Canadian National Railway was said to have been the first consignment of fresh fish from an American port through Prince Rupert on its way to the final market. The experiment will be watched with interest by those in the fish business. It is really an inauguration of a Ketchikan-Prince Rupert fast delivery ferry service. There are several objections against this method of shipping fresh fish as against the straight unloading of American halibut boats here. The principal ones are the loss of a day in getting the fish to its ultimate market of consumption and the fact that weather conditions will not ensure the constant carrying on of the service. If such a service were successful, it might eventually mean the discontinuation of American halibut boats calling here with their catches provided always that they could get as much for their fish at Ketchikan as at Prince Rupert. This would mean loss of business to Prince Rupert in the matter of outfitting these boats which already it is said, has been falling off even with the boats marketing their fish here. With the hindrances to the ferry service as mentioned, it would seem that the most satisfactory way will be for the boats to continue unloading here in the future as they have done in the past.

"There have been a good many international complications of late in connection with the fresh fish business but they will probably be cleared up in the early future. The battle of tariffs should come to an end soon whether it be for better or for worse as far as Prince Rupert is concerned. Until such a time, prog-

nostications as to the future of business will always be uncertain."

Bell-Irving Loses Cannery

The large cannery at Port Essington, owned by Henry Bell-Irving of Vancouver, was destroyed by fire on May 7. The loss is estimated at \$100,000. Fishing boats tied up at the dock were saved, but all other equipment, including nets, was burned.

ONE RACE OF ATLANTIC SALMON

As a result of the clearing away of the forest and the cultivating of land and consequent changes in water levels, and the volume, temperature and oxygenation of the rivers and more extensive fishing with nets by commercial fishermen in the tidal waters, the early run of salmon that ascend most of the rivers of the Atlantic Coast of the Canadian Maritime Provinces has greatly increased in numbers, as compared with the early days of the fisheries. By following intensive fish culture practices, the angling in the streams that have not become too greatly changed through the above mentioned agencies and the commercial fishing generally along the whole coast, is showing decided improvement from year to year. The falling off in the early spring run in some of the streams in comparison with the later run, which ascends with the rising water and falling temperature of the autumn, gave rise to the impression in some places that the early and late salmon were two distinct races.

For the purpose of obtaining some definite information in this respect, as well as with regard to the life history of the salmon, a certain proportion of those that are retained in the hatchery ponds as brood stock, from which the supply of eggs is annually secured for the hatcheries, have been marked after they were stripped and before they were liberated each season from 1913 up to the present. The mark adopted is a numbered silver tag, which is attached with silver wires to the second and third ray of the dorsal fin. The tag lies closely against the fin, so that it offers as little opportunity for friction as possible when the fish is passing through the water. At the same time care must be taken that the wires are not so tight as to cut into the skin and flesh of the fish and cause the tag to drop out.

Up to December 31, 1922, the recapture of one hundred and seventy-seven Atlantic salmon out of a total of five thousand five hundred and ninety-one that were tagged at all the ponds from 1913 to 1921 inclusive, when they were stripped and liberated, was reported to the Department.

These recaptures, while limited in number indicate that the spring and autumn fish do not comprise two races of salmon and that heredity is not the predominating influence in regard to the season or month at which salmon ascend our eastern rivers, but, on the contrary, autumn salmon of any year are likely to be a spring or early summer fish when they again return to fresh water.

CHANCE OF A LIFETIME

The occupants of the parlor car of the Limited were startled by the abrupt entrance of two masked bandits. "T'row up yer hands," commanded the bigger of the two. "We're gonna rob all the gents and kiss all the gals."

"No, pardner," remonstrated the smaller one gallantly. "We'll rob the gents, but we'll leave the ladies alone."

"Mind your own business, young fellow," snapped a female passenger of uncertain age. "The big man is robbing this train." — Exchange.

WHAT ADVERTISING DOES

How through a campaign of advertising and co-operative effort, Sun-Maid Raisins were distributed in far flung parts of the earth "so that the sun never sets on Sun-Maid," is the story of the tremendous growth of an industry of which members of the Montreal Publicity Association were given a glimpse at their luncheon in the Mount Royal Hotel recently. G. M. Setliff, division sales and advertising manager of the Sun-Maid Raisin Growers of Canada Limited, chose as the title of his address: "The History and Marketing of Sun-Maid Raisins."

"This year the sum allotted for advertising purposes by the Sun-Maid Raisin Growers' Association is \$2,520,000," said Mr. Setliff. "In Canada alone by August 15, 1923, we will have spent \$425,000."

That advertising pays not only the advertiser but also the consumer, was indicated when the speaker declared that sales in Canada alone had increased from 4,578,000 to 13,000,000 pounds, and as a whole from 60 tons to 240,000 tons, and since the advertising had been increased the sale price of the raisins had been decreased because of the greater turnover.

In national magazines and journals, newspapers and posters, and almost all other conceivable mediums, advertising of the product had been conducted. An

important step had been the adoption of the trade name, with the picture of the "sun-maid," who, Mr. Setliff said, had now gone into moving pictures.

Mr. Setliff gave a little history of the troubles encountered in scouring a combination of the raisin growers of California into a mutual association, and how sixteen hours a day had been the not uncommon practice in the early days of the industry.

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ST. JOHN, N.B., CANADA

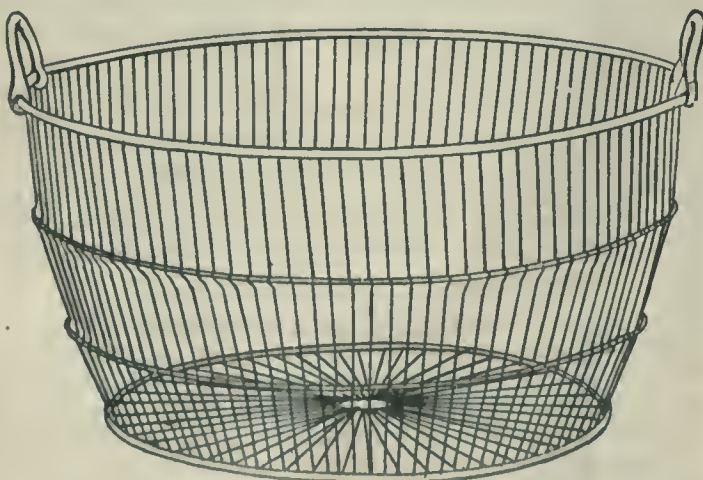
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"DAISY"**

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BETTER Fish And
GREATEST Satisfaction.

WRITE FOR BOOKLET

THE MASSILLON WIRE BASKET CO., Massillon, OHIO.

THE CANADIAN FISHERMAN

Official Organ of the Canadian Fisheries Association
A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada,
and Technical Education of those engaged in the Industry.

VOL. X

GARDENVALE, P. Q., JULY, 1923

No. 7

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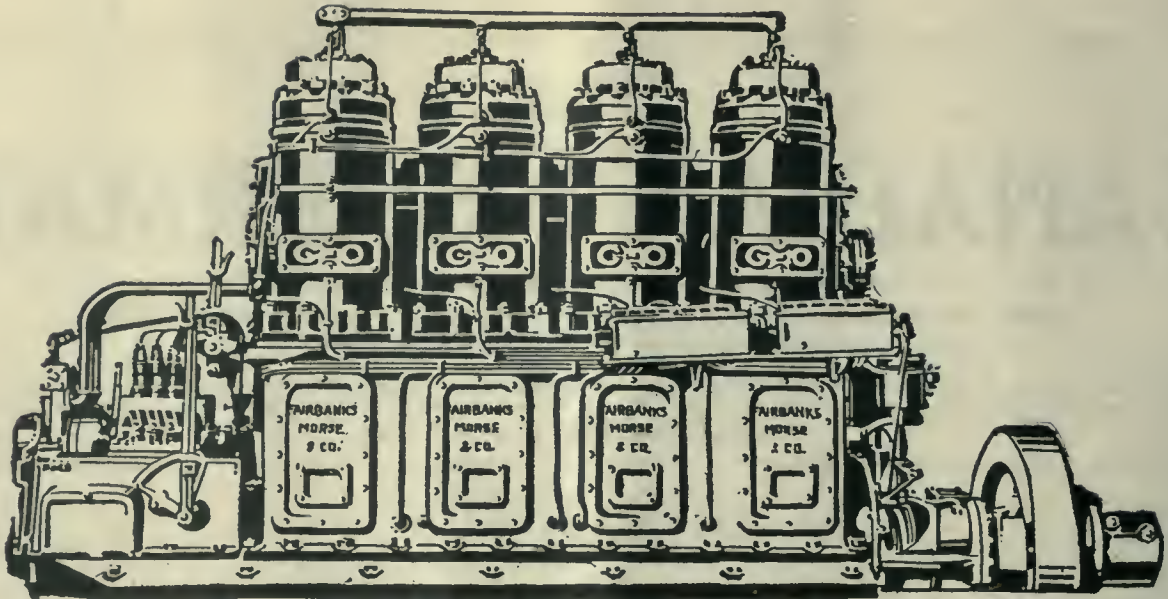
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The Industrial & Educational Publishing Co. Limited

J. J. Harpell, President and Managing Director
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 Telegrams and Express Ste. Anne de Bellevue, Que.
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ST. JOHN, N.B.

:-: EDITORIAL :-:

Official Organ of Canadian Fisheries Association

JAS. H. CONLON, Editor.

CO-OPERATIVE PLAN TO DEVELOP FISH CONSUMPTION

An effective and practicable scheme of co-operative advertising with the object of stimulating and extending the consumption of fish in this country, is being seriously considered by the executive of the Canadian Fisheries Association, and it is possible that in the next issue we may be able to make definite announcement of the project.

The proposed plan provides for a campaign of three years' duration, at least, the fundamental objective being to increase the consumption of fish in this country regardless of what kind of fish it is, or whether it is fresh, canned or cured. In similar campaigns which have met with success — for illustration, the 'Save the Surface' campaign — the prime object was to impress upon the public the wisdom of using paint and varnish frequently. Following the building up of a stronger market it was then up to individuals to ballyhoo their particular brands. In our industry we have the same general principles to work on. We want to have Canada absorbing a greater volume of our fish production. When we have educated our people to an appreciation of the manifold advantages of fish, our individual producers, canners, curers, etc., must vigorously push their respective wares. The campaign will develop more business and everyone in the industry will share in the results. It is just because of that fact, that is, that results will accrue to no one in particular, that the building up of the home market must be undertaken in a co-operative way.

Producers, distributors and others in the industry, it is proposed, will be assessed and the various governments, federal and provincial will be induced to contribute.

This outlines the scheme in a general way. Within a month we expect you will have more definite information either by direct letter or through the medium of this journal.

The press in various sections of the country has recently focused attention upon the lack of governmental encouragement given the fishing industry. In that connection the editorial remarks of the "Halifax Herald" in a recent issue are timely:

"At a meeting of the Canadian Fisheries Association, held in Montreal the other day, it was stated that eighty per cent. of Canada's output must find a market beyond the boundaries of the country. One of the reasons stated is that Canadians are not fish eaters; and it is proposed to organize a propaganda for the purpose of impressing upon the Canadian mind the food value of fish, and the advisability of increasing consumption for that reason and on economic grounds.

"The fishing industry is one of our great natural resources. It is one that has received relatively little attention. Governments deal with it in a perfunctory manner. They seem to take it for granted that the industry does not need encouragement.

"Agriculture receives constant — and deserved consideration. In Parliament and in the legislatures of every province a large share of time is every year devoted to questions that affect the welfare of the farmer. The industry is in the public eye continually. But this cannot be said of the fishing industry.

"It would seem to be high time for improvement in this regard; and the governments of provinces like Nova Scotia which have much at stake in this regard should be more active than they have been. There is good reason for arguing that the fisheries of Nova Scotia should be regarded seriously by the provincial administration; and that it should exert leverage upon the federal government for the purpose of compelling the latter to give more intensive consideration to the problems of that industry.

"It cannot be said that the government of this province has given the subject anything more than passing attention. It is thereby neglecting a fundamental industry of the province. It is an industry with great potential possibilities. And it is to be hoped that a new leaf will be turned in this regard; and that the fisheries will be placed in the forefront of provincial activity."

SHYLOCK AND THE POUND OF FLESH

In fulfilling one of the recommendations of the Duff commission, the house of commons, in the closing days of session, adopted a bill amending the Fisheries Act of Canada so as to reduce the basic fee for a salmon cannery license in British Columbia from \$500 to \$20. Needless to say, the matter had been thoroughly considered by fishery administrative officers and the ame-

loration of the tax was concurred in by all concerned. Not a single element in the department of administration or among the various interests of the house found fault with the proposed amendment. All the facts of the situation and the conditions under which the heavy levy was introduced were thoroughly appreciated. Members of the Duff commission took occasion to advise their colleagues in the lower house and the minister of marine and fisheries was in a position to disclose the true facts of the case as well. There was obvious justice in the course the house of commons adopted.

There is a sequel to the narrative, however. The senate killed the bill. Why? We cannot say. It certainly could not have understood that the high license fee of \$500 was proposed by the Sanford Evans Commission and introduced in 1918 on the understanding that there would be a limitation of canneries and allotment of restricted fishing areas among them. Senators could not have known that the levy was made though the conditions of the levy were never enforced. The restrictive policy never materialized but year after year the government continues to collect the toll. In other words it promised to give a service in return for a fee. It collected the fee and is still collecting it, though it has refused the service. Did the senate know the strength of competition our canners are meeting in foreign markets from Siberian and Japanese sources? Did it know that our salmon canners are taxed more heavily than salmon canners elsewhere? Did it occur to it that this was an unhealthy situation for the industry and for the financial resources of the country? No. That body of glorified intellects dismissed the matter summarily. What the industry, the administrative authorities and the house of commons had agreed was an equitable course, the senate summarily decided was not.

There are only two conclusions to be drawn. Either the senate was unwilling to spend the time to adequately study the facts of the case, or, flattered by the apparent popularity of its action in killing the branch railways vote of approximately \$25,000,000, it rushed into new superficial economies, to increase the favor of the upper house in the eye of the public.

The amendment to the fisheries act meant a sacrifice of but \$35,000 in the public revenue. On the other hand it meant a square deal to salmon canners who, during the past two years, have had a struggle for existence. If these hoary wiseacres are to sit in judgment on legislation they must display a viewpoint that is not encompassed by dollars and cents.

Next year, it is hoped, the matter will be permanently adjusted. In the meantime the government may find a means of extending the relief it intended, before the Senate's ill-advised non-concurrence. In consideration of the strong foreign competition and the generally difficult state of affairs in the industry,

would it not be possible to bonus each salmon cannery this year to the extent of \$480? A rose by any other name smells just as sweet.

GIVE GASPE A CHANCE

Hon. Charles Mareil, Liberal member of the federal house for Bonaventure, Quebec, entered an earnest and eloquent plea on behalf of the Gaspé coast during the recent debate on the \$25,000,000 vote for the construction of branch railway lines. He emphasized that the Gaspé coast is being ignored as regards transportation accommodation and stated that Sir Henry Thornton, when apprized of conditions, was astounded. From personal knowledge of the situation, the writer concurs in the disclosures made by Mr. Mareil. A thing more surprising than the conditions that exist, is the fact that public men have wasted so much time in having them corrected.

The two hundred miles of rail from Metapedia to Gaspé are owned by two separate companies, New Carlisle being the dividing point. All the capital is held by British interests and there are reasonable grounds for assuming that the latter are not interested in providing accommodation adequate to the needs of the district but simply in retaining their respective franchises and goading the country to take the white elephants off their hands. Whatever their motive may be, the fact remains that they are not in condition to render the service which the peninsula has a right to expect, nor is there sufficient mileage to promote the development of the wonderful resources or encourage outsiders to enter there.

The writer had occasion to travel along the Gaspé coast a few years ago in an effort to improve the transportation service for fish. From a viewpoint of freight traffic the express service was tolerable. One may surmise what the freight service was like. The roadbed was a positive guarantee against drowsiness and afforded an excellent means to acquire cheaply the sensation of a trans-Atlantic voyage in rough weather. The equipment is worthy of respite due to old age. If the writer remembers correctly a special car bore a date when railways were a novelty. Due recognition must be made of the courtesy of the management upon this occasion, but courtesy is a poor vehicle in itself for the development of a country so expansive. That, however, was the only apparent merit in the joint system.

Mr. Mareil rightly points out that a country of 10,000 square miles (Bonaventure and Gaspé counties), which is the oldest section of the dominion, has a right to some consideration in view of the millions expended for the development of the middle west. The Gaspé district in company with the rest of the east put up the lucre to promote the colonization of western prairies, and now we find that in the

matter of immigration federal funds are being employed to the advantage of the west in discrimination of the east. Does it seem necessary to lay a network of rails in the middle west to induce settlement any more than it does in Gaspé? If the same effort had been applied in developing the Gaspé coast since it was first settled by the white man, that has been expended in the middle west, the eastern peninsula would today be the centre of Canadian activity.

Sir Henry Thornton, it is understood, has suggested that the two roads be operated as branches of the C. N. R. It is hoped something may be done to provide a service that will meet the needs of the times, even at the expense of a deficit for some few years. Gaspé is entitled to a modicum of the cream. She has been getting the skimmed milk. The government at Quebec should be in a position to exert a healthy influence on the unhealthy situation.

HALIBUT TREATY NOW UP TO U. S.

The Pacific Halibut treaty was signed on the 2nd of March last. The salient features of this treaty are:

1.—A close season from the 16th of November to the 15th of February, both days inclusive, which covers the main spawning season of the fish; and

2.—The appointment of an international commission of four members, two from each country, to study the life history of the halibut and make such recommendations to the two governments for regulations as may be deemed desirable.

It will be remembered that the treaty was submitted by the president of the United States after signature to the senate for ratification. The senate did ratify it, but with the reservation that the close season would apply to all other parts of the British Empire. The fact that the life of congress expired really on the third of March, as the fourth was Sunday, precluded an opportunity for careful consideration of the treaty, and was no doubt responsible for this reservation. It likely was not realized that carrying it out would involve entering into a treaty with every other self-governing portion of the Empire, notwithstanding that in practice there would not be the slightest danger of any breach of the treaty from any other part of the empire. Obviously if any outside danger was to be anticipated it would come from Mexico or Japan rather than from Australia, or any other portion of the empire. What was intended by both governments from the beginning, and what is being done by the Canadian legislation, is to close our ports and waters on the Pacific coast to the vessels of all nations that would engage in halibut fishing in the prohibited waters, during the close season. Without being able to use our ports or waters or those of the United States, it is quite clear that it would be utterly impracticable for any vessel to engage in halibut fishing on this side of the Pacific.

The treaty has been approved by the house of commons as it was signed, and the legislation provides that it can be brought into force by proclamation by the Governor-in-Council. The United States will no doubt find it necessary to resubmit the treaty to the senate for ratification without amendment or reservation at its approaching session early in November next. If such is done and the senate ratifies the treaty and if the requisite legislation to enable its enforcement in that country is provided by the sixteenth of November, there is no reason why the treaty will not be in full force and the close season effective this year. But if this is not done it seems unlikely that the close season can be made effective for the approaching season.

It is not likely that any steps can be taken towards the appointment of the Commission contemplated by the treaty until after it has been ratified as it stands by both governments.

ITALY WANTS TINNED FISH MARKED

Italy some months ago received shipments of tunny fish and sardines that were, so report says, far from wholesome. The government health department tried to trace the origin of the goods but the labels had been detached and its search was futile. Now the Italian government has enacted a decree that all canned fish imported must bear on the lid in indelible marking a description of the contents, the name of the packer and the country of origin.

Representations were made to the Italian administrative authorities through the Canadian trade representative at Milan, at the request of the Canadian Fisheries Association, to have the decree modified in view of its impracticability. It was impossible to know at the time of packing what quantity should be marked for the Italian market and it would be a heavy expense to mark all the tins, and, in some cases, unsatisfactory to distributors. The authorities at Rome took the view, however, that the marking was not impracticable and that all countries exporting fish were put on the same footing. Concessions were granted in that the application of the decree was deferred and the ruling was given that a paper pasted on the cover would be considered an indelible marking and that embossing would not be exacted.

It was further pointed out by Rome that there seemed to be little reason why Canadian trade in this commodity could not be considerably increased in view of the fact that the customs duty of 42 lire per quintal, which works out at 168 lire per hundred kilos, or four cents (Canadian) per one-pound tin, has been removed.

The Canadian trade commissioner remarks that there seems little prospect of getting further alterations in the decree and he is inclined to the opinion that the enactment may come as a blessing in disguise to Canadian canners by eliminating intermediaries and advertising Canadian products as such.

RACE RULES MUST BE SIMPLIFIED

The season is slipping around to the time when fishermen should be speculating on elimination events preparatory to the international schooner race for the Dennis trophy. It must be regretfully admitted that there is not the interest there should be, the blame for which must be traced to the over-stretched rules of the competition. They must be simplified if enthusiasm is to be engendered and they must be so shaped that the race will prove a bona fide affair between practical fishermen under working conditions without the remotest resemblance to a yacht race or mill pond demonstration.

To accomplish this end and to achieve the purpose for which the Dennis trophy was intended, the rules must be modified before the fall. It should be possible to draw up a few general conditions that would insure a legitimate race. There are two things for which fishermen have little affection — one is a sport sailor and the other is red tape. The trustees of the trophy have had suggestions recently, too, from practical authorities across the line, to a similar effect. The fact cannot escape their notice that something must be done immediately if the event is to be perpetuated and the stipulated motive of the grantor is to be served.

PISCATORIAL PARAGRAPHS

At the annual meeting of the Canadian Chamber of Commerce recently held in London the British government was urged to require Siberian salmon to be marked as such. Japanese canners, backed, it is said, by the Soviet government, are driving Canadian salmon from the market by selling a cheaper article under the same name. It seems only right that the British consumer should have an opportunity to exercise his preference for Empire goods.

In the present issue much space has been devoted to a discussion of the Biological Board of Canada, what it has accomplished in the past and what it proposes to do in the future. It is felt that the industry generally does not appreciate the service the board is giving the industry and the time is opportune, now that a closer contact with the industry is being developed, to give generous treatment to the subject.

All in the Family

He saw her sitting in the dark corner, and knew that his chance had come.

Softly he stole up behind her, and before she was aware of it, he kissed her.

"How dare you?" she cried.

"Pardon me," he replied calmly, "I thought you were my sister."

"You fool!" she snapped. "I am!" — "The Owl."

NOTES FROM NEW BRUNSWICK

The shad fishing season, which closed in St. John harbour on June 20, was one-third better than the catch of the previous season, it is generally conceded. The price was good and some of the fishermen took advantage of a brisk demand in the American market by shipping to the States on their own.

Sardines were scarce in St. John and Charlotte counties in June, but the St. John run usually occurs later in the season, so that fishermen look forward with some degree of optimism to the late summer and fall. The June quotation was \$12 a hogshead.

Salmon were scarce in the last month, not nearly so numerous in St. John harbour as in the corresponding period of last year, but as the season does not end until August 15, it is confidently expected that conditions will improve. The June price to fishermen was from 15 to 18 cents a pound.

During the extension granted for the lobster fishing season, which was originally scheduled to close on May 23, but which, by special permission, was continued until June 7, a good catch was secured in St. John county. To the fishermen, the peak price was 50 cents and the minimum, 15 cents a pound.

The low price offered for cod, \$1 to \$1.50 a hundred-weight, acted as a restraint, almost a complete suppression, of that branch of the industry. There was no market for hake.

A trout hatchery, initiated in August, 1922, at Lake Wood on the Loch Lomond Road, a few miles from St. John, and consisting at present of seventeen ponds, was reported early in July by officer in charge, James D. Nichol of the department of fisheries, which established the hatchery, to contain 1,000 speckled trout, 1,000 rainbow trout and 500 brown trout.

Imported as eggs from the States, the trout after having been hatched, were put into the ponds when two inches in length, and have grown to 7 or 8 inches in length.

Overseer Nichol stated that the hatchery is developing satisfactorily.

The federal salmon hatchery at Little River, St. John county, had 200 salmon in its ponds at the end of June, besides 200,000 salmon fingerlings which will be distributed to various provincial streams in the fall. The Government pays \$5.25 each for salmon for the hatchery. About 3,400,000 eggs were carried at the hatchery last winter.

D'AGOSTINO GUBITZ COMPANY

"Albert D'Agostino and Gustav A. Gubitiz have formed D'AGOSTINO GUBITZ COMPANY, and incorporated under the laws of the State of New York on June 4th, 1923, and are now located at 206 Spring Street, New York City, where they occupy large and convenient quarters. While it is a new concern its members need no introduction, either to the producers or distributors of canned and salt fish. They have been connected with the fish business for the past twenty-two years.

Mr. D'Agostino has many years' experience in Italian dried fish and general domestic canned and salt fish business. His partner, Mr. Gubitiz, also has had vast experience in the export fish business.

Biological Board Will Be Reorganized

Parliament amends act to permit of closer co-operation between scientists and the industry---Two practical men to sit on board

The Biological Board of Canada was first constituted in 1898. It consisted of a number of professors from Canadian universities doing scientific work, and was under the chairmanship of the commissioner of fisheries. Its first station was on a floating seow, which was used for a few years, after which a permanent station was established at St. Andrews, N.B., and another one at Departure Bay near Nanaimo on the Pacific coast.

The board found itself hampered in procuring equipment, etc., owing to having to conform to the usual governmental accounting methods. Also there did not seem to be any proper contact between the department or the industry and the board. In 1912, at the board's solicitation, legislation was secured known as the Biological Board Act. This act placed the board in a position that was practically out of the department, though it provided that the board should be under the control of the minister. The board consists of two members appointed by the minister, and one additional member appointed by such universities (to be named by the minister) as may engage in the work of biological research. The act further provided that the board shall have charge of investigations into practical and economic problems connected with marine and fresh water fisheries, flora and fauna. While this legislation placed the board on a clear cut basis, it did not result in bringing about the close contact between the board and the department of marine and fisheries or the industry that was clearly essential, if the most satisfactory work was to be performed. Hence it was that some years ago the department came to the conclusion that it would have to build up a scientific division of its own. The necessary amendment to the Biological Board Act to enable this to be done was submitted to parliament, and while approved by the house of commons was not finally dealt with by the senate before parliament prorogued.

Immediately following, however, there was a re-organization of the membership of the board and Doctor A. P. Knight, previously of Queen's University, who had been connected with the board since its inception, was appointed by the minister as one of the members of the board and was selected by the board as its chairman. The policy of the board since that time has been to work in co-operation with the department and to endeavour to find out the needs of the industry, and supply these as far as conditions would permit, with the facilities at its disposal. Hence much useful work has been done in recent years, but both the department and the board have felt the need for closer relationship.

Problems to Solve

It is clear to all who are in contact with the fisheries industries that the time has come when there must be quick steps taken for the improvement of several of our products if we are to hold the position in the

world's markets we had before the war, to say nothing of retaining the gains made during the war. As is well known, before the war by far the most important branch of the British and northern European fisheries was the herring fishery, the main markets for which were Germany and Russia. As these markets will be badly crippled for years to come, these countries may be relied upon to go more extensively into the dried fish business and kindred branches of the industry.

What has been going on in Cuba during the past year illustrates the situation. During the war the Canadian dealers very greatly improved their position in Cuba. For instance in 1912-13, the year before the war, Canadian exports to that country were about 60,000 cwts. of dried fish, while in 1919-20 Canadian sales there amounted to over 145,000 cwts. Since then Norway has been making strong and successful efforts to regain her position in that market. The Canadian Trade Commissioner in Cuba has been stressing this fact. Some time ago he pointed out that in the Port of Havana alone over 80,000 cwts. of fish were received from Canada in 1921, while the imports from Norway were 34,000 cwts, but for the first ten months of 1922 Canadian imports fell off to 34,000 cwts. while those from Norway were over 31,000 cwts. He further emphasized the difficulties under which Norway is competing. Her freight rate is 65 per cent. higher. There is only a monthly shipping service, which results in large deliveries, which unfavourably affect the markets. There is a landing charge on all shipments from Norway, which is escaped on most Canadian shipments, and it is almost impossible to cancel or re-order from Norway, as mails are slow and cables expensive.

There is only one reason for Norway's success, and that is that she is producing the kind of cure that the market wants.

We are proud to proclaim to the world that we have adjacent to our shores the most extensive and most prolific fishing banks in the world, and we know that it is a fact that much more fish can be produced by any method of fishing in the same time on our banks than on the European grounds. In the face of these conditions it should be impossible for any European country to compete successfully with us in any market on this side of the Atlantic and on the other hand we should be able to go into more successful competition than at present with European producers in their markets on the other side of the ocean.

Care in Handling

What is urgently necessary is that there should be general realization amongst our fish merchants, fish curers and fishermen, — who are largely the fish curers in this country — that the fish should be handled with as much care from the time that it is taken out of the water until it is placed on the ultimate market, as is the case with meat or wheat or any other important food commodity. The question is how can this

most quickly and most satisfactorily be brought about. Of course a law could be passed requiring fish to be handled in a certain way and prohibiting its exportation unless such were done, but we all know that such a course could not be carried out even if it were deemed wise to attempt it. From every standpoint it seems best that there should be undertaken without delay a vigorous educational campaign amongst our producers so as to make it clear to them that their own interests will be served by exercising the needed care. This has been done in all lines of agriculture and the improvements that are so noticeable there are no doubt largely due to such efforts. Experimental farms dot the country from coast to coast. Indeed the very fact that so much attention has been given to agriculture has probably been the main reason why it has been difficult to have proper attention given to our fisheries, the importance of which from a food producing standpoint can scarcely be over-estimated. We speak with pride of the great crops of wheat raised on our prairie farms, but how many people realize that an ordinary steam trawler will produce an equal tonnage of fish as at least two thousand acres of the best land will of wheat?

We know that the department of marine and fisheries fully realizes the need for vigorous efforts to hasten the day when our fisheries production will be equal to the best put up anywhere and we were pleased to learn some weeks ago that, realizing that practical and scientific work should go along hand in hand, arrangements were made for a full discussion of the whole matter with the Biological Board at its last general meeting. It is understood that there was no difference of opinion between the department and the board as to the need for certain lines of work to be undertaken and as to the desirability of somewhat modifying the membership of the board, so as to have not only the department but the industry properly represented thereon, in order that there might be no danger that matters would be considered from all standpoints, and that attention would be centred on things most needed by the industry.

Suggested Reorganization

Following this conference it was decided to ask for a modification in the Biological Board Act to increase the members to be appointed by the minister from two to five, the understanding being that one of the three new members would be a departmental officer and two to represent the industry.

It was further resolved to ask the Government for an additional appropriation of \$70,000, in order that the necessary facilities and the needed staff could be arranged for, to undertake systematic work for the betterment of the whole industry. This amount we are gratified to see has been included in the supplementary estimates.

As previously stated, there are two permanent Biological Stations, one at St. Andrews, N.B., and the other near Nanaimo, B.C. While these stations are well placed from a Biological standpoint they are unfortunately remote from the main portion of the industry. They are, however, now well equipped stations and it would be regarded as a mistake to duplicate them. But it is understood that it has been determined that a sub-station to each one should be established. The work, to be undertaken as soon as the facilities and personnel can be obtained, would cover the whole industry including the handling, preserving and distrib-

uting of fish, in order to determine how these can best be assisted. This would involve:—

(a) Laboratory work in the study of all articles used in the preservation and canning of fish, etc.

(b) A small curing plant to enable accurate determination of the best methods of curing and the extent and rapidity of penetration of the different kinds of salt at different temperatures and the effects of things they may contain on the fish.

(c) A small drying plant in which the temperature and moisture conditions on any part of the coast could be duplicated so as to enable a determination of what will best meet requirements in the different localities.

(d) A small smokehouse for study which is much needed in connection with smoking fish.

(e) A small freezing plant to enable study on best methods of freezing.

(f) A small plant for canning fish to enable study of that important branch of the industry.

(g) Facilities for studying the best means of reducing fish offal into commercial products to overcome the tremendous waste that is now going on.

(h) A kitchen to enable a study of the best methods of preparing fish for the table.

We have heard much talk in recent years of the desirability of establishing a school of fisheries. These stations should be made to answer all requirements in that direction. They will no doubt have lecture room facilities and with their equipment demonstrations of all kinds affecting the fisheries can be given. The aim should be to interest the whole industry in these stations so that it would come to look to these stations for explanations of any difficulties that may be encountered and how they can be overcome. The permanent officers from these stations can, during the winter season, visit the various parts of the coast giving talks and demonstrations to the fishermen.

LESS FISH BUT VALUE GREATER

The total quantity of sea fish landed on both coasts during the month of May was 739,986 cwts. valued at \$2,779,844, while that for the corresponding period in the preceding year was 839,435 cwts. valued at \$2,464,899.

There were 75,079 cwts. of cod, haddock, hake and pollock taken during the month, compared with 96,789 cwts. in May, 1922.

5,698 cwts. of mackerel were taken and 27,392 cwts. of alewives compared with 19,899 cwts. and 14,305 cwts. of these kinds in the corresponding month last year.

Lobsters were not quite so plentiful as in May of the year previous, the catches being 137,678 cwts. and 169,545 cwts. respectively. Since the commencement of the lobster fishing season, 155,671 cwts. have been taken. Of this quantity, 35,238 cwts. have been shipped fresh and 60,262 cases canned. In the same period last year 203,808 cwts. were taken, of which 47,570 cwts. were sold fresh and 78,117 cases canned.

The catch of halibut on the Pacific coast during the month was 30,306 cwts., as compared with 23,222 cwts. in May last year.

The catch of salmon on the Pacific was 29,871 cwts. against 17,533 cwts. in the same period last year.

On the Atlantic coast four fishermen lost their lives during the month.

What The Biological Board Has Done

Historical sketch of institution's development---Some facts which illustrate service being rendered to the industry

By A. BROOKER KLUGII

Our fisheries are one of our great national assets, and anything which concerns their welfare affects not only those actually engaged in fishing operations, but the economic life of the nation as a whole. For this reason every Canadian has a more or less direct interest in the work of our biological stations, since these institutions are devoted to the investigation of problems affecting the fisheries.

The biological stations are financed by the government and staffed by the universities. This partnership is eminently satisfactory because both parties benefit by it. The government secures the free services of those qualified by natural aptitude and special training to carry out scientific investigations, while the universities benefit from the opportunity accorded members of their scientific staff, and their advanced students, to carry on research.

The Biological Board of Canada, which is the controlling body of the biological stations, came into being in 1898. Its establishment was due to the energetic manner in which the biologists of our universities, ably seconded by the commissioner of fisheries, Dr. E. E. Prince, urged upon the government the necessity of a scientific investigation of fishery problems in Canada. The board consists of a representative from each university, and the commissioner of fisheries as the representative of the government.

The first Biological Station was designed as a floating laboratory. It was built at Indian Point, St. Andrews, N. B., in 1899, where the work was carried on during that and the subsequent year. This floating station was towed to various points on the Atlantic coast, being at Canso, N.S., in 1901 and 1902, at Malpeque, P.E.I. in 1903 and 1904, and at Gaspé, P.Q. in 1905. While this floating laboratory had the advantage of mobility it soon became evident that if any more intensive work than biological reconnaissance was to be undertaken a larger and permanent station was a necessity. After a careful examination of many localities on the Atlantic coast it was decided to erect such a station at St. Andrews, N.B. The buildings which consisted of a laboratory seventy-nine feet long and thirty-one feet wide, a three-story house for the staff, a tank-tower, for holding a supply of salt water for use in the laboratory, and a pump-house to accommodate the engine for pumping the sea water, were completed in 1908. A wharf, running out far enough to allow a boat to dock at any state of the tide, was constructed. Since that time two cottages have been built for the accommodation of workers and their families, and in 1921 an addition, of about the same size as the original building, was made to the laboratory.

The Pacific Coast Station

In 1908 the Pacific Coast Station, situated on Departure Bay near Nanaimo, B.C., was also completed and opened for operation. This station consists of a single building, the laboratory being built as an extension of the house.

From 1901 to 1913 a station was maintained at GouHome Bay, on Georgian Bay, for the investigation of problems relating to the lake fisheries. An existing cottage was used for living quarters and a small building equipped as a laboratory. As the site proved to be unfavorable in many respects this station was closed and the property sold, but as soon as the urgent requirements of the two marine stations have been met there will be further developments in the way of a fresh-water station.

The "fleet" of the Atlantic station consists of the power-boat "Prince", a staunch fifty-seven foot vessel with cabin accommodation for five men forward, and a self-bailing cock-pit aft, and capable of making about ten knots, the "Sagitta", a twenty-five foot motor boat, and the most recent addition the "Delphine" a thirty-foot power-boat of good speed combined with seaworthy qualities. At the Pacific station is the "Ordenez", a forty-foot power-boat with a cabin, and a smaller open motor boat.

Not only are good boats of suitable type required for the investigation of life in the sea, but gear of all kinds, ranging from the nets, line-trawls, beam-trawls, and traps used in commercial fishing to specially devised scientific apparatus of various kinds for securing samples of the sea water and the bottom deposits at different depths and of the plant and animal life of the ocean from the smallest to the largest. Furthermore the laboratory must be equipped with apparatus, glassware, and chemicals for biological, chemical and bacteriological work. With very modest beginnings in the early days equipment has gradually been added until today the stations have the facilities for many lines of investigation. That the equipment is as well able to meet the demands as it is at present is to the credit of those in charge of the stations, for the urgent requirements have always been in excess of the funds available.

A Capable Director

The Atlantic Coast Station has been particularly fortunate in having as director Prof. A. G. Huntsman, who is not only the foremost authority in Canada on marine biology but whose organizing ability is equalled only by his readiness to aid others in the work they have in hand.

The early work of the stations was largely in the nature of a systematic investigation of the fauna and flora of the coast. To some it may seem that the collection and identification of specimens of animals and plants is rather remote from matters of economic importance, and while this work was the chief activity some criticism was levelled at the stations on this account by the uninitiated. But such researches are the groundwork, the very foundation, of all subsequent work, as it is quite obvious that if one is to deal intelligently with problems related to living things he must know their names and the names of those which serve them as food or which prey upon them. It is easy to talk of economic work as distinct from purely

scientific work, but as a matter of fact every piece of economic work of any value rests on a foundation laid by researches in pure science. To attempt the solution of a practical problem without this basis is as futile as to attempt to build a house without laying the foundation.

Another line of work which was begun in the early days of the stations, and which is being continued with greater precision and effectiveness at the present time, is the investigation of the temperature, salinity, and other physical and chemical factors of the water of the ocean and the estuaries of rivers. This work is of basic importance because it is only by the methodical and long-continued observation and measurement of these factors that a true explanation of the migrations, the appearance and disappearance, and the periods of abundance and scarcity, of the commercial fishes can be arrived at. This data also gives us definite knowledge of the environments suitable for oysters, clams, and other sedentary forms of marine life.

The careful investigation of the life-histories of many marine forms of commercial importance, such as the cod, haddock, herring, Pacific salmon, striped bass, shad, smelt, oyster, soft-shelled clam and lobster has engaged the attention of several workers at the stations. It is only when the complete life-history of a species is known that adequate steps can be taken for its conservation, and it is remarkable how incomplete is our knowledge of the life-histories of even the commonest commercial species; hence the value of such studies.

Study of Fish Scales

Another line of investigation to which considerable attention has been given is the microscopic study of fish scales. To most people a fish scale is not a particularly interesting object, but to the biologist it yields much information of great significance. When a fish scale is examined under the microscope it shows a series of concentric rings, which are arranged in zones of closely-set and more widely-spaced rings. The latter are those laid down when the growth of the scale was rapid, that is, during the summer, while the crowded rings are those formed during the period of slow growth in the winter. Thus the age of a fish can be read from the scale, just as the age of a tree is ascertained by counting the annual rings. But the scale reveals more than the age of the fish, for the width of the different zones shows the relative rate of growth during the successive years of the fish's life, and it has been found that fishes of the same species from different localities show characteristic differences in this respect, so that it is possible to recognize various local races of a species by this means. By this method it can be ascertained if the fish migrate to any marked extent, and if so their migrations can be followed, or if they only exhibit in-shore and off-shore movements. It can likewise be found out whether the fish hatched in a certain stream or lake return to that particular locality to spawn, such information being of importance not only from the standpoint of commercial fishery operations but also in regard to the placing of hatcheries.

A large number of problems of direct practical importance have been attacked by the workers of the Biological Stations, and these investigations cover such a wide range of subjects that it is possible to mention only a few of them.

Culinary Tests Are Made

One line of practical activity has been the testing

on the table of the mess-house the edible qualities of various common forms of marine life which are not at present placed upon the market. These gastronomic experiments have shown that many of these neglected sources of food not only equal, but are superior to, some of the kinds which are regarded as staple products. One result of these tests was the placing on the market during the war of flat-fishes and other fishes which had not previously been utilized. Some of these fishes are now in regular demand at some inland centres.

To a certain extent the function of the stations in relation to the fisheries is similar to that of the agricultural experiment stations in relation to farming, and when the fishing industry receives the recognition which its importance warrants the funds provided for buildings, equipment and men to carry on this work may become more nearly equivalent to those provided for the agricultural experiment stations. One of the earliest practical experiments carried on at the stations was that on the efficiency of various kinds of bait, which was undertaken by Dr. A. P. Knight, who showed conclusively that clams, which can be obtained at any time, are superior to herring as bait, and that frozen herring is nearly as good as fresh herring.

In the preparation of the so-called "Finnan Haddie" there are two prime requisites — the flavor and the keeping quality of the product. A series of experiments to determine the length of brining and smoking which yields a product of maximum quality in regard to both of these essentials was carried out at the Atlantic station, and the results made available to those engaged in this industry. There is room for a good deal of work of this nature in view of the fact that most of our high-class sardines and herrings are imported from Europe, because while we have the fish in abundance, the methods of preparation in vogue in Norway, Scotland and France are superior to those employed here.

The clash of interests between the mill-owners on one hand and the fishermen and anglers on the other in regard to the pollution of streams by saw dust brought about the investigation of the effects of this substance on fish life which was conducted by Dr. Knight. The results of his observations and experiments showed that the chief factor in the depletion of fish life of streams upon which the mills were situated was not the presence of saw dust but the barrier which the mill-dams, which were not provided with fish-ways, presented to the ascent of the stream by fish. Experimental data have also been obtained regarding the effect on fish life, of various kinds of wastes from manufacturing establishments.

Research on the bacteria which cause cans of sardines to "swell" has been carried on by Mr. Sadler. Dr. G. B. Reed has investigated the bacteria which cause deterioration of canned lobster. He has found that these bacteria start to decompose the lobster meat before it is placed in the cans, and as a result of this slight decomposition the "blackening" of the flesh takes place after it is canned. This shows that in order to secure a perfect product the preserving methods must be carried through with the greatest speed, especially in warm weather. Mr. J. M. Luek has entered upon a study of the effect of various salts on the bacteria which decompose fish. Dr. F. C. Harrison and Miss Kennedy have investigated the organisms which cause the reddening of salted cod-fish.

The extension of the laboratory of the Atlantic station which provides more accommodation for bacteriological work will enable the station to do more in the way of investigating the cause of the various defects found in canned fish products.

Air and Brine Freezing

An important piece of economic work has recently been completed by Dr. F. Slater Jackson on the effects of air freezing and brine freezing on fish muscle. It has been realized for some time that the usual method of freezing fish for storage or shipment is not satisfactory, since both the texture and the flavour of the fish are impaired. A method of freezing in brine has been worked out and Dr. Jackson's work on the microscopic structure of the muscle of various species of fish in the fresh condition, air frozen and brine frozen will not only be of great value to those engaged in the shipment of fish, but should result in a more palatable and nutritious product being made available to inland consumers.

The commercial possibilities in the production of the fresh-water mussels, whose shells are suitable for the manufacture of pearl buttons, has been investigated by Dr. J. D. Detwiler.



The Atlantic Biological Station on estuary of St. Croix River. Laboratory at centre, tank tower at right and mess house at left.

The extensive investigation into the whole matter of the lobster industry in Canada by Dr. A. P. Knight, with the assistance of several other workers, has already led to results of considerable importance. The lobster is commercially the most important of all the crustaceans and Canada has the largest lobster-fishery in the world. Over 100,000,000 lobsters have been taken in our waters in a single year, and returns from this industry amount to about \$5,000,000 per annum. Being a form which inhabits comparatively shallow water, and thus being restricted to a narrow strip along the coast, the lobster is particularly likely to suffer from the effects of over-fishing, and the catch per trap has fallen off seriously since 1897. Further evidence of the decline of the industry is shown in the size of the lobsters caught — in 1873 the average weight was 2 lbs. 14 ozs. in 1909 it was 1 lb. 3 ozs, and it has since fallen to about a pound. Some means of preventing a further decline of the industry was evidently urgently needed. One of the first results of this investigation was the closing of the lobster hatcheries which were proved not only useless but actually detrimental to the conservation of the species. Experiments with breeding sanctuaries have given most satisfactory results. An educational campaign has been carried on among the lobster fishermen and cannerymen with the result that a large number of those engaged in the industry are now willing to co-operate

in taking measures to conserve the supply. The intelligent regulation of the fishery, and the production of a higher and uniform grade of canned lobster, will undoubtedly result from the application of scientific principles to this industry.

Work Covers Wide Area

As may be judged from some of the researches mentioned above the work of the biological stations is not by any means confined to the precincts of the stations, and a development of recent years has been the biological surveys which have been made of different regions of the Atlantic coast. In prosecuting this work the "Prince" has been stationed at some harbour from which she has worked the surrounding waters, and a temporary laboratory has been established in some building at the base. Research of this nature has been carried on successively at Cheticamp, N.S., from which base the Gulf of St. Lawrence as far as the Magdalens has been worked, in the Miramichi region, N.B., and at Shelbourne, N. S.

In closing this brief review of the biological stations of Canada it is a pleasure to pay a tribute to the men who have served as captains, engineers and caretakers, whose loyalty and efficiency have very materially contributed to the success of the stations.

MARKETS FOR MARITIME FISH

There is little or no change in the situation as regards dried fish. There are still about 15,000 quintals of last season's bank fish to be marketed in Nova Scotia, and there is said to be 40,000 quintals of Newfoundland fish on the way to Oporto, and almost the same quantity in Newfoundland unsold.

Fishermen's ideas are said to be about \$6.50 per quintal, which is \$1.50 per quintal higher than the ideas of the buyers.

Reports of dried fish markets do not make very cheerful reading at the present time. Europe, with the exception of Italy, is not improving. Italy we are glad to report has recently cancelled the duty which she imposed on dried codfish. This duty amounted roughly to 50 cents per quintal, and the effect of its remission should be to increase consumption in that country. Latest reports from Iceland and Norway state that the catch for this season is 25 per cent in excess of last year. The situation from the standpoint of our fishermen is not likely to be improved by these large catches. The cost of catching fish in both Norway and Iceland is said to be less than ours.

A few sales of pickled mackerel have been made at \$6.00 per barrel ex-vessel Halifax. The summer run of mackerel should be on this coast before very long, but no sales are likely to be recorded before early in August.

The market for canned lobsters showed a decided weakness at the first of the month. Some operators consider this merely a temporary lull in the demand.

NO FEE FOR SALMON LICENSE

The fishery regulations for the Maritime provinces and Quebec, insofar as the Magdalen Islands are concerned, have been amended so as to provide that there shall be no fee attached to a salmon fishing license. The established fee of \$1 was found a hardship in many cases and as a revenue from the source is in the vicinity of \$1,000 it was decided to do away with it.

Another Phase of Biological Work

*Science students given opportunity of putting training to practical use--
Give their time without remuneration*

By THOS. O'LEARY

Canada leads the world in at least one feature of the work of its Biological Board, Professor A. P. Knight, chairman of that body, informed a representative of the "Canadian Fisherman" during a visit of Dr. Knight to St. John on July 1.

That feature is the zeal and praiseworthy self-sacrifice of the scientists who spend their summers at the board's stations at St. Andrews, New Brunswick, and Nanaimo, British Columbia. Of the thirty university graduates engaged in research operations at the eastern and western stations, only two are drawing salary, one receiving full time and the other, pay for a period of four months. The other members of the staff get their transportation, board and lodging free, but, in addition, they enjoy what they are after — a chance to work hard, to procure specimens and use the equipment at the station to which they are attached.

Among the staff are a considerable number of university professors; all are graduates in science, and the majority are those who have specialized in biology. These trained men are glad to spend the summer at the stations and the specimens they secure and the knowledge derived from the term in the board's service serve, with more hard work during the winter, as the basis for a research paper. Formerly testimonials were regarded as the media through which university graduates gravitated into positions; now "the goods are delivered" in the form of research papers published in a scientific magazine or other such vehicle. Testimonials are useful, of course, Professor Knight stated, but the research paper is the thing greatly to be desired.

Have No 8-Hour Day

With that end in view, the budding biologist, like the fisherman in the fable, "riseth early in the morning." He breakfasts at 7.30 a.m. and is busy in the laboratory at 8 o'clock, remaining there until 12.30 noon. Having lunched, he resumes work in the laboratory at 1.30 p.m. or at 2 at the latest, stopping for dinner at 5 o'clock. Keen students again take up laboratory investigations until 10 p.m.

The equipment at the stations is reported by Dr. Knight to be first class, while the St. Andrews headquarters is a commodious structure which has been considerably extended in the last two years and to which another dormitory was added this year at a cost of \$9,000. Two laboratories are provided, one for bio-chemistry and the other for bacteriology.

The St. Andrew's station will remain open until the end of September at least.

The biological board's first station at St. Andrews, established in 1899, was a structure resembling a railway carriage and built on a scow. After being used for three years in Charlotte County, it was towed to Cape Canso, N.S., where it remained three years; thence to Richmond Bay, P.E.I. for three years; thence to the Gaspé Coast for a like term, and, finally to Davy Jones' Locker when the primitive craft was overtaken

by a storm while being towed from Gaspé to the North Shore of New Brunswick. Experience on all the maritime coasts determined the present location of the board's eastern station.

Dr. Knight stated that conditions, including the variety of specimens, at St. Andrews were more desirable there than in any other eastern centre.

Nanaimo he characterized as superior to any other place on the North American continent in the number of its species and the mildness of its climate. There is a wonderful wealth of fish there, he added.

Sub-stations have been operated at Barrington Bay and St. Margaret's Bay in Nova Scotia, and on Prince Edward Island. Other sub-stations will be fitted up.

Professor Knight paid high tribute to the work of Dr. Cox of the University of New Brunswick, a member of the biological board.

The board also includes representatives of Dalhousie, Laval, McGill, Queen's, and Manitoba Universities, each appointing a member, while the minister of fisheries appoints two members.

Insulin Investigation Popular

Professor Knight made brief reference to the work of the St. Andrews station in connection with "insulin", remarking that, last year, Professor MacLeod, in whose laboratory Dr. Banting made his momentous discovery, found, in investigations at St. Andrews, that "insulin" is obtainable from the sculpin, the dogfish and the angler.

Halifax reports that travelers going to that port abstract, while returning from the fishing grounds, the glands of fish from which "insulin" is procured. That sort of co-operation means a great deal to thousands of diabetic patients who are awaiting the "insulin" treatment, Dr. Knight pointed out.

He also stated that in looking over the list of names of the scientists at the St. Andrews station, he had noticed that four had set out an intention of working on "insulin."

Well, Well, Well

He was a benevolent but near-sighted old gentleman, and, anyway he had never studied up on feminine styles. She was a fair-haired mite of a girl he had encountered.

"Ah," he ejaculated, "such a sweet face! And whose little girl might you be?"

"Well, grandpop," she replied, "if you've got enough kale to make it interesting, I might be yours." — "American Legion Weekly."

She (pettishly): "I don't see why it is you find poker so fascinating."

Husband: "It's the queens in the deck, my dear. They remind me so much of you." — Boston Transcript.



A recent photograph of Joseph T. O'Connor, Montreal, third Vice-President of Canadian Fisheries Association, and first retailer to step in line for presidency.

Ontario Man Ships Live Fish Successfully

Gottlieb Friedrichs previously made reputation by shipping fresh eels to New York from Lower St. Lawrence--News of Lakes district

Toronto.— The shipment of 6,000 pounds of live lake trout, made by Gottlieb Friedrichs of Little Current, Ont., to New York, has attracted the attention of the newspapers of that city to the possibilities of the live-fish trade. It was made in four wooden tanks, seven feet square by five feet deep, placed in an ordinary box car. The water was kept in circulation by a small kerosene-driven engine and pump, and the fish arrived in prime condition at Fulton Market, there they were transferred to a large pool specially made for them. The casualties amounted to only 15 per cent, due to overcrowding and careless handling, much of which can be obviated in the future. Dr. Charles H. Townsend, Director of the New York Aquarium, says that this experiment has demonstrated that the shipment of live fish in large quantities by railway is perfectly practicable. Last year Mr. Friedrichs collected 160,000 pounds of live eels below Quebec and shipped them on barges to New York by way of Lake Champlain and the Hudson River. Live fish transported to New York may be expensive but the metropolis abounds in good-livers who are willing to pay the price if they know the delicacy is to be had.

As a result of representations made by W. E. Simpson, of Kenogami, Ont., to the deputy-minister of game and fisheries at Toronto, Kenogami Lake, one of the beauty spots of Northern Ontario, lying within a few miles of Swastika and Kirkland Lakes, has been stocked with black bass. A consignment of ten thousand arrived last month in charge of Mr. Edwards of the Glenora hatchery. Testifying to the efficiency with which the methods of handling and distribution were carried out, is the fact that of the entire consignment not more than a half dozen were lost.

The Peterboro Fish and Game Protective Association have distributed 150,000 bass fry in the Otonabee River, Chemong Lake and Pigeon Lake. They came from the Mount Pleasant Hatcheries, near Brantford, Ont., and were asked for by the Peterboro Association.

To Resume Research Work

The Department of Biology of the University of Toronto will again this summer send a party to Lake Nipigon to conduct research work on fishery problems which will be largely a continuation of the work undertaken in previous years. The party will be composed of many of the same men that composed last year's party, and will include Dr. W. A. Clement, in charge; Professor J. R. Dymond, Messrs N. K. Bigelow, F. B. Adamson, W. J. K. Harkness, H. H. MacKay and J. L. Hart. By means of a brass dredge, which brings up 81 square inches of bottom, they will check up the abundance and distribution of good material on the bottom of the lake, upon which sturgeon and white fish are dependent. The minute plants and animals which serve as food for the young of all fish are obtained by means of very fine silk nets. Fish are obtained by means of

various kinds of fishing gear, such as gill nets, seines, etc. Detailed measurements are made of the fish, scales and ear stones taken for determining the ages, stomach contents examined minutely to find out food preferences and feeding habits. The physical features of the lake, such as temperatures, oxygen and carbon dioxide content, movements of the water, character of bottom etc. all of which affect the fish and their food supply, are carefully studied.

Levi General, of the Brant Indian Reserve at Peterboro, Ont., has left for England and has taken with him a petition from the Mississaugas of Curve Lake, otherwise known as the Chemong Reserve. The petition, which urges that the Chemong Indians are exempt from the Ontario fish and game laws will be submitted to the king himself by the general. The Indians contend that their rights to hunt and fish were guaranteed by treaties with the crown, made when the country occupied the status of a colony, and that this right should take precedence over the restrictions imposed by the local governments. Over 100,000 speckled trout fry were sent out by the Provincial fish hatchery, Port Arthur, in June, to Loon and Pearl, and were all in good shape when deposited in the lakes by members of the fish clubs who have camps at these stations. About 60,000 were deposited in a chain of lakes north of Pearl, and the balance in Loon and Silver Lakes. Loon Lake, a popular summer resort, will have its fishing grounds closed for a number of years.

A visitor in Toronto during June was F. E. Burke, head of the Wallace Fisheries, Limited, Vancouver, and chairman of the British Columbia Division of the Canadian Manufacturers' Association which held its annual convention in the city during the month. Mr. Burke spoke optimistically of the fishing industry in his province.

The banks of the Southern shores of Lake Ontario are again thickly strewn with dead fish, similar to the conditions that existed a year ago. This year the fish are much larger than they were last year, the mortality a year ago being confined to fish from two to three inches long. This year the dead fish run mostly from four to six inches long. Residents along the lake shore in the vicinity of St. Catharines are being urged to rake the dead fish in piles and burn them. What epidemic of poison is killing Lake Ontario fish off in this wholesale manner is a deep mystery to fishermen generally, though some advance the theory that the fish are being poisoned from the substances discharged by factories into the Niagara River. It is likely that an investigation by the fisheries department will be asked for.

Seven and three-quarter millions of young salmon trout from the government hatchery in Southampton were deposited in Lake Huron during the latter part of June. The spawn, containing ten million eggs, was placed last October. The hatchery was conducted the past season by Alex. McDougall, superintendent, A. E. Monck and A. B. McIntyre.

Over Half Billion Whitefish Fry

The Department of Marine and Fisheries announces the completion of its distribution of whitefish fry for the current season.

As whitefish is a commercial species, the output of fry was distributed in the Great Lakes of Ontario; the Lake of the Woods; Lake Winnipeg and Winnipegosis; and the larger lakes in Southern Saskatchewan. A limited number were also distributed in Harrison and Lillooet Lakes, B. C., in continuation of the efforts that were initiated a few years ago to acclimatize this valuable species in that province.

The location of the hatcheries and the principal waters in which their respective outputs were distributed are as follows: —

Distribution Area	Hatchery	Output
Lake Ontario	Thurlow	86,220,000
Lake Erie	Kingsville	89,745,000
Lake Huron	Sarnia	31,500,000
Georgian Bay	Collingwood	69,580,000
Lake Superior	Port Arthur	28,350,000
Lake of the Woods	Kenora	30,200,000
Lake Winnipeg	Dauphin River	82,850,000
Lake Winnipegosis	Winnipegosis	67,230,000
Larger lakes in southern Saskatchewan.	Fort Qu'Appelle	24,470,000
	Harrison Lake	7,182,000
	Pemberton	4,820,000
Harrison Lake.		
Lillooet Lake	Total	522,147,000

Record Pickerel Egg Collection

The marine and fisheries department, Ottawa, announce that the number of pickerel eggs taken this season for hatchery purposes exceeds all previous years, and is over 65% greater than last season. More than 388,000,000 eggs were obtained for the hatcheries located at Belleville, Sarnia, Collingwood and Kenora, in Ontario, and for Gull Harbour in Manitoba, Belleville, Kenora and Gull Harbour each made their record collection. The resultant fry will be distributed in suitable waters adjacent to the hatcheries.

Whitefish Fry Deposited

The Dominion fish hatchery at Collingwood, Ont has just finished depositing in the lake the whitefish fry hatched during last winter. The operations have been very successful and 70,000,000 have been put out.

Six Trout Weigh 108 pounds

Point Au Baril, July 9. — Captain Donald S. McInnis, while fishing with others with troll off the tug Gracie here caught six large lake trout (Georgian Bay trout), weighing in all 108 pounds. The largest trout weighed 35 pounds (the largest trout caught on troll here so far) and the next one weighed 24 pounds. The other four averaged 12½ pounds each.

French Company to Operate St. Pierre Plant

The cold storage plant operated by the French Government at St. Pierre during the war, and which is one of the largest and most complete of its kind in the world, is to be operated by a company recently formed in France. This company is known as the Cie Franco-Canadienne des peches et Frigorifiques, the head office of which is in Paris. In English the firm is the French-Canadian Company for Fish and Cold Storage. They have leased the plant from the French Government for a period of five years, with the option of extending the lease for another five years if desired.

Louis W. Parsons, Vice-President of the Company, who has been in Halifax for several days, has left for North Sydney to sail for St. Pierre. He will be the General Manager of the plant and expects to have the plant in operation within thirty days. He states that the plant could be put in operation in twenty-four hours if desired. Expert refrigerating engineers and a fish expert are being secured and it is aimed to not only cater to the French trawlers making their headquarters at St. Pierre, but also to the fishing interests of Canada and the United States.

Cost Three Millions

The plant was erected at a cost of three million dollars, but never operated except for the twenty day trial as required in the builder's contract. It is a concrete structure of six storeys and there are concrete docks with a low tide depth of 28 feet. The plant is said to have a capacity of two million tons of fish a year. The French Government planned three units of a great cold storage system during the war, one at Boulogne, the other at St. Nazaire and the third at St. Pierre. It was intended to help the food situation in France by transporting large quantities of fish across the Atlantic from the plant at St. Pierre to the other two plants in France and then distributing it

through that country. When the war ended the St. Pierre plant was nearing completion.

There are between thirty-five and forty French trawlers operating out of St. Pierre to the Grand Banks for about ten months a year, and these trawlers land their fares, which are split and salted, at St. Pierre, which are shipped to France in larger craft. The new company proposes to take these fares and freezes them so that instead of the trawlers sending home all salt fish they will be able to give fresh fish to the French public. At present France has two steamers, each fitted as cold storage carriers, which it is expected will be used for this purpose. These ships were, it is understood, originally intended for this purpose.

Will Supply Bait

The company also proposes to be able to supply ice and water to all vessels and also will start immediately freezing squid and herring for bait. Large quantities of eaplin are landed at St. Pierre, and it is possible that a canning plant may be opened to prepare this fish for the markets.

Mr. Parsons states that the people of St. Pierre are elated over the prospects of the plant being put in operation, as it will be a valuable asset to the colony. Expert cold storage engineers who have inspected the plant consider it to be as well equipped as any in the world. A cold storage engineer is now at St. Pierre working out details for its operation.

Mr. Parsons is well known here, having been formerly connected with the Anderson Company of Canada, which disposed of the fleet of trawlers here for the British Admiralty. More recently he has been with the Anderson overseas corporation of France until taking up his present duties. On arrival at St. Pierre he will take over the plant and put it in operation. — Halifax Chronicle.

Here, There and Everywhere

Trawler Fast On Ledge

The Rockland, Maine, steam trawler Snipe is hard and fast on Black Ledge, Seal Island, and is likely to be a total loss according to a report of her condition brought to Yarmouth June 22 by the tug Mary H. Cann, which went to her assistance and took the crew of the vessel to Yarmouth.

220 pound Sturgeon

The capture of a sturgeon weighing 220 pounds, one of the largest ever landed in the Brookville section of the St. Lawrence, is reported from Ogden's Island.

Dory Capsized; Two Drown

Paul Smith, a native of that district, and Sherman Wamboldt, of Sober Island, Halifax County, lost their lives on June 22 at Lake Vale near Antigonish, N. S. Wamboldt was engaged in running a fishing smack carrying lobsters to the packing plant of J. G. Rood. In company with Smith he went out to the smack in a dory during the continuance of the heavy northeast gale which had been blowing for the past twenty-four hours. While engaged in bailing out the smack the dory in some manner went adrift and the heavy seas washing over the smack eventually caused it to founder.

N. S. Sea Fisheries Association

Excessive transportation charges, mackerel scouting and the situation in the lobster industry were matters under discussion when the Nova Scotia Sea Fisheries Association met on June 26 at Lockeport, N.S., A. W. Eakins, president, in the chair. A special committee was appointed to inquire into alleged discriminatory transportation charges and to report at the next meeting. Ward Fisher, chief inspector of fisheries in the east discussed the work of the patrol boats and mackerel scouting. The feeling of the meeting seemed to show a lack of sympathy for mackerel scouting. Another matter introduced was the dumping of fish by American vessels in Nova Scotia ports at glut periods. It was stated that as corrective Mr. Duff, N.P. had suggested an appeal to the Government to restore the transportation rebate of 33 percent, while there was also some suggestion that the Government should apply for publicity purposes.

Another Fish Preservative

"The Frier", an Old Country trade paper catering to fish friers, announces that W. Potts of Hadfield has discovered a new method of preserving fish which is calculated to revolutionize present methods of handling. Mr. Potts has patented his idea and has not disclosed the nature of his process any further than to remark that "this agent locks up the nutritive qualities of the fish until required for consumption, much like an egg is locked up in its shell"

Fordney Tariff Costs Maritimes Million

Hon. Chas. Hughes, secretary of state at Washington, in a letter to a Massachusetts congressman points that "in 1920 there were shipped from the Maritime Provinces to the United States fish valued at \$9,075,457. Under the old tariff the duty was \$15,842. Under the Fordney tariff [now effective] it would have been \$933,887."

Trawlers Destroy Gear and Nets

There have been complaints at Ottawa from the Nova Scotia banking fleet of destruction to gear and nets on the Grand Banks by the trawlers. The department of marine and fisheries has accordingly arranged to send one of the fishery protection cruisers from Halifax to the banks with the fleet to watch the operations of the trawlers and find out definitely the extent to which the alleged destruction is due to the trawlers. If it is ascertained that there is any serious amount of destruction by the trawlers the matter will have to be taken up internationally and ways and means devised to put an end to it. There are many French and Portuguese trawlers on the Grand Banks, and the French ships are said to be particularly negligent in their operations.

Bedford Whalers Disappearing

Never before in more than a century of New Bedford history have there been so few whaling vessels hailing from that port, either at sea or in port. New Bedford's dwindling whaling fleet has been further reduced by the sale of two schooners recently announced, to be transferred to the Cape Verde trade.

Dogfish Numerous

Dogfish have been reported very plentiful by Lunenburg fishermen close in shore lately, and those that had mackerel nets out, found them full of these pests on several mornings during the week.

Imitation Salmon

Germans are putting an imitation salmon on the market. It is made from any suitable fish available which is sliced, seasoned with oil and treated with dye to impart the salmon pink.

Buy Old Whaler

The schooner Cameo, an old New Bedford whaler, has been purchased by Canadians and sailed for Port Greville, N. S., where she will be overhauled and refitted at Cochrane's shipyard. She was built at Bath, Maine in 1878 and is 200 tons register. After overhauling she will engage in the coasting trade.

Boat Builder Passes Out

John Etherington, long known in the Maritime Provinces and Newfoundland as a boat-builder, died at his home Shelbourne, N. S. June 30, after an illness of diphtheria. He is survived by a widow.

France To Protect Oyster Beds

The under-secretary of state, who has charge of the merchant marine, having brought the attention of the French Cabinet to the precarious condition of the oyster industry, Premier Poincare and his ministers have decided to submit a bill to the Chamber of Deputies, granting 1,500,000 francs to those in charge of the oyster beds, thus enabling them to establish and stock reserves at suitable points on the coast.

Adrift Six Days and Nights

After being adrift without food or water in an open dory for six days and nights, rowing and sailing about 180 miles, John Olive, a Portuguese fisherman, of the Gloucester fresh fishermen Edith C. Rose, was picked up off Tor Bay, Guysboro County, July 1, by the coastal steamer Chedabucto. His first request was for a cigarette.

Fishermen Dye Nets

Fishermen in Dalmatia dye their nets brown and green. They have found that fish are cautious enough to fear the white nets but swim calmly into the meshes of the dyed nets. The theory is that the brown and green-colored nets are indistinguishable from the floating strands of seaweed.

College of Fisheries Scope Enlarged

It is announced by the University of Washington, Seattle, Wash., that, beginning this fall, the food preservation work of the college of fisheries will be enlarged to include a new curriculum covering a four-year course in the commercial canning and curing of fruits and vegetables.

Discovers New Bank

Captain Hildred of the trawler Kanuek, says the Trade Review of St. John's, Newfoundland arrived from Hull, England, recently to take back a cargo of fresh cold stored salmon. While on the voyage out Captain Hildred discovered a new fishing bank, 300 miles east of Baeculien. In the course of his soundings he struck a bank in 40 to 50 fathoms of water. He stopped the ship and put out the trawl with the result that the crew hauled up a splendid lot of cod and flat fish in a very short time. The bank is not recorded in any

chart and Hildred thinks it is an ideal cod and halibut ground. He will report the location to the Admiralty on his return home and get the reward for such discoveries.

First Summer Baiting a Failure

The schooner Bluenose, Captain Walters, arrived the first of this month at Newfoundland from fishing her first baiting, with the scant fare of fifty quintals. Captain Walters reports fish extremely scarce, and the summer trip a failure. Fifty quintals from one baiting is almost a complete failure.

Two Giant Lobsters

Charles Faulkner of River John, N.S., a fisherman for the Maritime Packers, Ltd., set a record for Maritime Province lobster fishermen when he took from his traps, a few days ago, two monter lobsters, one weighing fifteen and one half pounds, the other weighing twelve pounds.

Mackerel Season Over

The run of mackerel has for this season, practically passed and the work of dismantling and taking the traps from the water will begin in a day or so. The catch, although not up to that of the past few years, was nevertheless a good one and the several companies have done an excellent season's work. — Yarmouth Telegram.

Merits of the Danish Seine

Correspondent contrasts efficacy with that of steam trawler--Controversy waging in Old Country

[A controversy has been going on for some time in Great Britain regarding the comparative efficacy of the trawl and the Danish seine as a means of taking fish in the North Sea. Combined with this there has been an effort to place responsibility for the poor catches of late. The following article, forwarded by a British correspondent, is in defence of the Danish method and should be of interest to Canadian readers. One effort has already been made to introduce the Danish seine in Canadian waters and an attempt, too, has been made in the United States, but neither was very seriously or very consistently followed up. —Ed. C. F.]

Danish Seine Superior

In various fishing-papers the question has been discussed lately as to the cause of the non-successful trawl fishing in the North Sea. Gradually the interested people have realized, that there must be something wrong, when a trawler — in spite of its force and size — is only landing very small catches, as a result of a hard, expensive and toilsome work.

Some of the papers are trying to find an enemy or competitor to blame, and thereby arrive at the curious result, that if there is a question of shortage of fish or destruction of immature fish and bottoms, the trawl is not to be blamed. They advance the theory — but with lacking evidence — that it is the Danish seine net which is the cause of the growing scarcity of fish in the North Sea, and to find an argument they even go further, and say it is because the seine net boats are working in the daylight, while the trawler is working in the night.

It would be difficult to find a more unmaintainable argument, for a trawler is working in the day too, and therefore, this theory must be dropped.

In reality the dilemma is due to the fact that during the war the trawl has constantly been made stronger and stronger, and is dragged with such a force along the sea bottom, that without doubt a possible destruction of fish is due to this overforced scraping of the bottom.

As well-known, the trawl has been overforced as far as vessel, power and corresponding gears are concerned, and it would seem evident, that if there can be a question of destruction of fish, spawn or bottom, the overforced trawling must be blamed.

Danish Seine Very Light

In contradistinction to the trawl the Danish seine net is a large but light and successful gear, the object of which is to pass along the bottom as smoothly and lightly as possible, the whole construction having been made to suit this purpose. In our opinion, therefore, it is impossible that this light and well-constructed gear should be the cause of the decline of the English trawl fishing industry. It is the constantly stronger and stronger trawl itself, which is to be blamed.

Even the non-initiated will be able to form an opinion on the subject, when hearing that a trawl with belongings has a weight of from about 1,000 to 2,000 lbs., while a Danish seine net, which is even larger than a trawl, i.e. has a greater span, and more catching power, has a weight of at most about 50 lbs.

It cannot, therefore, be the seine net which is destroying the bottom conditions. Furthermore, there is said to be about ten times as many trawls working in the North Sea, as seine nets.

It would be wrong if for the purpose of keeping the trawl-system unaltered, we ignore or prohibit Danish seining. Indeed, we will have to adopt another system and abolish the expensive, heavy and difficult trawl-

ing-method, and frankly admit, that during the war the Danish have been beforehand with a better principle, directed to the purpose of catching almost the same quantity of fish, but in an easier and cheaper way.

Last but not least the quality of the fish caught is much better than that of trawl caught fish, because a light gear operated from a smaller vessel, and dragged slowly and lightly along the sea bottom does not spoil the fish, as does the strong and heavy trawl, which is destroying everything with its steamer of 200 tons and 200 horse power.

The success of the Danes with regard to the adoption of this principle may be due to the fact that they adapt their seine nets either for flat-fish or for round-fish.

North Sea Countries Adopt It

It is not only in this country the Danish seine net has proved its superiority, but Germany, Holland and other North Sea countries have begun to realize the advantage of the system, and we had better realize it too, and change to the Danish seine net method of fishing, because the results obtained both with regard

to economy and quality absolutely "prove", that this adoption is necessary, if the English trawling industry is to be improved by a sound reform.

Naturally a reform is both difficult and expensive, but the facts cannot be denied. They speak their own plain and silent language, just like truth and justice.

Some of the papers also speak of constructing new gears, i.e. improved trawls, but what is the use of new methods, when we have already more than sufficient proofs at hand.

Let us admit the Danes' success and efficiency to make butter and to catch fish. Let the Danes be our teachers, and let us get some of the cleverest Danish business men and experts over here, to put this transformation into our system, to ensure the right way towards a better and more economical arrangement.

From some Danish quarters they have been willing for such an experiment, a preliminary start having been made in Grimsby, where the scheme is being put into effect by means of English workmen. This business, must not be ignored or looked upon coolly. We had better use our common sense and admit the facts which cannot be overlooked in the long run.

Brine Frozen Superior to Air Frozen Fish

Cold Storage expert gives fisheries convention interesting talk on the freezing of fish--Important economic issue

[The following is part of an address given before the convention of the Canadian Fisheries Association by I. C. Franklin, manager of the warehousing division under the Montreal Harbor Commission. —Ed. C. F.]

In my studies of the preparation and handling of various food stuffs, I have long ago come to the conclusion that there has been less progress made in the proper handling of fish than in any other article of food consumed by human kind. It is true that there has been great advancement in the methods of catching fish in the way of trawlers and nets, but as to methods for handling fresh fish we have made but little progress. Of course, if we are satisfied with the present conditions, and think that no advancement can be made, there is little use of discussing these conditions. There are, however, men in the industry who recognize the fact that conditions are not right and that something should be done to remedy them. It is only in the last few years that scientific minds became interested in the preparation and handling of fish, and have given us the advantage of these studies, (but). I do not intend to go into the history of these studies, but I do want to point out the necessity for them. This is particularly shown with respect to the consumptive distribution of the total amount of fish landed in Boston in September, 1922. This survey showed that of the total amount of fish landed there, 56% was consumed in the state of Massachusetts, 19% in New York State; 5% in Pennsylvania, less than 1% in Ohio, less than 1% in Indiana, and 1% in Illinois. This is a very strong indication that the consumption of fish falls off rapidly as the distance from the seaport is increased. I was born and raised in the middle western countries, and I think I know the desires of the people that live there, and my own investigations have proven to me that they want good palatable fish for a portion

of their diet to just as great an extent as the people in Massachusetts. It is a well-known fact that when any of these people are traveling from the middle western countries to seaports, that one of the great pleasures that they look forward to is their opportunity of securing good fish dishes. Several investigations have been made into these matters, and the investigators have come to the same conclusions that I have; that if the fish were offered to the consumers in the middle western countries in as great quantities and in as good condition as it is in the seaport points, that the demand would be increased to the equal of that at seaport points.

It was these factors, as well as the many others, that brought to bear the importance of these studies. They learned early that in a fish packed in ice during the warm weather where the melting ice was surrounding the carcass of the fish, a physical process known as osmosis was set up. In this process, the water from the melting ice which is washing the portions of the carcass, passes in through the pores of the fish, and a certain portion of the fats of the tissue is dissolved and passes out. It is certainly not an attractive thought that we are permitting our fish to be played with in this manner. Furthermore, we have known that a large percentage of fish packed in ice is totally destroyed as an agent for food. It, therefore, became apparent that fresh fish could not be successfully transported and handled long distances during relatively warm weather. To meet this contingency, and to care for the supply at the peak of production, an attempt was made to freeze the fish, and so we have been for some years freezing fish in our Cold Storage Warehouses on coils at a low temperature. We now discover that in freezing fish by this method, there is a very heavy shrinkage due to the vaporization of the

water content, the percentage of the shrinkage varying with the class of the fish frozen, and the temperature used. This loss is rarely less than 5%, and in some instances as high as 10%. This is an enormous waste; furthermore, it was well known among the handlers of fish that the tissue was affected by the freezing process, and that a fish frozen by this method was entirely different from the fish in its fresh condition. To eliminate these two different factors, experiments were made, and it was disclosed that if the fish were placed in contact with a rapidly moving sodium-chloride held at a temperature of zero to four below, that the tissue would be frozen from twenty-four to thirty times more rapidly than in cold storage rooms on coils held at an equal temperature; because of the fact that the carcass of the fish was covered with the solution there was no opportunity for the vaporization of the water content, and therefore no shrinkage. A microscopic study of the tissues frozen by the two processes after being thawed showed the tissue that was frozen in air broken down, and the tissue frozen in brine not perceptibly damaged, and in proof of this, I submit the photographs of tissues as made by Dr. F. Slater Jackson, of McGill University at the Atlantic Biological Station, St. Andrews, N.B. This shows very plainly what has occurred and should be proof sufficient that the rapid freezing of fish tissue by the brine system is a successful issue.

The reason for the breaking down of the tissue under the slow freezing process is that each cell of the tissue is filled with water, and in the slow freezing process

the crystal of ice that is formed is so large that the walls of the cell are punctured and broken. However, it is shown that by the rapid freezing process the crystals are formed sufficiently small to be contained in the cell without rupturing them so that when the tissue is thawed it is in contact, just as it was before the freezing process set out.

A great many practical experiments have been made too; they have frozen fish by the brine freezing process, wrapped them in paper so that they were well insulated, and without any other refrigeration shipped great distances successfully. This bureau has constructed a brine freezing plant of commercial proportions and has been freezing fish to demonstrate its practicability. In this particular method, the fish are washed, frozen and glazed with one handling, and it is believed by all who have observed it that a great step forward has been made.

It must be recognized that in Canada, our sources of fish supply are great distances from our consuming centres and it is therefore seen that if we are to be pre-eminently successful, revolutionary methods in the handling and transportation of fish must be adopted. This cannot be urged too strongly upon those who have the fish industry in charge, and there cannot be any doubt that there is no finer quality of fish than those that come from the Canadian waters. It is recognized that to have good fish, they must come from cold waters; this we have, and with Cassius, we can say, "That the fault, Dear Brutus, is not in our stars, but in ourselves that we are underlings."

Comment on Mackerel Scouting

Editor "Canadian Fisherman."

The agrarian critic who condemns mackerel scouting is woefully ignorant of the service, and what it has already accomplished. He cannot deny these facts: (1) It has revived, in the broadest sense, mackerel fishing by net and purse-seine, both of which had fallen into disuse. Four years ago neither the department nor the intelligence bureau could give me the haziest idea of the craft so engaged. Now the list is complete and posted with the accuracy of any roster. (2) Four years ago Nova Scotia got about \$400,000 worth out of the whole pursuit. Now the bureau of statistics figure up last year's catch at \$1,129,104. The run is every year the same. (3) It has corrected the marine biological notion that the mackerel migration was bathic and not littoral. In plain English, officials argued that mackerel in the spring came up from the deeps and after rusticiating in coves and roadsteads a while, returned to their habitats off soundings. (4) It has proved that mackerel eggs are not shot out at random, to float singly on the surface, but that the spawn is deposited on bottom areas peculiarly adapted to the hatching, after the milting process makes the ova cohere in great cakes like honeycomb. One perennial breeding-ground the scout has located in the "Bend" of Prince Edward Island, where the hookers made good in days long gone. Let that spot be protected from jigs and dragnets, if you want to preserve the species.

How can scout reports tip off the American seiners? — Sixty or seventy of these boats follow down the Nova Scotia South Shore every spring, keeping in close contact with the fish as the schools show up, for they are not always discernible on the surface. These boats have seventy chances of sighting a raft to the scout's one chance. They are so many Jerries on the job, and need to tip. Not carrying radio receivers, they can't get it anyhow. They are too busy to run into port, and too watchful to let the fish go by while they are lying-a-hull. The boatmen in the nearby harbors could profit by the government pointers if the scouts only cruised in shore, and the native fishermen were kindly allowed to use the purse-seine at a distance of three miles and less from the strand. Don't forget, when all is said and done, that the scouts last year did good service as fishery protection cruisers, and in that capacity they will have plenty of work to keep Boston swordfishers off the grass at Louisburg.

M. H. McKENNA.

Made for Any Waist

Cook: "Twas a cruel blow, mum, that burglar makin' off with all yer silver."

Mistress: "Yes, Mary, but the arm of the law is long."

Cook: "It is indade, mum, an' there's few knows it better nor I do." — "Life."

Prominent Montreal Fish Man Passes Out

Sincere and widespread was the regret occasioned by the death of Romeo Stanford who passed away suddenly at his home in Montreal the last week in June. He had not been ill for any time previous and had not complained. He went home from his work one morning feeling a bit indisposed and died in a few hours.

(Henry) Romeo Stanford was born in Ottawa on March 16, 1884, his parents being Rosa Bondreau and the late J. S. Stanford of Montreal. He was educated at the Christian Brothers' School until 1899. In the year 1907 he entered the business with his brother,



LATE ROMEO STANFORD

Joseph S. Stanford, and remained in it until his death. Romeo Stanford understood the fish business thoroughly, having passed through all stages, working in the early days of the business as sales-clerk, cutting, boning and packing. Later on when the company of Stanford's Limited was organized he took over complete charge of the fish department of the branch store (Montreal Public Market), and proved that the fish department of a cash and carry store could be made a success, provided that hard work, foresight and service entered in the makeup. Everything in connection with the improved service in handling fish interested him, and a few years ago he visited the fishing ports of the east as far as Halifax, making many friends with the producers and shippers from

whom he got his supplies. He also visited Boston a short time ago to see what could be learned from the Americans regarding the handling of fish, but he was of the opinion that there was nothing to learn in that respect from them. He was of a generous nature and a genial disposition, and was much admired by the men who worked with him. He seemed to have a happy knack of making friends with all those who came in contact with him, as well as with the general public whose complete confidence he had.

Although he spent the greater part of his time improving the methods of handling fish, he did not neglect the recreative side of life. He was an enthusiastic automobilist, and spent almost every week-end in motoring to some pretty spot in the Province. He was also greatly interested in bowling and encouraged this sport among the employees. It was a source of pride to him when Stanford's Limited won the cup.

He is survived by his mother, Mrs. Joseph S. Stanford, sen., his brothers, J. S. Stanford, president of Stanford's Limited and N. Stanford of Montreal; also four sisters, Miss Rosa Stanford, Mrs. F. Lueus, Mrs. H. Danserreau of Montreal, and Mrs. H. Levesque of Los Angeles, Cal.

HISTORICAL WORK BY F. W. WALLACE

Wooden Ships and Iron Men — The story of the square-rigged marine of British North America, the ships, their builders and owners, and the men who sailed them.

By FREDERICK WILLIAM WALLACE

"There she goes—a ramping, stamping, hard-driving Bluenose — wooden ships with iron men commanding 'em!" Thus commented the seamen of olden days when the big square-riggers of British North America were flying the red ensign on every sea and when the provinces were building, maintaining and sailing a merchant marine which, in the seventies, ranked fourth among the world's tonnage.

In this volume the author has delved deep into the past and has succeeded in recording the beginnings and the progress of ship-building and ship-owing in Nova Scotia, New Brunswick, Quebec and Prince Edward Island up until the nineties when steel and steam drove wooden hulls and canvas from the seas.

Great Britain and the United States have carefully chronicled their respective sailing ship eras and the names of their clippers are familiar to seamen and landmen alike. Contemporaneous with them, the Canadians built, owned and officered a great merchant marine which became famous among seamen but lacked historians to adequately place it in its rightful position in nautical record.

Mr. Wallace, a sailor himself and the son of a master-mariner who sailed Bluenose ships, took upon himself the task of remedying the omission and he has succeeded in rescuing from oblivion some rare gems of nautical history and lore of the ships and those connected with them. Unknown passage records have been brought to light which show that the colonial ship-builders and ship-masters were second to none when it came to building clipper vessels and driving them around the world.

Standardization of Lobster Canneries

Plants being classified this year and in three years' time they must meet standard 100 percent or get no license

Special Correspondence

The educational campaign, conducted in the years 1921 and 1922 by the Dominion Department of Fisheries, among those engaged in the lobster industry, has resulted, according to the lobster packers, in a very material improvement in the pack.

That encouraging report was given to the "Canadian Fisherman" by Professor A. P. Knight, B. A., M. D., for 30 years professor of animal biology in Queen's University, Kingston, Ontario, and at present, as he has been for the past three years, chairman of the Biological Board of Canada. Dr. Knight arrived in St. John on June 30, after having completed a tour of the maritime provinces, during which he spent five weeks in studying the lobster industry and interviewing fisheries' overseas.

It will be recalled that two years ago the eminent scientist addressed the Rotary Club in St. John on the lobster industry, with special reference to standardization of buildings, equipment and operation, to the end that there shall be uniformity of the pack.

Dr. Knight in his recent visit here stressed the following essentials of standardization: 1 — the factory; 2 — equipment; 3 — sanitation; 4 — sterilization; 5 — operations performed by employees.

Two years ago, he explained, it was found that there was little or no standardization in the maritime provinces. Every packer was a law unto himself.

Canneries to be Graded

Since that time, the Department of Fisheries has considered the matter, particularly because complaints about bad canned meats had been received from Great Britain and the United States. In consequence, the department, this Spring, adopted a system for grading the canneries, that standardization might be established.

The direct medium through which the department vehicles the standardization decisions is the grading sheet.

This sheet sets out the specifications which the department has adopted for the various units which are employed in the catching, handling, cooking and canning of lobsters; the marks allowed and deducted for and against good and bad points in units, and, finally, the net marks for or against each unit.

All lobster canneries will be graded in accordance with this plan in 1923, and before the beginning of the canning season in each year thereafter. Any lobster cannery that in 1924 will not obtain at least 75 marks will not receive a license for that season and will not be allowed to operate until it is improved, as required by the regulations. In 1925, a cannery must receive at least 85 marks before it will receive a license, and in 1926, and thereafter, a cannery must obtain 100 marks before it will receive a license.

So far, the educational campaign of the department of fisheries has been devoted to improvement in the mechanical units of the lobster industry, but the human element will also be attended to.

1920 Loss by Blackening was Heavy

Loss in 1920 on account of blackened lobster meat was very heavy. A large quantity of spoiled lobster was shipped back from England. Not only was there loss of meat, but also of prestige.

It was therefore decided to make the canneries as uniform as possible: hence, the adopting by the department of fisheries of a grading scheme formulated by Professor Knight. The scheme was also endorsed by the Canners' section of the Canadian Manufacturers' Association.

In the Maritime Provinces, it was found by survey, that a division into three classes was in order: 1, Those above 75 percent; 2, those between 60 and 75 percent; and 3, those below 60 percent.

For 1923, the grading is intended simply to point out to the canners the deficiencies that exist in material equipment, so that those defects may be obviated next fall and winter.

The survey of the methods employed by the various canneries in the maritimes showed that it was a common practice in New Brunswick and Prince Edward Island to leave on tables, over night, in a boiled state, the surplus lobsters which were left after the canning of the day's catch. That practice was not in vogue in southern Nova Scotia, where crates with open spaces were employed to hold the surplus catch in captivity in the live state in salt water until they could be canned. That is, southern Nova Scotia always canned lobsters which were alive and fresh. From boiler to can, southern Nova Scotia allowed twenty minutes for the process.

Professor Knight emphasized the importance of obviating unnecessary handling in the canning of lobster. He called attention to the urgency of immediate canning lobster, the shells of which had been broken.

Four Essentials

The most important points to be observed, the predominant essentials in the canning industry, are, according to Dr. Knight: 1, washing the meat in running water; 2, the source of the water supply; 3, the steam boiler; 4, drainage.

There are 600 lobster factories in the Maritimes, Professor Knight stated, employing from 5,000 to 6,000 people in the several branches of fishing and packing. The marketed product brings an annual return of \$5,000,000.

This year, the catch is estimated as being an average one, with some sections obtaining record returns.

The price to the fishermen was high, 9 to 11½ cents a pound, while the canned product brought from \$28 to \$32 for a case of 48 pounds.

The lobster fishing season in general was scheduled to close on June 26, but the government granted an extension until July 10, on account of the fact that the opening of the season was delayed, so far as the fishermen were concerned, by the ice along the coasts.

Prices Drop With Extended Season

One result of the extension was a drop in price in the British and United States' markets when it was assumed that the extension would mean a larger catch than usual. That assumption has been proved erroneous, Professor Knight advises, and he expects an advance in the quotation of the foreign markets.

A great many fishermen were opposed to the extension, Dr. Knight learned, and they brought in their traps at the expiry of the regular fishing period.

In the Northumberland Straits, Dr. Knight said, a late season is allowed by law, from August 15 to October 15.

The lobster fishing areas were being depleted up to 1918, but at present, under new regulations, the areas are holding their own.

In 1918, the federal lobster hatcheries were closed, then put into effect, allowing two months where the worthless. A reduction in the length of the season was saving \$35,000 a year, as the hatcheries had proved

period had formerly been three. The government also instituted an educational campaign to save the "berried" lobster, that is, the female covered with eggs. For two summers in succession, men were sent through the maritimes, by the department of fisheries pointing out that the boiling of "berried" lobsters amounted to a destruction of the source of livelihood of the fisherman. The sentiment of the maritimes now supports the campaign for the protection of the "berried" lobster, and a betterment in conditions has ensued.

A feature of the specifications of the grading sheet for lobster canneries, is that no equipment is demanded that would be burdensome in a financial way. Most of the units enumerated can be manufactured by the fishermen themselves in their spare time and any factory which is below standard can in many instances, be rated very much higher by slight additions and changes.

A conference with fisheries overseers is scheduled to take place in Truro, N. S., the last week in July to consider proposed new regulations in the movement for standardization.

How Sweden Booms Her Fisheries

The first Swedish Fisheries Fair was held at Lysekil during the summer of 1921, and the second at the same place in 1922. This year the venue will be changed to Gothenburg. As is probably well known to most of our readers, the city of Gothenburg, the leading seaport town in Sweden, is this year celebrating the three hundredth anniversary of its foundation, and this important event in its history will be marked in the holding of a great Jubilee Exhibition. This exhibition will be in all respects, the largest undertaking of its kind ever held in Northern Europe, and there can be no doubt that vast numbers of visitors, not only from Sweden and Scandinavia, but from all parts of the world, will find their way to Gothenburg this summer. Hence the promoters of the Fair are very well advised to move from Lysekil to Gothenburg on this occasion, since the Fair will become accessible to a very large number of interested visitors.

A Comprehensive Exhibition

The Fisheries Fair this year will be very comprehensive in range, and it will include the exhibition of all kinds of fish (fresh, salted, dried, smoked and canned), fishing gear and appliances for fishing boats. Other sections will deal with packing materials and appliances, lubricating and fuel oils for fishing boats and motors. Special sections will also be devoted to the merchandising of fish and to the fish canning industry.

The newly invented elevator for handling herring will be shown at work, and a stream with live fish will form part of the exhibition.

Models and pictures will demonstrate the technique of fishing as practised on the West Coast of Sweden, whilst maps and charts will illustrate the geographical distribution of fish of various kinds and the situation of breeding and feeding grounds.

Special Excursions to Fishing Grounds

The programme includes an excursion out to the fishing grounds in the vicinity of Gothenburg, and the visitors will have the opportunity of seeing fishing vessels at work.

The "Grimsby" of Sweden

Gothenburg may be termed the "Grimsby" of Sweden, and is the centre of the vast fishing industry

which has its home in Bohuslan, the county lying immediately northwards of the city.

A very central building, in close proximity to the Fish Dock, has been selected for the Fair. This building contains seventeen large rooms for the accommodation of exhibits in addition to a Conference Hall for meetings and discussions, and a well arranged restaurant. Enclosed open-air space will be occupied by more bulky exhibits and the Fish Dock will be utilised for the accommodation of representative fishing vessels of various types.

Whilst the Fair is primarily a Swedish Fair, foreign firms are invited to exhibit such of their productions as are not manufactured in Sweden, but are employed in the Swedish fishing industry or other industries allied thereto. The scale of fees for the exhibition of goods is extremely moderate, and applications for space should be sent in at once.

The promoters of the Fisheries Fair extend a very hearty welcome to British visitors, as it is felt that their presence will serve to promote the mutual commercial interests which already unite the two countries.

The Committee has organised a special Billeting Department which is freely placed at the disposal of intending visitors, and by means of which board, and lodging can be secured at very reasonable rates.

The Fisheries of Sweden

A few remarks relating to the fishing industry on the West Coast of Sweden may be of interest to our readers. As already stated this industry has its home in Bohuslan and, in some respects, fishing, as practised in this region, can claim to possess features which distinguish it from the industry in other lands.

This is especially true in regard to the extent of the fishing grounds and to the fact that, for the most part, the fishermen themselves own the vessels employed.

The boats and equipment employed in Bohuslan represent an estimated value of more than 18 million kroner.

Sweden's Deep Sea Fishing Fleet

Deep sea fishing is generally conducted with boats

(Continued next page)

Newfoundland Sealing Squadron Dwindles

Only eight steamers set out this spring--Sketch of Grand Bank, the Lunenburg of the Ancient Colony

St. Johns', Newfoundland. — The ships of the steam sealing fleet all sailed in quest of the herds on March 7th, eight comprising a squadron which in other years numbered twenty-five, to such an extent has the industry dwindled during late years. The personnel of the fleet this year comprised the Neptune, Seal, Thetis, Terra Nova, Ranger, Eagle, Viking, Sagena. Of these only the Viking prosecutes the fisheries in the Gulf of St. Lawrence, the other seven going on what is locally known as the front. So far as recent reports have come in to the offices of the various owners, the whole squadron is making but poor progress, having met with exceedingly heavy ice, and the very last advices state that all of them are jammed in a position about due North East of the mouth of Bonavista Bay. A great deal of speculation is generally indulged in by the masters of these ships, and many and diverse are the

opinions expressed as to the whereabouts of the main patch of seals. Just let me quote one only, as given by the veteran commodore, Captain A. Kean, of S. S. Terra Nova, whose knowledge of the movements of the herd is beyond question. He said in an interview before sailing, "I prefer to have this cold, frosty weather with brisk north and north-west winds that have been prevailing since February came in. It mats the ice together, and consequently the seals when they have their young are likely to be in a congested area on good, smooth, level ice, instead of being rafted and broken up in jams. "Such expressions may be all very well in theory, but they rarely work out in practice, and though we would hesitate to place our amateurish opinion against the experience of such old time sealers yet there is not the slightest doubt but that luck, and drift are prominent factors in the successful issue of the Newfoundland seal fishery. The report of the voyage and the logs of the ships will tell the story.

(Continued from previous page)

of some 15 to 20 metres in length, of great beam, very strongly constructed, and equipped with powerful paraffin motors. During the winter these boats are generally employed in fishing herring in the waters between Sweden, Denmark, and Norway, as well as in the North Sea. During the spring and summer they are engaged in cod and ling fishing to the north of the British Isles and off the coast of Norway, in mackerel fishing in the North Sea and in fishing herring around Iceland. In addition to vessels visiting these fishing grounds, a number are constantly engaged in fishing nearer home and, though the craft thus employed are frequently smaller than those working further afield, they are equally well found and, in all respects, up-to-date.

Fishermen Owners

As remarked above it is particularly noteworthy that the boats and their frequently costly gear are owned by the fishermen themselves, the only exception being in the case of the steam trawlers, which are owned by fishing companies and not by the crews.

State Aid for Fishermen

The fisherman is assisted by the State in the purchase of his boat and gear, and public funds are available for the issuing, on very easy terms, of loans to this end.

A Growing Industry

The fish preserving industry includes the sun-drying and salting of the large cod, ling, etc., caught off the Shetlands and the West Coast of Norway, the manufacture of fish rissoles and puddings and, of particular importance, the canning of anchovies. During recent years the preparation of spiced anchovies and herring has become a very considerable industry, and the Swede has developed a taste for these delicacies, which have secured a regular and steady demand as a *hors-d'oeuvres*.

Aeroplane In Use

One of the innovations, this spring, is the equipping of S. S. Neptune with an "Avr." single seater 'plane,' which will be operated from the ship in an attempt to locate the big herd, generally known as the main patch. This reparture was due to the foresight and enterprise of Messrs. Job Brothers and Company who were of opinion that last year conditions were not favorable Neptune a parent ship, as it were, there will be very facility afforded for flying, and should the experiment prove successful, it is expected that next year, every ship will have a baby plane as part of her outfit. It might be said in passing that the Aerial Survey Company is conducting a mail service across the island during the winter months, being under contract with the Government, and so far fair results have followed this modern method of communication. The photograph accompanying this article is unique in its way, having never been published heretofore, and has been given the writer by the courtesy of the Aerial Survey Company for use in *Canadian Fisherman*. A complete set was taken by the official photographer of the Company.

Two Fish Carriers Lost.

The only shipping casualties there are to chronicle are the loss of schooners "Gordon M. Hollett" and "Rita M. Cluett," both of Newfoundland register. The "Hollett" was 65 days out from Cadiz with a load of salt when she encountered heavy weather and commenced leaking. The vessel was sighted by S. S. "Sable I." Captain Murley, Halifax to St John's on the morning of March 30, flying distress signals. The steamer bore down, and when within hail, the captain of the sailing ship, reported that he was short of provisions and fuel, and that his vessel had been considerably damaged by contact with ice. He asked to be given a tow, so a line was put on board from "Sable I" and the steamer went ahead. The weather was stormy at the time, with a swell running, and it was not long,

consequently, ere the tow-line parted. The steamer manoeuvred to pick it up and get it fast again, when it was discovered on board the schooner that she was sinking fast, and the pumps could not cope with the inflow of water. Thereupon arrangements were made for the transfer of crew and belongings, which was successfully managed in the face of great difficulties. The foundering schooner was fired before being abandoned and sank shortly afterwards. Captain and crew were landed at this port by the steamer.

On the morning of April 3 a message was received at the Mareoni Wireless office here, from the station at Cape Race, conveying the intelligence that the schooner Rita M. Cluet had been abandoned on the same day in latitude 39.55 North, longitude 55.38 West, and the captain and crew taken on board S. S. "President Filmore," bound to Plymouth, England. The hull was set on fire. A later radio advised that the Filmore had transferred the crew on the lost vessel to the American ice patrol cutter "Tampa," which took them to Halifax. The "Cluet" was one of the best of the local fish carriers and was a splendid type of tern sailing vessel, having been built to order at Shelburne, N. S. in 1916. She was bound from Oporto to Belleoram, salt laden, and after making a fair passage across the Atlantic, was caught in the ice floes that surround

vessels, the water being formed by a large barachois, which when dredged was capable of floating schooners of one hundred tons at high tide, but at ebb the craft



Dock at Grand Banks formed by new pier and breakwater.

often lay over on their bilges, and work had to be suspended. This was very inconvenient to the industrious people of that flourishing town, and they decided that the only way to deepen their water facilities was by dredging and reinforcing the banks on either side with concrete, to keep the silt from the barachois river from filling up the dock. For this purpose they taxed themselves and their vessels, and eventually raised a sum which they considered warranted them in engaging the services of a steam dredge which was done, and the waters of the dock were considerably deepened, and vessels no longer careened over at low tide.

In 1920 a great storm, with a tremendous sea, carried away the whole of the wooden breakwaters and pier, including the lighthouse, and Grand Bank was once more exposed to the mercies of wind and sea, so much so that the schooners and steamers could only make it a port in the most moderate weather. Nothing daunted, however, this progressive people set to work, and this year saw the completion of one of the finest concrete breakwaters and piers on this side the Atlantic, the harbor enlarged, the water still further deepened and every facility to accommodate their large sailing fleet. As a monument of industry and perseverance the artificial harbor of Grand Bank stands pre-eminent. The photographs accompanying this article will give some idea of the old and new marine work and harbor dock. It was taken specially for *Canadian Fisherman*.



Making repairs to aeroplane en route to the seal hunt.

the coast at this season. A fortnight before foundering the vessel was supplied with provisions by the Red Cross liner "Rosalind," Halifax to St. John's. Thus is ocean taken toll of the once well-known fleet of Newfoundland carriers, which unfortunately will not be replaced, as steam is rapidly superseding sail even in the ancient colony. In another year or so Newfoundland's foreign going merchant marine will be a thing of the past, and the men who manned the ships will have to go elsewhere in search of employment, either on land or sea.

The Harbor Of Grand Bank

The town of Grand Bank, on the Western side of the Burin Peninsula, has long been known as the "Lunenburg of Newfoundland." This name has been given it in consequence of the bank fishery activities carried on from that port, and the number of vessels employed, this being greater than that of any other port in the colony. Unfortunately Grand Bank possesses no harbor to accommodate its large fishing fleet, and it has only been by the construction of an artificial port that business was carried on. In the earlier days the harbor was formed by two wooden breakwaters, heavily ballasted with rock, both being built at right angles in order that shelter could be had inside for the fishing

Readers are invited to send in news items of interest to the industry, and also to express their views on current topics. Let the *Canadian Fisherman* be a medium for exchanging opinions.

"Fisheries Permanent Field of Industry"

Variety and extent of our resources not generally appreciated-- A food source where Nature does the producing

By Professor EDWARD E. PRINCE, LL.D., F.R.S.C.,
Dominion Commissioner of Fisheries, Ottawa

A rapid survey of the Dominion fishery districts from the Atlantic to the Pacific affords some idea of the variety and vastness of the great harvest of our waters. There are:—

1. The deep-sea Atlantic areas, fifty to one hundred and fifty miles from shore, extending from Labrador to the Bay of Fundy and embracing the "Grand Banks," and innumerable smaller fishing banks. In these famous and extensive regions last year (1921) the fishermen of the Maritime Provinces and Quebec secured fish to the value of \$19,273,200, nearly half being secured by the Nova Scotian fishermen. The staple fish captured included cod, haddock, halibut, hake, herring, mackerel, lobsters, smelt, salmon, shad, oysters, clams, etc.

2. The Great Lakes' area, stretching 1,500 miles from east to west, and including Lake Winnipeg and the Manitoba waters, yielded fresh water fish in 1921 to the value of \$4,087,229. Whitefish, lake herring or lesser whitefish, lake trout, doré or yellow or blue pickerel, black bass, sturgeon, catfish, etc., are all taken in this extensive area.

Hudson Bay and Northern Lakes

3. The waters of the Great Plains east of the Rocky Mountains, and the vast Hudson Bay area, though valued in the official statistics at less than \$1,000,000, present possibilities of expansion in the future, which must vastly increase the annual value of the Canadian fisheries. Such inland seas as Great Bear lake, 10,000 square miles in area, and hundreds of other lakes and connected waters, abound in fish of unsurpassed size and quality, including large whitefish in abundance, doré, jackfish, gold-eyes, the salmon-like inconnu (of the Maekenzie basin) Arctic herring, grayling, and other excellent fish which have never yet been exploited.

4. West of the Rockies, the Pacific area of British Columbia and the Yukon Territory abounds in the best marketable kinds of fish. These last year yielded returns amounting to \$13,982,658, though they have shown serious signs of decline, so far as the salmon and halibut are concerned. Abundance of excellent fish, however, can still be taken in these prolific waters, such as herring, pilchard, rock cod, black cod, and many varieties of flat-fish. Indeed, at least twenty other kinds of edible fish are awaiting utilization, and will in due time be appreciated by our people as excellent and valuable. To the fishery expert it has always been a matter of regret that the Pacific fishing industry was almost solely confined to two kinds of fish, salmon and halibut, and that all other kinds

were neglected. No great fishing industry can ever be developed if in waters which contain a great variety of fish, two or three kinds only are over-exploited.

Much is being said about exhausted and declining fisheries, and man's wasteful methods have done great damage, but the waters of the Dominion are too vast and their products too varied to give ground for fear as to their permanent collapse. On the whole there is room for expansion and fuller utilization, and for a better appreciation by the Canadian people of kinds of fish rarely seen in our markets.

Game, Fish, Whales and Seal

Of the game fish in Canada little need be said. The salmon rivers of the Atlantic coast, nearly a hundred in number from the St. Lawrence to the coast of Maine are world-famous. While in the Ontario waters speckled trout abound everywhere and black bass afford the highest class of sport. On the Pacific coast there are also famous game fish like the king salmon, or quinnat, the steelhead, redthroat and rainbow trout, while in the little-known waters of the north, near the Arctic circle, excellent grayling of two species abound. Whaling, fur-seal, and hair-seal hunting, and other marine industries furnish fields for remarkable enterprises, and with proper conservation they will be a permanent source of wealth.

Fisheries a Most Lasting Resource

The late Sir Richard McBride expressed a great truth when he said that "there was danger of exhausting our forests, and of working out our coal and minerals, and even our agricultural lands might deteriorate in course of time; but the fisheries would remain as a permanent field of industry and source of food and wealth."

The fisheries are independent of drought or storm and war. They are self-seeded, self-cultivated, self-matured, and will continue to flourish if wisely conserved and utilized.

Thorough

Former Postmaster-General Hays, as everyone knows, is an advocate of the air mail. "Of course, it gets criticized," he said, "and criticism is a good thing, but it can be run into the ground. I am reminded of the vaudeville producer who muttered as he read the press notices of his program, 'These critics are thorough, all right. They don't leave a turn unstoned.'" — "The Argonaut (San Francisco)."

1922 Salmon Pack Fourth Largest in History

Was made up largely, however, of pinks and chums -- Annual B. C. fisheries report has another instalment on salmon's life history

By ROBERT DUNN

The king's printer at Victoria has just published the report of the Hon. Wm. Sloan, British Columbia commissioner of fisheries, for 1922, which was laid before the legislature last session.

The report and the appendices will be of value to all interested in B. C. fisheries. It deals at length with the salmon catch, the value of the principal fishes marketed, the fishery production and standing of all the provinces of the Dominion, contains reports from the spawning areas of the principal salmon streams and a notable contribution, the eighth, to the life-history of the sockeye salmon.

The value of the Fisheries of Canada for 1921, the latest available, totaled \$34,931,938, the lowest since 1914. It was \$14,309,404 less than for 1920, and \$25,000,000 less than the high record for 1918, when under war prices and increased demand the total reached \$60,250,514.

During 1921 British Columbia produced fishery products of a value of \$13,953,670 or 31 per cent. of the total fishery products of the dominion. British Columbia again led all the provinces of Canada in the value of her fishery products. Her output for 1921 exceeded that of Nova Scotia, the second in rank, by \$4,175,047, and it exceeded that of all the other provinces combined by \$2,754,028.

Nova Scotia Excepted

The catch of salmon in 1921 was valued at \$8,577,602 or \$6,551,746 less than in 1920, and \$8,959,564 less than in 1919. The price received in 1921 was relatively less than in 1920 and much less than in 1919, and the total pack of 1921 was the smallest made in the province since the industry was fully established.

1922 Salmon Packs Analysed

The salmon pack of the province in 1922 totaled 1,290,326 cases, as against 603,548 cases in 1921, 1,187,619 cases in 1920, 1,393,156 cases in 1919, and 1,557,485 cases in 1918. Notwithstanding that the pack of 1922 is the fourth largest packed in the province, it was far less valuable than in many other years, due to the fact that 840,183 cases, or 60 per cent. consisted of pink and chum salmon. The value of the 1922 pack is estimated at \$11,247,000, as against \$8,577,602 in 1921 and \$15,129,348 in 1920. Of the estimated value of the pack, \$5,100,000 is credited to the 229,614 cases of sockeye and \$4,900,000 to the 840,183 cases of pink and chum salmon. The gain in the pack this year was due largely to the increased pack of pinks and chums. The pack of pinks totaled 581,979 cases, as against 192,906 cases in 1921, when few cannery packs either pinks or chums. The public continues to ignore the prime food value of both these grades.

Sockeye Gains Everywhere

The pack of sockeye in 1922 totaled 299,614 cases, as against 163,914 cases in 1921. The catch in every district shows gain over that of 1921.

Most of the gain was made on the Skeena and Nass

Rivers. The catch of sockeye in the provincial waters of the Fraser river system produced a pack of 51,833 cases, as against 19,697 cases in the preceding fourth year and is comparable with that of eight years ago of 198,183. The pack of sockeye in the State of Washington waters of the Fraser river system in 1922 totaled 48,566 cases, as against 102,967 cases in 1921, 50,723 cases in 1918, and 357,374 cases in 1914.

The total pack of sockeye in the entire Fraser river system in 1922 was 100,399 cases, compared to 70,420 cases in the preceding fourth year, and to 440,504 cases in the preceding eighth year. The increased catch in provincial waters of the Fraser system is largely attributable to the use of less fishery gear in the State of Washington. Under the present depleted condition of the run of sockeye to the Fraser the amount of gear used in that section is less because of its expensive nature. If permitted, gill-nets will be used in the provincial waters of the system long after the expensive traps and purse-nets are abandoned in the state waters.

The catch of salmon on the Skeena this year totaled 482,305 cases, as against 234,765 cases in 1921. There was a marked gain in all species.

The salmon pack at Rivers Inlet in 1922 totaled 79,712 cases, as against 103,155 cases in 1918 and 95,302 cases in 1917. 1918 and 1917 were the brood-years of the 1922 run.

The pack on the Nass in 1922 totaled 124,071 cases, much the largest since 1918. The catch of sockeye gave a pack of 31,277 cases, also much the largest since 1916. It was the fifth largest ever made on the Nass. The bulk of the season's pack, however, consisted of pink with a total of 75,687 cases.

Life-History of the Sockeye

The report contains Dr. C. H. Gilbert's eighth contribution to the life-history of the sockeye salmon. With the present paper we now have a complete analysis of the runs of sockeye to our main tributaries for the past ten consecutive years. In his analysis of the sockeye run of 1922 to the Fraser river system Dr. Gilbert again points out that the pack of sockeye in waters in the State of Washington include each year sockeye that were bound for the Skagit river in Washington, as well as those bound for the Fraser. The traps located on West Beach, Whidbey Island, are well known to capture Skagit river sockeye during the early part of the season, these being replaced later in the run by Fraser river sockeye. The Skagit sockeye are poorer in color and deficient in oil, but in the annual return they are included with the Sound pack. That the Skagit run is probably maintaining itself at present at about the same level seems to be indicated by the annual return of spawning fish to Baker Lake, in the State of Washington. The United States Bureau of Fisheries hatchery on Baker Lake has for years spawned artificially all the sockeye that reach there. There is no natural spawning in that district.

In spite of the intense fishing to which it is exposed in Puget Sound, the spawning escape that annually reaches the hatchery has maintained itself without reduction, demonstrating that hatchery propagation at that station, at least, is successful.

One-Year Type Prevail in Fraser

The prevailing type of the run of sockeye to the Fraser in 1922, as in the ten previous years, consisted of the one-year-in-the-lake type. The members of this group resided in their native lake for the first year after hatching, passed to sea in their second spring, and returned either in their third year as mature male grilse, or in their fourth, fifth, or sixth years as mature members of both sex. The grilse are always in relatively very small numbers, the four-year fish largely predominate over all other year classes, the five-year are second in importance and the six-year fish extremely rare.

The report shows that the sockeye run to Rivers Inlet consists of fish that spent their first year in the lake, migrated to sea in their second spring, and returned as mature spawners in their fourth or fifth year. The run consists of these two classes, and the only variation that occurs from year to year is in their relative proportions. The run of 1922 was highly unusual in the fact that throughout the season the four-year fish were far more numerous than the five-year fish. The only previous year that affords a parallel with 1922 is 1913, when a pack of 61,000 cases was made, and the run consisted of 80 per cent. of four-

year fish and only 20 per cent of five-year fish. In this respect it closely resembles 1922 with its 82 per cent. of four-year fish.

Skeena Run Satisfactory

As in the case of the sockeye run to the Nass, the Skeena river produced a satisfactory run. The pack of 100,667 cases was the best since 1919, and was slightly better than the average for the two brood-years that produced it. The brood-years were 1917 and 1918. Judging the size of their runs by the pack they produced, the two, Dr. Gilbert shows, were very unequal. 1917 was one of the poorest years on the Skeena, with a pack of only 65,760 cases; while 1918 was one of the better years, with 123,322 cases. As 1918 was responsible for the four-year fish in 1922, it is interesting to note that they were the dominant group, consisting of 81 per cent. of the run, and the five-year fish but 18 per cent. It is also interesting to note that the sockeye that ran to Rivers Inlet, and the Skeena and Nass rivers in 1922 averaged less in length and weight than for a period of years. The most plausible hypothesis that Dr. Gilbert offers is that the dwarfing was occasioned by conditions unfavourable to normal growth during the early part of the season in which they matured.

As has been the custom since 1901 the department conducted investigations of the spawning areas of the Fraser, Skeena and Nass rivers, and Rivers Inlet, and detailed reports are printed in the appendix.

Copies of the report may be obtained by applying to the provincial fisheries department.

The Industry on the B.C. Coast

Jap Cod Licenses Reduced, Too

A reduction of 40 per cent. in the licenses issued in 1924 for codfishing by gill net and hand lines in British Columbia, other than licenses issued to Whites and Indians, was recommended by the marine and fisheries committee of the House of Commons on June 14 to the Department of Marine and Fisheries. It was stated at the committee that after being partly excluded from salmon fishing, the Japanese fisherman had gone into the cod fishery.

The committee recommended further that no commitment as to increases or decreases in the number of gill net licenses be made for the season of 1924 until the committee of the House meets next session. In addition, the committee advised that the recommendation in the report of the British Columbia fishery commission of a reduction of 40 per cent. on some licenses shall include the herring fishing, as well as salmon, during 1924.

Thirteen Canneries Operate on Skeena

June 20 was the first sockeye fishing day on the Skeena River and the canning industry started in full swing, although there were yet only a limited number of gill nets out. Of the sixteen canneries on the Skeena River, thirteen are canning this year. The three canneries which are not operating are the B. A. at Port Essington, which was destroyed by fire a few weeks ago, Oceanic, which will be operated this year as a camp, and Alexander. The weekly close season this year is from 6 o'clock on Saturday mornings to 6 o'clock on Monday mornings, that is 48 hours.

Says C.N.R. Shore Have Plant

"Prince Rupert is the logical shipping point for all Alaska mild cured herring and salmon but it cannot get this trade without giving the needed facilities. Herring buyers often desire to store some of their herring at shipping points for later distribution to various markets and the Canadian National Railway should erect a small cold storage plant here to take care of them." So declares Einar Beyer, prominent Alaska fish operator.

Rare Fish Landed

A freak fish with a body like a snake, measuring over four feet in length, the head resembling that of a raven with a long beak-like month, having teeth about an inch long resembling a saw blade and large fan-like collapsible fins on the baek, was landed at Prince Rupert by Canadian Schooner P. Dorreen the last of May. It was sent to the museum at Victoria where it was identified as a saw fish, *Alepisarus Borealis*. The museum reports that the fish is only the third known to have been taken in British Columbia waters. "The first specimen we had was taken at Quatsino Sound in 1895, the next was taken off Victoria in February 1897. It is a deep water fish and appears to be rare on the coast. According to Jordan & Everman's book on fishes they only have two specimens in the California academy of science which were taken years ago."

Chinese Dominate at Victoria

An investigation of Victoria's fresh fish supply and its manipulation by Chinese dealers is needed, Dr.

Arthur G. Price, medical health officer, of the city declares.

Dr. Price says that the fresh fish business of the city is entirely dominated by Chinese and that, so long as this condition prevails the white people cannot attempt to complete in operating the fishing fleet out of Victoria with any prospect of success.

"Although Victoria has a natural location such as to make her one of the largest fishing centres on the Pacific coast, we find that during the greater part of the year there are no white men engaged in the fishing industry" states Dr. Price.

Controversy Over Skeena Eggs

There has been a controversy as to whether or not salmon eggs should be allowed to be taken from the Skeena watershed and planted in the Fraser River. The Fisheries department claim that no harm is done the Skeena in taking the eggs away but that by the return of 25 per cent of the eggs in Harrison boxes under conditions insuring incubation, the river would benefit.

J. P. Babcock, the expert adviser of the provincial government, disagrees with this view. He objects strongly to taking the eggs from the Skeena, which is a Canadian river and placing them in a river from

which over sixty per cent of the fish go to Puget Sound canneries. The B. C. Cannery Association takes a similar view, with the exception that it recognizes the value of the Harrison box system.

Better Outlook For B.C. Cannery

British Columbia cannery, who for the past three or four months have viewed the future with some misgivings, are now beginning to see daylight, and the prediction is heard that there may even be a shortage of canned salmon. Before the new pack comes into the market in September. This will be welcome news to the shareholders of British Columbia Fishing and Packing Company, who have seen the value of their stock to the lowest point in its market history.

The total pack in the hands of the cannery today stands at about 200,000 cases, and as the demand is running at about 80,000 cases a month foreign, with considerable canned fish going into the domestic market, there is every prospect of a real shortage before the 1923 pack is ready for the market. The only disturbing factor in the canned salmon market today is the fact that there have been no orders placed for the 1923 pack, despite quotations running at \$15.50 against last year's opening price of \$17.50.

Lobster Season in Canso Area

CECIL BOYD

The lobster fishing season has just closed on this section of the coast, (July 5th), and those engaged in this important branch of the local industry have been, during the past few days, or are now, busy getting their gear out of the water, preparatory to going into some other branch of the business, or in some cases, into work outside of the fishing altogether. There are always some who fish lobsters only. Owing to the dull outlook in trawl and line fishing, there will probably be more than usual of the latter class this year. A few notes about the past season's operations may be of interest to *Canadian Fisherman* readers.

The season opened officially as usual on the 20th of April. Coldness of the shore waters and weather conditions generally make the ten days in April of small account, but this spring, ice and weather conditions, following the unusually long, severe winter, were altogether abnormal. Reports of drift ice on the move made fishermen chary of getting their gear out in force, but delays of this kind are very irksome. When the whole season for operating only consists of two months, it naturally comes very hard to see the days slipping away with traps still on shore through fear of a disaster that may not come, and by the 29th of the month, most of the men around the Cape and Dover shore had trusted part of their outfit to the water, resolved to run the risk of whatever Fate had in store.

Old Timers Recall One Worse Spring

Then came the heavy drift ice in solid force. It crept gradually in from the eastward, giving those who took time by the forelock and were best situated, the opportunity to get most of their gear on dry land, but a good many got caught with some of their traps out, and those

that were out then were out for good. So far as reports are recalled by the writer, about 30 or 40 traps, lost in one or two cases, was the most individual damage done. When the ice field came in, it seemed to like the coast, showing no inclination to take its most unwelcome presence away; in fact, it stayed so long that it established a record for a good many years past. Some of the old-timers among the local fishing fraternity, harking back over bygone years, could recall nothing like it since over 40 years ago. In the spring of 1881, (I think it was), they told of how the Eastern ice came in, and held up the lobstering throughout the whole month of May, not saying goodbye till well on in June. It did not prove quite so bad as that this time, however, the blockade taking its departure about the middle of May.

This unwelcome visit meant, that by the time the lobster catchers got their gear out and underway again, practically a month, or almost half, of the allotted time was gone, leaving but little over one month for active operations. Accordingly, representations were made to the authorities at Ottawa, by individuals and public bodies interested in the matter, asking, in view of the unavoidable shortening of the season through conditions outside of the control of those engaged in the industry, that an extension of time be granted as a compensation for the lost time. This was in due course received, and the close of the open season fixed at July 5th, instead of June 20th, as would be the case under the ordinary regulations.

In spite of the late start, and also an additional loss of gear in some sections later on, as the result of a rough northeasterly swell which worked up, the total catch for the season, according to the estimates of the local buyers, would appear to be something above last year.

And the price was way up, better than last year. In fact, it is only the big money they fetch, that makes lobstering worth while these late years, now that the quantity available has dwindled to small proportions compared to the early days of the industry. They started off this spring at 10 cents per pound for canners and 13 cents for markets, and even improved slightly on this rate before the season closed.

The captain of one of Neville Canneries smacks, which operates along this section of the coast and part of the Cape Breton shore, with Drum Head, Guysboro County, as headquarters, told the writer that they had packed as large a quantity as last year, and had handled a somewhat larger quantity of the large, or live lobsters than in 1922. The increase in the markets received, in this case, was assigned at least partly, to the opening up of a new fishing district in the Bras d'Or Lakes, the catch there consisting almost wholly of large fish, the "big old blue fellows", as they were described.

On the whole, the 1923 season may be written down as a pretty good one compared with the average lobstering years, and the results financially away ahead of any returns obtainable from any of the other fishing branches at the same time.

LOWER EXPRESS RATE ON CRABS SOUGHT

Is a crab a fish?

Such is the weighty question which was put to the Board of Railway Commissioners, holding session at the City Hall, Vancouver, B. C. June 29.

Upon their decision awaits a hungry multitude of crab-eaters in the epicurean centres of Montreal and Toronto, who crave the succulent meat of the crustaceans from the foam-kissed shores of the Pacific. Thousands of homes on the prairies are anxiously awaiting tidings of the result of the application for a reduction in express rates on crabs.

Such was the picture painted to the commissioners in eloquent language by William Steiner, junior partner in the firm of L. Perrin & Co., crab specialists. Opposing the application was C. N. Ham, president of the Express Traffic Association, who laughingly disclaimed any personal prejudice in his argument against crabs becoming the national breakfast meat of the continent.

"They want crabs in the East—Montreal, Toronto, Hamilton — all the big cities want crabs to eat," declared Mr. Steiner.

The existing rate on crabs to the East is \$16.20, and Mr. Steiner asked that this be reduced to a rate equivalent to that for fish, which is approximately \$6.75.

"But are crabs fish?" asked Mr. Ham in perplexity.

Commissioner Dr. Rutherford, to whom the query was directed, made no reply, but Mr. Steiner did.

"Sure they are fish," he volunteered.

"Can they swim?" asked Mr. Ham.

"Sure they can swim — can you?"

Mr. Ham declined to answer, to the amusement of all present, laughingly refusing to classify himself.

Mr. Ham explained that until recently there were practically no crab shipments of any size or regularity over Canadian roads. Years ago a commodity rate had been applied from Eastern points to Fort William, but for years there had been no shipments that way. The result was that the first-class rate was applied to the recently developed trade.

Decision was reserved by the commissioners.

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B. C. FISHING IN 1922

Ottawa, June 28. — The value of the fisheries products of British Columbia in 1922 was \$18,872,833 as against \$13,953,670 in 1921, an increase of 35 per cent.

Salmon fisheries in 1922 represented a value of \$13,106,315 and an increase of 69 per cent over the previous year.

The halibut catch was smaller than in 1921. Whaling operations were suspended in 1921 but resumed last year showing product valued at \$158,815.

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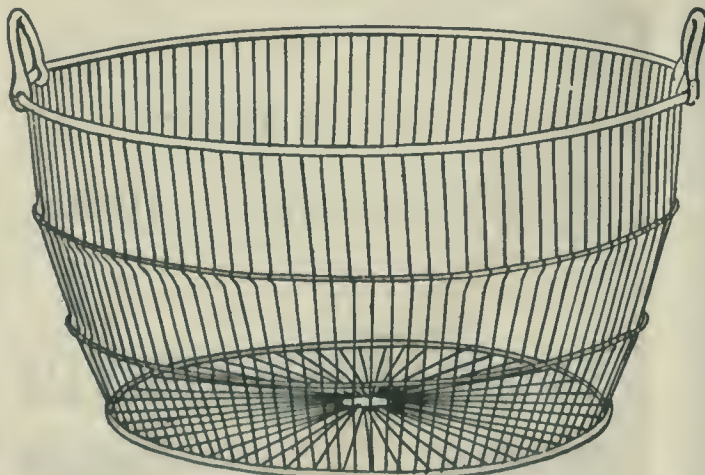
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Official Organ of the Canadian Fisheries Association
A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada,
and Technical Education of those engaged in the Industry.

VOL. X

GARDENVALE, P. Q., AUGUST, 1923

No 8

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SUBSCRIPTION

Canada, Newfoundland and Great Britain \$2.00
United States and Elsewhere \$3.00
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Published on the 17th of each month. Changes of advertisements must be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication, these will be paid for at our regular rate.

The Industrial & Educational Publishing Co. Limited

J. J. Harpell, President and Managing Director
GARDEN CITY PRESS, Gardenvale, Que.
Telegrams and Express Ste. Anne de Bellevue, Que.

Eastern Manager, A. S. Christie, Gardenvale, Que.
Toronto Office, 263 Adelaide St. West, Toronto, Ont.



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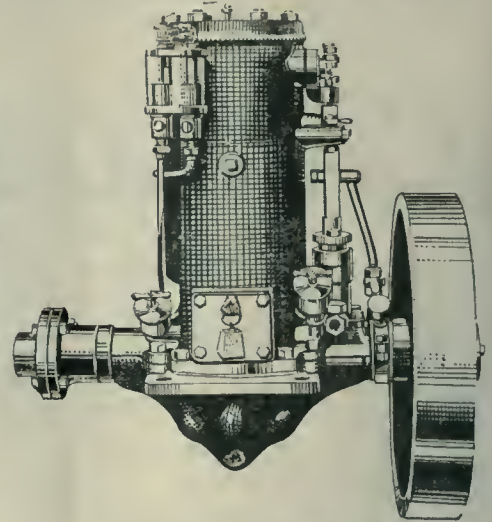
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:-: EDITORIAL :-:

Official Organ of Canadian Fisheries Association

JAS. H. CONLON, Editor.

PRESCRIBING FOR OUR FISHERIES

Why is it that governments do not give the same consideration to fisheries that they give to other natural resources? No one, even the most disinterested, after inquiry, will deny that such is the case. But why? If we could locate a reason for this apathy we may locate a corrective. One cannot administer a curative without first making a diagnosis and ascertaining the cause of the ailment.

We read in the press a few days ago about a man in England who had been in bed for thirty-six years and no doctor had been able to find what was the matter with him. Many people have attempted to diagnose the ease of our fisheries and they have deserted it in much the way the English doctors have given up their patient. They have shaken their heads and retired with the admission that "something is wrong, but what it is I cannot say."

In comparing our fisheries with other natural resources, the distinguishing characteristic of the former lies in their permanency. Our timber once used is lost to future generations. Our minerals, once recovered from the earth, will never be taken again to enrich our children. When we draw upon other resources we impoverish the future. When we draw upon our marine food resources we beggar no one. The resource is permanent. Nature is always replenishing our waters. Is it because of the inexhaustibility of the resource that we are so neglectful of it?

It is characteristic of human nature that the pressing creditors are paid with alacrity while the more lenient ones are imposed upon and perhaps denied payment entirely?

Is it this trait in mortals that explains our attitude toward the greatest food resource God has given to man?

To retard the depletion of our forests we spend millions, perhaps futilely. We spend oodles of money annually to retain the fertility of our soil or rejuvenate it. Our fisheries do not exact that attention. The only call upon mankind is to make use of the food our waters will yield. It would appear to us a quite obvious duty of government to make marine foods available to all our people. That is a right to which the

people are entitled and it is an economic policy much to be desired.

In the United States today the meat supply per capita is not what it was twenty years ago. In Canada twenty years hence it may be assumed the meat supply per capita will not be what it is today. In the absence of meat, other foods must be called upon. Now is the time to make it available where it is wanted instead of procrastinating until a crisis develops when the problem may be a hundredfold more involved.

During the years of the war our governments were unburdened of a good deal of anxiety by the availability of copious supplies of fish. In times of stress the resource served a useful purpose. One prominent figure during the war has gone so far as to say that fish actually made it possible to win the war.

Another phase to be studied is this: A nation that is a hearty eater of meat is not as physically fit as nations that eat less. That is a fact proved by statistics and backed up by the most eminent authorities on this continent. Japan, for example, is a big consumer of fish, undoubtedly the biggest in the world. Compare that nation with meat-consuming peoples? There is undoubted superiority of physical type.

May it not be wise policy, this fact being considered, for our government to educate our people to a more wholesome diet and one that will make use of our vast marine resources? Does it not appear desirable to train Canadians to a food which promises to make for national health and vigor?

You see, we have not attempted to diagnose the ease of our fisheries. We simply acknowledge the condition of the patient. We have advised, however, that our governments administer a strong stimulant which may in itself remove all the ills. And we make no professional charge for prescribing.

CO-OPERATIVE ADVERTISING CAMPAIGN

Data explaining why such a campaign is necessary, and details of the proposed organization of a co-operative effort within the industry to strengthen the Canadian market for fish, have been placed in the hands of prospective contributors within the last couple of weeks. The committee having the matter in

hand has issued two booklets, one a prospectus of the campaign, which sets forth in detail the beneficial results which have developed from co-operative publicity and advertising in other commercial and industrial spheres, and how our own case in the fishing industry may be similarly treated with the prospect of equally prosperous results. The second booklet sets forth the plan upon which it is proposed to organize and administer the necessary fund. In other words, every prospective co-operator is being fully posted on every detail of the scheme, the committee feeling that no one should be solicited to join in the movement without having full information pertaining to it. There was the belief, too, that the facts of the case would convince everyone that the plan proposed should be inaugurated without delay.

Anyone in the industry not yet a member of the Canadian Fisheries Association, who is interested in the matter may procure copies of the explanatory booklets upon application to the secretary of the association, Gardenvale, P. Q.

Based upon experience in other fields and the advice of experts, it has been agreed that any short-term campaign would fail of results. It is proposed to spread it over a period of three years, to begin with, and it is planned to have contributors commit themselves for that period.

An important element in the whole thing is the assistance to be given by the federal and provincial governments. Within the next month or so we hope to have delegations wait upon the various departments interested in fishery development and secure adequate support. Indirect inquiry has already been made in certain instances and there seems reasonable ground for assurance of governmental support. We honestly believe this should be forthcoming and that the government should be impressed with the determined effort being shown by the trade itself.

Let everyone in the industry get behind the movement. It is a worthy one. Think it and talk it until it gathers the momentum that will carry it along. But don't dream over it. Now is the psychological moment.

BUSINESS IMPROVING

A preliminary report of fishery statistics for the year 1922, issued by the Bureau of Statistics, Ottawa, discloses that the total marketed value of production was \$41,908,076, which is \$6,976,141, or nearly twenty percent, greater than the previous year. It is interesting to observe that the product of the sea fisheries was worth \$37,245,949, which was \$7,302,980 or twenty-four percent in excess of the previous year, while the inland fisheries produced \$4,662,127, a decrease of \$326,839, or six percent.

In earlier issues we have indicated this recovery of

trade during 1922 and we have at our elbow a monthly statistical statement from the fisheries department, Ottawa, which gives food for further optimism. Production of sea fisheries during the first six months of the present year shows a further gain in value of 6.2 per cent over the corresponding period of 1922. The year as a whole should be a prosperous one, although producers deeply involved in export trade are worried over the condition of the established markets.

The situation as regards foreign trade which has prevailed for some time now is the strongest available argument for greater concentration upon the home market. Here we have nine millions of people and no outsider can compete with us in supplying them with fish. We must educate them. That is where the industry can co-operate.

A lesson with a similar moral may be found in the decreased marketed value of fish produced from our inland waters during the year 1922. While the value of seafish jumped by nearly a quarter fresh water production declined in value. It would be a surprise to many, even in the trade, to know the volume of our fresh water production which is marketed in the United States and how badly that trade suffered by raising the Fordney barrier. Some few years ago the writer had occasion to warn producers in the Great Lakes that proper attention was not being given to supplying local demand. At that time Ontario was consuming less than two percent of the fish she produced. When the established market in the United States was upset, producers had nowhere to turn to find a more profitable outlet. As a result we find Lake Erie fishermen early this year discussing the feasibility of organizing a string of retail fish stores throughout the province. They apparently had grasped the lesson that the home market is the best. It is easier to reach and, besides, it is immune to those various ills which may disrupt foreign trade. A further consideration as regards business with the United States or with any foreign country is the matter of payment. It is simpler to collect from a customer in Canada than from one outside, and, besides, in some localities, brokers abuse the consignment system and fleece our hard-working, trusting tradesmen.

ENFORCEMENT OF FISHERY LAWS

Guardian Blacquire, employed by the Restigouche N. B. Salmon Club, was recently shot to death by poachers. Fisheries patrol boat "C", while engaged the latter part of July in protecting the lobster fishery of Kent County, N.B., had five shots fired at her. In Nova Scotia convictions have been secured against persons for assaulting fishery officers, and conviction has also been secured recently against persons for resisting arrest when apprehended for non-observance of the law.

It is quite apparent to any person familiar with conditions, that there is a disrespect for the law, and that this disrespect is largely due to the tacit, if not open, encouragement given the law-breakers by responsible persons in fishing communities. Sometimes the encouragement is of the most sinister nature, involving promises to buck the proper course of law, and has even gone so far as to include threats of dismissal of officers who are endeavoring conscientiously to fulfill the obligations of their office.

An added feature of weakness in law enforcement is the quality of many of the local magistrates before whom offenders are cited. Some magistrates are absolutely unfitted in every respect for the responsible position. Others practically aid and abet the offenders by the nature of their decisions while others are unduly influenced by local prejudices or sentiment.

A wholesome respect for law is essential and this respect cannot be secured until prominent and responsible persons in every community take upon themselves the duty of giving every reasonable support to

law officers, and discourage those elements that weaken the community life by breeding a disrespect for the law and the land.

PISCATORIAL PARAGRAPHS

In the regular estimate for government services there was a vote of \$25,000 for the conservation and development of deep sea fisheries, and in the supplementary vote \$70,000 designated for the same purpose. Out of this \$95,000 the industry may reasonably expect a liberal grant to give impetus to the co-operative campaign to increase the use of fish among Canadian people.

The government has, apparently, not accepted the recommendation of the marine and fisheries committee of the House respecting a royal commission to investigate Atlantic fisheries. There are many ramifications to such a proceeding and it may be that discretion was found to be the better part of valor. Discretion political, however, not piscatorial.

Great Plans of France Exploded

As announced in our last issue, the French Government has granted a concession to the Franco-Canadian Fish and Cold Storage Company for the operation of the cold stores erected at St. Pierre et Miquelon, Newfoundland. This contract has been made for the purpose of utilising one of the chief new constructions made by the French Government in recent years for the benefit of the fish trade.

The scheme under which these cold stores were constructed is described as follows by "La Peehe Maritime": —

A statute was passed in the French Parliament on June 19, 1920, authorising an expenditure up to 200 million francs for the development of the French fishing fleet, and for the organisation of the fisheries, including the distribution of fish products.

Previous to this law, however, Parliament had authorised the Government to incur expenditure in the construction of two cold stores, one at St. Pierre et Miquelon, the other at Lorient-Keroman, which were intended to facilitate the supply of frozen fish to the French public.

The programme in view was to arrange for the fish caught in the neighbourhood of St. Pierre being frozen at that place, and transplanted to France in vessels with refrigerating equipment; it would then be kept in stock in the cold stores at Lorient, from which it would be sent out to the centres of consumption.

This programme has been carried out so far as construction is concerned. The works commenced at St. Pierre and Lorient in 1919, were completed in 1921. At the same time two carrier vessels were bought in England and equipped for refrigerated transport.

The next step was the formation of a joint stock company to operate the two cold stores and the car-

riers. This company came into being in 1920, but difficulties arose between it and the Government, the upshot of which was that the company declined to take over the establishments. They were accordingly left on the Government's hands.

Upon examining the situation, the Government found that the whole programme under which these enterprises had been engaged in was a mistake, and that the objects aimed at could not be realised. In 1918 it was thought that frozen fish, which had been usefully employed in the feeding of troops, was assured of a ready sale amongst the French public. But as soon as the war ended and the national economic life re-established itself, it was found that the public, accustomed as it was to fresh fish, was disinclined to buy frozen fish. It would perhaps have been possible to overcome this disinclination if the frozen fish could be offered very cheap, or sufficiently so as to appreciably affect the cost of living to customers. But with the high price of coal, which entailed a high price for cold storage and for transport, frozen fish, as it turned out, could only be sold at a price in the same neighbourhood as that of fresh fish.

This circumstance explains the difficulties which the French Government found in getting the cold stores utilised. Its original plans were accordingly given up. In 1922 the two carriers intended for the transport of frozen fish were sold. As regards the cold stores, that at Lorient-Keroman is still unoccupied; but it is hoped to find employment for it when the new fishing harbour at that point is completed some two years hence. The cold store at St. Pierre et Miquelon, on the Newfoundland side, has, as stated, been let to the Franco-Canadian company. The price of the concession, to run for four years, is 150,000 francs, payable by annual instalments.

Fishery Education in Public Schools

Ward Fisher gives suggestions to teachers' convention for improving knowledge of growing generation

During the special conference of the fishery officers of the Eastern Division, held at Truro, N. S., July 28th, Chief Inspector Fisher addressed the four hundred public school teachers in attendance at the Summer School of Service.

After referring to the importance of the fishery sources of the Atlantic Coast from an economic point of view, it was specially pointed out that not only was a very large portion of the population dependent on the industry as a means of livelihood, but that extensive portions of the coast, including many thriving settlements and incorporated towns would become almost depopulated by cessation of fishing activities. Incorporated towns, such as Canso, Lockeport, and Clarks Harbor, and populous centres such as Grand Manan, in New Brunswick, Cape Sable Island in Nova Scotia, and the Magdalens, would be practically wiped off the map, making it clearly apparent that while the Maritime Provinces need vastly increased population for the development of its resources, it is of prime importance that the fishery resources should be conserved and expanded in order to retain the present population of native-born daring and industrious fishermen. Endeavors to increase the population by immigration were good, but failure to retain our present population was a calamity.

Mr. Fisher stated that while gratifying progress had been made the past few years in investigating the fishery resources, and ascertaining the best methods for carrying on the industry, and also in educating those engaged in administering and supervising the fisheries, little or nothing had been done through the public schools to awaken an intelligent appreciation of one of the chief resources of the country. The work of the Biological Board, and the Council for Scientific Research, as well as the instructional courses for the officials specially engaged in fish cultural and administrative work was highly important, but needed expansion of the work of the Department of Fisheries must depend to a large extent on the sympathetic interest of the people generally. Ignorance of the fisheries necessarily carries with it a lack of appreciation of the needs of the industry and this lack of appreciation is the frigid zone through which it is difficult to approach "the powers that be."

Parliament Disinterested

It is only necessary to attend the sessions of Parliament when the fishery estimates are up for discussion, to observe the retreat of the members from the non-fishing districts. Sincere interest is shown in agriculture, mines, forests and grain growing. The fisheries are left to the consideration of the few whose efforts are rarely appreciated, or treated with good-natured indifference.

The fisheries should interest the grain-growers, the miners, the farmers, the lumbermen, and economists generally. Trade is the life of a country. When trade languishes the country suffers. The export value alone of the fisheries is about \$30,000,000 annually, and this life is capable of being strengthened immeasurably. Further, in Nova Scotia the fisheries give employment to a greater number of persons than mining or lumbering, and form the only one of the chief resources that has not suffered essential loss. The forests are cut down and are not re-

placed. The coal is taken from the earth and cannot be replaced. The agricultural lands must needs be constantly reborn or suffer exhaustion. The fisheries are ever-bearing as an economic and food resource of the first rank.

While it was difficult to create a proper appreciation of the fisheries, so far as the present adult population was concerned, it was argued that efforts should be made through the public schools and colleges to impart information to the students that would result in intelligent interest by the coming generation of citizens, and as a consequence wiser and more generous treatment of the fishery resources.

How Schools may Help

The following suggestions were made in this regard:—

1. The co-operation of the teachers with the officials of the department in teaching the importance of fishery resources and the conservation of fish life. As an instance of the need, it was stated that complaints were frequent from one of the inland fishing countries that it was the common practice of the children after school hours, and during summer recess, to spend much of their spare time in visiting the streams and killing the breeding fish. The fishery officers visited the schools and through the kindness of the teachers, were permitted to give a simple talk on the conservation of fish life, pointing out that unless the breeding fish were permitted to freely ascend the spawning grounds, the rivers would become depleted of fish life, and the shore fishermen, who depend for their livelihood on salmon, shad, and other species of fish which breed on the rivers would suffer severely. The result of the talks was that the destruction of breeding fish ceased in that county. And this is a consummation devoutly to be wished on the part of a large number of the adult population.

2. The preparation of some half-dozen talks on the fisheries, to be placed in the hands of the teachers, for use in occasional or monthly talks to the scholars. Mr. Fisher would be quite willing to prepare the talks, and assist in their distribution and use. These lessons were to be designed for popular purposes and not to form part of the regular courses of instruction. While the Council for Public Instruction would have to be consulted, and co-operation or consent secured, it was probable that its endeavours would meet with success.

3. The proposed "talks" to be supplemented by the distribution of maps showing the coast fisheries and the various off-shore banks and also by the distribution of sensible cook books.

U. S. FISHERIES CONVENTION

The United States Fisheries Association, of which Gardner Poole of Boston is president, is holding its annual convention at Cedar Point, Sandusky, Ohio, August 23, 24 and 25. A good attendance is anticipated and extensive preparations are being made for the entertainment of delegates. The executive has very courteously extended an invitation to leaders of the Canadian fishing industry to attend.

Broader Market for Fish in Canada

Some reasons why fish purchases of Canadians are so small and suggestions how situation may be remedied

BY R. M. WHYNACHT

The immediate objective of everybody engaged in marketing fish in Canada is, or should be, a Canadian consumption of a pound a week per capita. Some time in the dim future we may even exceed this objective and the consumption of European countries and approach what is probably the highest in the world, namely that of Japan which at present is about two hundred pounds per capita annually. In fact it is predicted by certain American authorities that there will come a time when the population of this continent will be so dense as to restrict the present area available to the beef raisers whose resources will ultimately be vastly curtailed and, as dietetically fish is meat, we shall have to depend more and more for this class of food upon the limitless supply of the ocean. However, this is dipping too far into the future and our energies would be expended more logically upon the pound-a-week standard. This would mean that the business done by Canadian distributors and retailers would be about double what it has ever been in the past, with an increase in Canadian production of over two hundred million pounds for the year. How the producers and the trade smile! But it is quite within the limits of possibility. To attain this objective, firstly, fish must be better appreciated by the masses and secondly it must be sold to the consumer at a price not altogether inconsistent with the price paid the fishermen, as is frequently the case at present.

To accomplish the first point, most aggressive and complete educational work must be done, bringing to all Canadians a realization of the advisability of including fish in their diet. Fish can and will be available to the consumer at a lower cost some time in the near future. But we must not disappoint ourselves in looking for this reduction in the cost of production, for along the coast both buying and selling competition is very keen, the latter tending to lower and the former to raise prices, so that production costs almost automatically regulate themselves. Any attempt to further reduce the cost of production would not only be grossly unfair to Canadian fishermen, but, if carried out, would inevitably lead to an even greater exodus of the world's best fishermen from their native homes to help operate the fishing fleets of our neighbors to the south in and around the ports of Maine and Massachusetts. To anyone who is at all familiar with conditions on the coast, it is obvious that the fishermen are in no way responsible for the comparatively high market prices of their product throughout Canada. It is also generally conceded that the producers and packers operate on exceedingly narrow margins of profit. Therefore we are led to an immediate conclusion that the retailer is responsible for hoisting the price on the public and thereby retarding the progress of the industry.

The Public to Blame

But after pausing for sufficient analysis of the situation it becomes evident that the consumer himself is the rogue responsible for this condition which perplexes those engaged in the industry. Prices are unduly high because about ninety percent of the consumers know practically

nothing about fish. A surprising number of people in our larger inland cities prize a fish diet about as highly as they do the chief food the inhabitants of Mars. Why? Simply because they know as much about it as they do about the aforementioned favorite dish of the Martians! Generally speaking the corrective measures for reducing the cost of fish should be applied in greater degrees as we leave the coast and proceed into our domestic markets.

The prospective Canadian fish-eater should be taught when and what to order, and not until they have this knowledge will the price be substantially reduced. They should know as much about when and what to order in this line as they do in fruits and vegetables. People eat potatoes, turnips, carrots, etc., throughout the winter but they do not order the distinctly summer varieties at that time of year, nor do they eat many apples in the early summer; yet they call for halibut when there is precious little halibut and prices are extremely high, or for salmon when these elusive individuals are safely secluded until the following spring somewhere in the unknown depths of the ocean. We know that usually there are frozen varieties available at unseasonable periods, but we also know that cold storages cost a lot of money to build and to operate, and that carrying charges accumulate for freezing and for interest on the capital invested in the fish, all of which must be passed along to the consumer. The industry could not very well carry on without cold storages, but like other blessings, they are capable of being used and abused. On the other hand, there have been cases noted of housewives ordering canned salmon at fifty cents a pound tin in the month of June with the finest fresh-caught Atlantic salmon on sale next door at exactly half that price! And so a great many persons have convinced themselves that fish cannot be purchased any more cheaply than meat.

In our great middle West it is extremely difficult to sell one or two particular varieties that along the Atlantic coast, where people naturally have much more fish knowledge, are eagerly sought at a much higher price than is commanded by most other varieties. And our fishermen, who certainly do know fish, often pick out species for their own consumption, and solely from choice, which are unmarketable anywhere in Canada. It is obvious, therefore, that the people of Canada have much to learn about this food, and would doubtless be glad to acquire it if it were made available to them.

Like all other commodities, the cost of fish is governed by the law of supply and demand, the most familiar varieties usually bringing the best prices because every one wants that particular kind; and since the supply is often limited, the cost soars higher and higher. The higher it goes, the more the public call for that variety, hypnotized into the belief that this fish must be better than any other to make it cost so much. And, besides that, women as a rule hesitate to purchase a new, unknown kind of fish for fear that they may not like it. We should try to teach them to overcome this reluctance and also to know when fish is at its best season which would certainly tend to bring down the cost of this food. To this

end the Government should have printed and made available in every market and to every household reliable charts showing the seasons when all varieties of Canadian fish are most abundantly caught and consequently at their lowest price and highest quality.

What Experts Think of Fish

The Canadian consumer should also be informed of its wholesomeness. When one of Canada's largest candy manufacturers practises the "health" advertising campaign, used successively and successfully by breakfast cereals, oranges, raisins, eggs, etc., and comes out with "Eat chocolates for your health's sake," how much more appropriately could a similar slogan be used in the merchandising of fish, with medical and food specialists all over the world recommending that people eat more of this kind of food!

Senator R. S. Copeland, M. D., ex-commissioner of health for New York City, says "There isn't any food properly kept which is a safer, cleaner, more nourishing, more proper food for the human family than fish."

Sir James Crichton-Browne, M. D., D. S. LL. D., F. R. S., etc., etc., who is acknowledged to be one of Great Britain's foremost food experts, says "... it cannot be too strongly insisted on, that, for working people of all classes, those who work with their heads as well as those who work with their hands, fish is an economical source of energy necessary to enable them to carry on their work, and that for children and young persons it furnishes the very stuff that is needed to enable them to grow healthy and strong."

Dr. Eugene Lyman Fisk, medical director of the Life Extension Institute, New York, in a recent speech declared that he felt justified, in the public interest, in urging that the knowledge of the real food value of fish be spread abroad and that the public be impressed with the economic advantages of fish eating.

Dr. J. C. Elliott, California food expert, said in the course of a lecture tour of North America two years ago, that if the people of the United States and Canada must eat so much meat as they do at present, he would recommend that they do so in the following order of preference: FISH, fowl, rabbit or hare, lamb and veal, beef and lastly pork.

Dr. James W. Barton says that in countries where there is no iodine in the drinking water the condition called "goitre" is very, very common; and that further, among people who live on fish, this condition is almost unknown. As an instance near home he cites the Japanese in western Canada and United States, whose dietary includes a great quantity of fish, and who are practically free from it.

Dr. John B. Huber recommends a liberal diet of fresh fish for the expectant mother, but this point obviously would have to be handled most diplomatically in a selling campaign, especially by the clerks who come in personal contact with their prospects, otherwise it might occasionally miss accomplishing its object. Persons with tubercular tendencies, whose systems call for the quick assimilation of much fat, would find a liberal use of the oily-meated fish most beneficial and probably much more appetising than regular doses of the venerable fluid retailed through the world's drug stores, which is known as cod oil.

Nature of Propaganda

All consumer advertising and educational work should be toned with the clean, invigorating and interesting life history and habits of the various species; the wholesomeness of a liberal fish diet; and the numerous delectable recipes for its preparation, one book alone—"Fish Cookery" by Evelene Spencer and John N. Cobb—containing over six hundred excellent recipes. This is particularly

a field for government aid, but the government should not be expected to do it all. Producers, distributors and retailers should all join in the good work and it would not be long before a general stimulation in the business would assert itself. It is thought that the government work might be directed to the consumers, while the producers and distributors could concurrently back this up by educating the retailers in the handling and pushing of their own particular lines.

In England one encounters fish shops handsomely fitted out with sanitary cold storage equipment, with marble slabs for display purposes, and carrying every day in the week a large variety of the finny tribe then in season. Quite a difference between that and the conditions prevailing in this country, where Friday fish-eating obtains quite generally. Here, in many instances the meat dealer arranges to have a small stock of the more popular—and usually these are the most expensive—varieties on hand. These are generally kept in a wooden box with a little ice thrown in, with practically no effort at display. Down on the coast government inspectors have the fishing operations constantly under observation, which of course is commendable, but just as much need exists for government supervision in our market places where the same fish is presented to the consumer by many uninformed and ill-equipped retailers, who detract from the business of, and injure the good impression created by the more intelligent and more conscientious dealers. It is very probable that the one-day-a-week business would develop into a much more consistent one if markets generally were better equipped for handling it; in fact this has already been demonstrated by our up-to-date stores. As the dealer then has a continuous demand for this food he can afford to carry a larger variety and sell cheaper than under the one-day-a-week plan.

This is a most propitious time to develop our domestic market, for the foreign markets are just now in the midst of a demonstration of how precarious and ind dependable they can be. Besides the impossible handicap of present international exchange conditions, other fish-producing countries, especially those of North Western Europe, are catching fish in increasing quantities ever since the war. With an excess of cheap labor, both male and female, with government co-operation in raising the standard of their export goods, and with exchange more near the level of that of the fish consuming countries, they are succeeding in backing us out of foreign markets in which we have had the impression we were firmly established. While we cannot afford to lose our reputation in foreign fields, at the same time it is most expedient that we should better appreciate the advantages of our Canadian market and try to develop it to the fullest extent to save an inevitable decline in the industry and to make the slogan "Canadian fish for Canadians" the sheet anchor of the Dominion's oldest and most historic industry.

Note—The writer is indebted to Spencer & Cobb's "Fish Cookery" for certain extracts which he took the liberty of using in this article.

MUST HAVE THE PASSWORD

From a circular sent out by W. J. Vhay & Co., Detroit, Mich, we cull the following.

"The outside guards of a consumer's stomach are his eyes; the password 'cleanliness'. If a purchaser wants to get his products into the inner chamber, see that they have the password."

Lobster Fisheries Subject of Conference

Fishery officers of eastern division meet at Truro--Canners in future must not keep boiled lobsters overnight

(Special to Canadian Fisherman)

A special Conference of the inspectors and fishery officers of the eastern division was held at Truro, Nova Scotia, July 25 and 26, for the purpose of perfecting the plan for the grading of lobster canneries, and also for considering the draft of the proposed new Regulations under the "Meat and Canned Foods Act."

All the canneries operating during the season closing August 10 had already been graded. From the experience gained, and also from an examination of the reports, it was found advisable, and, indeed, quite essential, that the valuing for grading purposes of the equipment, processing facilities, and sanitary conditions under the minimum requirements of the act and regulations should be discussed and explained fully to the inspecting officers, in order that the grading be uniform throughout the division. It was also quite essential that the grading plan and the provisions of the proposed regulations should be in perfect accord.

The session opened with an address by the chief inspector, Ward Fisher, who reviewed the general conditions affecting the fishing and canning industry the past several years. In explaining the situation it was pointed out that the unsatisfactory conditions prevailing, as compared with war and pre-war conditions, are beyond the control of our administration. For instance, the dislocation of the export trade was due to the disorganization of the markets as a result of the impoverishment of the European and Mediterranean countries evidenced by the unparalleled demoralization of exchange values.

Markets Shattered

It was further pointed out that the markets nearer home, such as the West Indies and South America were being exploited as heavily as possible by Norway, Newfoundland and the United States, with the result that our products had to meet the competition of low prices arising from the markets being glutted, and these conditions became more acute owing to the heavy duties on fish and fish products recently imposed by the United States, with the result that our markets in that country have been greatly curtailed. Consequently, the demand being lessened, many of our fishermen were compelled to cease operations, as the prices for the catches were too low to be remunerative.

As an indication of the hardships involved, it was stated that a large portion of the spring mackerel catch had to be disposed of by the fishermen at 2½¢ for each fish fresh; shad, in some instances, at 5¢ each; hake at 40¢ per one hundred pounds, and haddock offerings as low as one-quarter of a cent per pound. It was explained that the low prices quoted were not general although the more favourable prices offered small inducement to the fishermen to prosecute their work with any particular activity.

Further, that on top of these untoward conditions, the unusually severe winter and spring climatic conditions practically closed the inshore fisheries. As a consequence, the opening of the lobster fishery was

eagerly awaited, as it was hoped the catches, under ordinary conditions, would greatly mitigate the financial distress obtaining as a result of the winter's failure. Active lobster fishing operations were, however, much delayed by ice conditions all around the coast, preventing the setting out of the traps and causing the water temperatures to be too low for fish movements. Consequently, the first month or six weeks of the regular fishing season was quite barren of results, and it appeared that even under favorable conditions for the remainder of the season the catches would fall far short of normal. Therefore, strong pleas were made in favor of extending the fishing season, and in view of the hardships experienced by the fishermen of some of the districts and of the falling off in the probable catch, the representations of the fishermen received favorable consideration.

The catches, however, in many districts during the latter part of the regular season were heavy, and sufficient to meet the demands of the markets. The experience has shown, as in nearly every instance when extensions of the fishing season have been granted, that the value of such extensions to either the fishermen or canners is problematical, while the undue exploitation of the fishery is usually followed by deplorable results to the industry. As a matter of fact, the catches have been greater than anticipated, and the pack in excess of last season. The canners are bound to pay the penalty, which may be severe, as it is doubtful, particularly in the event the summer and fall pack is up to normal, that the canned product can be disposed of with any profit.

Commission of Inquiry Needed

It was brought out very carefully, during a later discussion of the lobster fishery, that the conference was unanimous in the opinion that extensions to the lobster fishing seasons were most harmful. Indeed, a strong resolution was passed to this effect, and the hope expressed that the regulations would be given a permanence that would place the fishing and canning industry on a stable basis.

It was evident that the whole situation should be thoroughly canvassed, either by a capable commission, composed of persons having an intimate knowledge of the conditions affecting the fishery, or by a properly constituted conference of fishermen, canners, and departmental administrative officials. The fishermen are becoming alive to the importance of conservation of this most valuable fishery, and are ready for quite drastic steps to safeguard it from depletion.

Among the more important of the proposed new regulations is a provision that no boiled lobsters for canning purposes shall be kept over night, but must be immediately shelled and packed and processed. Experience and observation have shown that one of the chief causes of inferior quality has been the practice of boiling a larger quantity of lobsters than could be packed the same day they were boiled. To prevent dis-

oloration, or other deteriorations of the meat, rapid handling and processing is necessary, and therefore to improve the quality of the canned product the regulation is necessary.

As an instance of the value of such provision it may be noted that one packer in New Brunswick, who received larger catches than could be packed the same day the fish were boiled, had 400 cases returned owing to inferior quality and distinct signs of blackening. The loss to the canner was nearly \$7,000.

The discussions were of the most lively and thorough-going nature. Dr. Knight, who has rendered signal service by his sustained investigations, was much gratified by the intelligent grasp of the problem by the officers, and expressed the opinion that never since organized administration was inaugurated has there been such excellent prospects for wise and energetic supervision of the fisheries of the Atlantic coast.

LOBSTER PACKERS MEET

Amherst, N.S., August 10. — Discussion of various proposed amendments to the meat and canned foods act were taken up on August 9 by the maritime canned fish section of the Canadian Manufacturers' Association, in executive session at the offices of H. R. Thompson, Maritime secretary Canadian Manufacturers' Association. Hon. Fred. Magee, of Port Elgin, presided at the meeting. The packers attending were: — R. H. Williams, Halifax; C. E. Barnard, Pictou; G. S. See, Halifax; W. T. Tidmarsh, Charlottetown; J. A. Kelly, Shediac; R. O'Leary, Richibucto; J. L. Broidy, Pictou, and Mr. Baxter, Portland, Me.

Dr. Knight, chairman of the Biological Board of Canada, was present, while representatives of the Department of Fisheries were Ward Fisher, chief inspector eastern division, and Don Sutherland, of Pictou.

Ideas presented at the meeting concerned the improvement of the pack and the betterment of the quality of the packed lobsters.

LOBSTER FISHERMEN OFFER ADVICE

A big gathering of lobster fishermen took place on August 4 at Port Maitland to discuss the present conditions of the lobster industry, which to a very large number of persons engaged in that class of fishing is considered to be in a somewhat deplorable state. There were representatives from Short Beach, Sandford, Pembroke, Chegoggin, Yarmouth Bar and other sections.

Warren Sollows was elected chairman, and on opening the meeting he stated that its object was for the purpose of getting an expression of opinion of what would be best for that section of the coast for the propagation of the lobster.

The discussion lasted for about one hour and a half during which speakers were: Norman Sollows, George Hersey, David Haskell, Riley Thompson, Archie Fevens and Albert Snow, of Yarmouth Bar. All of those men are fishermen of years of experience, well qualified to give information on the question.

A resolution was finally passed to the effect that the season of three months be retained, but that it open on March 15th and that the fishermen be allowed to hold all they catch, regardless of size, practically the same as exists today.

"IRON CHINK" ADAPTED TO HERRING

An Old Country fisheries journal announces the advent on the market of a wonderful machine which fits into the herring industry much the same as the Iron Chink fits in the salmon industry of the Pacific coast. The "Wizard", as it is called, is being put before the public by a concern in Aberdeen. It will, says the journal, take off the head, split, clean, wash and remove the backbone and heavy throat bones of herrings in one operation, at the rate of from 2,000 to 3,200 per hour. The head, bones, entrails and cleaned fish leave the machine at separate points, entirely free from contact. The machine is automatic, and treats large or small, full or spent, fresh or soft, or salted herrings without adjustment. The working parts are constructed of special non-oxidising metal (aluminite), absolutely rustless and wear-resisting. Unskilled labor only is required for the operation, cleaning and adjustment, and the machine takes up very little space and requires only $\frac{3}{4}$ H.P. for its operation.

Its Uses

It has been designed for the preparation of herrings for the manufacture of marinades, usually packed in tin and glass containers, and comprising such products as Roll-Mops, Bismarck herrings, fillets of herring in oil, in sauces, jelly, etc. But it may be used for other products, as boned fresh herrings and fillets of herrings for, while it offers a unique opportunity to export herring curers to cater for the extensive foreign trade in herrings required for the marinaden industries. Immense quantities of salt herrings are consumed abroad in the form of marinades, the herrings being salted into barrels in this country and exported, to be later boned and prepared, and sold as marinades. Owing to the high cost of labor and the time required, it has hitherto been impossible for our export curers to prepare the herrings. The output of the average skilled hand-labor is only 150 fish per hour, against the output of 2,000-3,200 by the machine. With the advent of the "Wizard" this handicap is removed, and the herrings for marinades can now be prepared and packed in salt in barrels direct from the sea, and thus a new demand for British products created at home and abroad, with a 50 per cent saving in salt, barrels and transport charges, while the resulting product would be much better, keep longer without the bone, and be ready for manufacture at greatly reduced cost.

There is no doubt, adds the journal, but that far more herrings would be consumed in this country were it not for the difficulties in connection with the bones, but with the advent of the "Wizard" these difficulties should be removed, as merchants will now be able to offer the public herrings free from bones.

INSULIN IN SHARKS

Insulin, the new treatment for diabetes, is obtainable from sharks. Recent investigation by the Bureau of Fisheries, Washington, disclosed useful information regarding the size, structure, and location of the pancreas in different species. The size ranges from 35 grams in a hammerhead weighing 180 pounds to 200 grams in the sand shark *Carcharias taurus*, weighing 225 pounds. Roughly, there will be on an average of 1 pound of pancreas to each 1,000 pounds of shark.

France To Admit Lobster in Acid Pickle

Would now appear practicable to adopt suggestions of Dr Harrison to eliminate blackening of meat

When Dr. F. C. Harrison and Dr. E. G. Hood of Macdonald College published their report a few months ago on the discoloration of canned lobster, deep interest was occasioned by their discovery that the introduction of a small amount of acetic or citric acid would to a large extent overcome the blackening, which has been a serious menace to the industry. Practical adoption of the suggestion was prevented when the fear arose that France would not permit the importation of lobster adulterated even to this small extent. France being the second largest purchaser of the commodity it was not safe to risk losing the customer even in the hope of improving the quality of the whole pack. In the year 1921 Great Britain took about 23,000 cwt. France about 16,000 cwt. and the United States about 15,000, these three countries buying the lion's share of the pack. It will be seen, therefore, that however anxious packers may have been to respond to suggestions for putting up a better pack they were faced with the fear of exclusion from France.

When the situation was generally realized the department of Trade and Commerce, co-operating with the Marine and Fisheries Department, got in touch with semi-official France and discussed the situation. It was disclosed that Canada offers no barrier to peas and other tinned goods from France adulterated with copper sulphate for the purpose of preserving the fresh green appearance and it was logically advanced that our tinned lobster treated with the similar object of preserving appearance should receive reciprocal treatment. The discussions consumed a matter of months, when finally Ottawa was advised by the Commissioner General for Canada in France that he had been notified by the French Ministry of Agriculture as follows:

"The State Counsellor Director of Customs has transmitted to me your letter of May 5 last with respect to the use of small quantities of acetic or citric acid in the preparation of canned lobsters or pickles. In my opinion there is no objection to adding to the brines intended to dress preserved lobsters and pickles small quantities of acetic acid. The canned products thus manufactured, however, when put up for sale must not bear indications which would lead the buyer to suppose that they have been prepared with vinegar. Further, I see no objection to the use of citric acid instead of acetic acid, the former being used in the preparation of various alimentary products and beverages."

It would seem then that this obstacle is now removed and that lobsters prepared in the manner suggested by Dr. Harrison and Dr. Hood may be put up with the assurance of gaining entry to the French market, and also with the vital assurance of practical immunity to blackening. It is to be expected that progressive canners will follow the directions set forth in the recent report, and also that they will conform as quickly as possible to the standard set down by the authorities at Ottawa, and explained in the July issue of the *Canadian Fisherman*.

Referring to the way in which acetic or citric acid should be used in the pickle the Harrison-Hood report says:

"Citric acid is found in lemons, oranges and other fruits known as "citrous" from the presence of this acid in considerable quantity, and it is regarded as a harmless acid.

"We have used varying percentages of both these acids and our experiments show that a 2 per cent solution in pickle of either of them is effective in the prevention of discoloration.

"Whilst 2 to 3 per cent. of acid is the amount placed in the pickle, it must be remembered that the lobster meat absorbs the greater part of the acid, and chemical determinations made of the pickle after processing show only 0.1 to 0.2 per cent. of acid in the pickle.

"Acetic acid is a liquid and must be bought in the form known as *glacial acetic acid*. In buying acetic acid, none but glacial acetic acid should be accepted. As a test, this acid crystallizes in the bottle at temperatures below 55 deg. F. Acid which does not conform to this test is not glacial. To melt the crystals keep in a warm room, or immerse the bottle in warm water. When added to the pickle, three ounces of acid should be added to each gallon of pickle. Glacial acetic acid costs about 50 cents a pound.

"Citric acid is a white crystal. Three ounces should be added to each gallon of pickle, and thoroughly stirred until all the crystals are dissolved. Commercial citric acid should be bought, costing about 90 cents a pound.

"For the sake of convenience, a three-ounce measure for the acetic acid, of a three-ounce weight for the citric acid, and a gallon crock should be available.

"This acid pickle should be made fresh for each day's use, and kept in a glazed earthenware crock."

POOR OUTLOOK FOR SWORDFISHING

Louisburg, C.B., Aug. 8.—The swordfishing fleet is beginning to gather. Some half dozen vessels have already put in an appearance, and the local craft are fitting up with the necessary equipment. The first swordfish was landed here on Friday last, which is nine days later than the first fish reported taken in 1922. The chances are that the swordfishing fleet visiting these waters will be much smaller this year than last; while many of our local boats will not pay their whole attention to this branch of the business this year but will only operate in conjunction with the other branches of the fisheries. The present prices offering will not warrant any expensive outlay; the Boston quotations at the present time are the lowest in years. Add to this the ten per cent. deducted from the gross weight of the fish by the Boston broker, his commission on sales, the heavy express charges and the two per cent. duty now charged, makes such a high barrier of overhead charges that it hardly pays to engage in the business.

The fish landed on Friday last only netted 5c. per lb. to the fishermen, and even at this ridiculously low price, unless there is a marked improvement in the Boston price before this fish reaches the market it will mean quite a loss to our local buyer. Two outside buyers have been on the spot for the past week waiting for the fish to strike the coast, one of them from Boston and another from Canso and these with our local buyers will likely be more than able to handle the catch of this season.

About Those Racing Rules

Our suggestion made in the July issue that the rules for the international fishing schooner race should be modified at once to insure an interest in the event this fall, is concurred in by our neighbors to the south. The Fishing Gazette of New York reproduces in its most recent issue, our editorial remarks, and adds laconically: "And them's our sentiments exactly."

Captain F. W. Wallace, well known to the industry on both sides of the line, has made concrete proposals to those in charge of the Dennis fund and herewith we reproduce what the skipper would substitute for the present involved and provoking conditions of the contest. A copy of the following has been sent to the chairman of the trustees:

Vessels Eligible For Racing

- (1) Entry is open to any type of fore-and-aft rigged vessel designed for deep-sea fishing purposes and which shall have engaged in deep-sea fishing for at least six months prior to the date of the Elimination Race.
- (2) "Deep-sea fishing" shall be construed as any manner of fishing engaged in upon the recognized off-shore fishing banks, and deep-sea fishing vessels are those which use dories and trawls, dories and hand-lines, and hand-lines. Bona fide fishing vessels engaged in mackerel-seining and sword-fishing shall also be deemed eligible if same vessels are of a type and design which shall permit of them being employed in bank fishing.
- (3) While the usual rig of deep-sea vessels employed in fishing on the Western North Atlantic fishing grounds is the two-masted schooner, there is no objection to the entry of three-masted schooners, yawls or ketches provided they conform to the requirements in sections 1 and 2.

Explanation of Above

It is assumed that the object of these races is to encourage the designing and building of deep-sea fishing vessels of a speedy, weatherly and economical type. The existing rules are drawn up for salt bank fishermen only. This is restricting the races to one class. They should be open to all types of fishermen. There should be no bar against the entry of three-masted schooners, yawls or ketches as it may happen that a very superior type of fishing vessel may be evolved from these rigs. If we want to encourage new types and designs why restrict the contests to schooners of the present-day model?

Racing Rules

- (1) In racing, it is desirable that all contestants compete on a common basis, if possible, and in the same condition as when equipped for deep-sea fishing. As the majority of Western North Atlantic deep-sea fishing vessels operate by means of dories using trawls or hand-lines, all entries will be required to carry their usual nests of dories on deck. Those vessels engaged in other branches of fishing but not using dories will be required to carry upon their decks, in the usual places, a sufficient number of dories as would be carried by a vessel of their dimensions and tonnage.

- (2) Vessels competing in the races will carry, in addition to their dories, the usual gear of a deep-sea fisherman which includes two anchors on the bows with chain cable and hawser cable, booby hatches and staysail box, gurry kids, pen-boards, etc. Hoisting engines, if installed, must not be removed. No additions or subtractions can be made to or from the usual summer fishing ballast and vessels must race with clean holds — no salt, ice, fish or any other cargo to be carried.
- (3) There are no restrictions as to water-line, sail area or displacement, but no vessel will be allowed to carry more than the usual area of sail used by her in ordinary fishing operations. In the case of ordinary deep-sea fishing schooners the sails permitted are mainsail, maingafftopsail, foresail, foregafftopsail, staysail, jumbo, jib, jib-topsail or balloon.
- (4) Should the entry be a deep-sea fishing vessel of a rig differing from the ordinary two-masted schooner, she shall carry the sails and spare used by her in deep-sea fishing operations.
- (5) Crews, including the master, shall be bona fide fishermen and not more than twenty-five men shall be included in any vessel's complement.
- (6) Vessels with auxiliary power installed shall disconnect propellers from the shafts and have their engines sealed during the races.
- (7) Hoisting engines shall not be used during the progress of the races for hoisting sails or handling sheets.

Explanation of Above

With the desire to evolve a speedy and weatherly type of fishing vessel under working conditions the stripping of contestants down to racing trim and the confining of them to certain rules as to sail areas and water-line absolutely nullifies the object of such contests. Vessels should compete in the condition in which they fish. A vessel may be fast when denuded of dories and fishing gear, when re-ballasted and generally overhauled, but an indifferent sailer when on her fishing voyages. We desire the production of a sailing vessel suitable for deep-sea fishing that will combine the qualities of speed, seaworthiness and economy under working conditions. To prove this, it is necessary that vessels compete in their fishing trim.

To prevent the entry of "pot hunters" and freak vessels which comply with the six months' fishing regulation merely to make them eligible, a committee of six or seven, composed of American and Canadian fishing vessel masters, ship-builders and vessel owners should be appointed. This committee should have full power to pass upon the eligibility of a vessel and should also be able to dictate what a vessel shall carry in order to be eligible. The powers of this technical committee should be absolute.

It might also be pointed out that the exacting conditions of deep-sea fishing will tend to prevent over-sparring and under-ballasting. The committee to judge if a vessel is designed, rigged or equipped in a manner which would render her unsuitable for fishing, winter and summer, on the North Atlantic.

Where Retailer May Do His Bit

Closer co-operation urged between producer and retailer and more sympathetic understanding of other's problems

By T. W. C. B.

There can be no question of a duty and responsibility on the part of the fish retailer for no one entering any trade or profession is commencing to do his duty, if he does not endeavor to improve upon conditions as he finds them. Of course a man who tries may not always succeed, but if he does not try, his connection with his profession or trade is a decided failure. The great trouble is due to the fact that many of us do not realize our great responsibility as citizens or as business men.

Not many years ago, we, through our governments, both provincial and federal, implored and beseeched the fishermen, both on the ocean and the Great Lakes to produce more fish. Our duty to distribute and dispose of the available supplies was at that time easy to perform. Now that the fishermen are still in a position to produce more fish, if an outlet can be found for it, it is yet the duty and responsibility of the retail fish dealer to exert every effort to place this fish in consumption and avoid any losses.

The general prosperity of any nation depends on the prosperity of its individual citizens. Therefore, unless the entire catch of fish is made use of (even although those engaged in the retailing of fish are doing fairly well owing to their ability to purchase fish at reasonable prices) the industry as a whole is not in a flourishing condition. Let retailers fully realize their great responsibility and help to build up the fishing industry.

How may this be done?

The retailer is the man who is in direct touch with the consuming public and therefore hears any objections raised, whether it be as to grading, service or price. He knows better than any other branch of the industry just what the public wants. He also knows just what fish is in season; for it is well known that at certain seasons, some varieties of fish are not procurable.

The retailer, through his connections with the producer, whether by mail, telegraph or telephone is kept posted as to varieties of fish available. The producer, on his part, may ship his fish to far away points in apparently the best of condition but it is the retailer who knows just in what condition the fish reaches its destination.

The retailer is the man who takes the greatest chance in handling his supplies, for unlike groceries and hardware, fresh fish cannot be placed on shelves to remain an indefinite time.

From the foregoing it is apparent that the retail fish dealer is an important link in the chain of fish distribution and as such he should be recognized by the producer.

It is incumbent upon the retailer to give the producer advice as to conditions as he finds them, so that what may be improved upon, may be set right.

Retailer Must Be Well Posted

It is also the retailer's clear duty to keep in touch with conditions, at the producing points, and transportation conditions. His responsibility is to use every

means in his power to take proper care of his supplies and to dispose of the same as quickly as possible and in the best possible condition. He should endeavor to meet the wishes of his individual customers as to any particular way of dressing and preparing the fish, for as the years go by, there is no doubt that the buying public is becoming more discriminating if not more exacting. Remember that in addition to selling a commodity we are also selling service.

As retailers, we should strive continually to handle our goods under better conditions, not overlooking improved methods of delivery, for after fish has been carefully prepared, and then dressed under conditions which have obtained in the past, the result is that the consumer, in many cases, is not put in the humor to encourage repeat orders. A retailer should exert his influence in every department of his business to make it easy to suggest "Eat more Fish".

He should also have a geographical knowledge of the districts from which his fish is received and should interest his staff in this information, for very many in this Dominion have a very poor idea from where fish which they order week after week is secured and many have no idea of the seasonable varieties of fish.

A Question of Prices

Another important duty of the retailer is in developing a greater demand for fish, as by publicity. Make known as widely as possible, the varieties of fish available, along with reasonable prices, for the advertising of fish at fancy prices, tends to weaken the demand.

The retailer should learn something of the producers' When, say, early in the season the producer wants an extremely high price knowing full well that within a few days, the price will drop to a reasonable figure, the demand for this particular fish is bound to suffer and much harm is done.

The producer should at all times be reasonable in fixing his prices. To sum up, the most effective way to build up a constant demand for fish and a daily demand, in preference to an intermittent demand, what we have been striving to attain for years — is for retailers and producers to co-operate in every way. This can better be done by a sympathetic feeling for the other fellow. As was shown recently by the resolution of the C. F. A. there can certainly be "co-operation among competitors."

The retailer should learn something of the producers' troubles, and the producer should be more sympathetic to the retailers' special problems. In fact retailers and producers should "get together".

In conclusion, it is pleasing to note that at the last convention of the C. F. A. the retail branch of the industry was recognized, by the unanimous election of a retailer, J. T. O'Connor to the vice-presidency. This should stimulate the interest of all retailers in the C. F. A., an organization which exists for the welfare of the industry as a whole.

Live Fish Was Eagerly Bought Up

Experiment of Ontario Man meets with success--News notes from the lakes district

In our last issue we spoke of the initiative of an Ontario man in getting live fish into the New York market. The firm to whom the experimental shipment was forwarded, speaks of the occasion as follows:

"Transporting live fish by rail is not entirely new. The bureau of fisheries (Wash.) have shipped live fish in tanks from the hatcheries to various points for planting purposes, and carp have been shipped alive to the wholesale market, but it remained for Gottlieb Friedrichs of Little Current, Ont., to ship to New York 6,000 pounds of live lake trout, mullet, sturgeon, pickerel, and pike. The fish were put in four large wooden tanks each seven feet square and five feet deep, which were placed in an ordinary box car. A small oil engine was used to keep the water in the tanks in constant circulation, while on the trip to New York. Upon arrival, the tanks containing the fish, were delivered to Fulton Market and transferred to a large concrete pool which had been built for this purpose. This pool is supplied with a constant flow of water, so that the fish might feel perfectly at home.

"Considering the long distance from the point of shipment, casualties were very slight, amounting to but 15 per cent. As this was more or less an experiment, much information was gathered during the trip which will be invaluable for future shipments.

"There has been a great demand for live fish in New York city, for many years, but on account of the delicate nature of most fresh water fishes, it has been a very difficult matter to transport any, but the most hardy species, with any degree of success. With the wholesale shipments of several popular varieties of live fish, it will be possible for hotels and restaurants to stock their aquariums, permitting their patrons to select the particular fish they desire, insuring them perfectly fresh fish.

"That the venture was a success is attested by the fact that within a comparatively short time after the fish arrived, buyers from all sections of the city visited the market, making purchases which soon left the pool empty of fish. Since this initial shipment was successful in meeting a demand that has existed for years, the possibilities of a live fish market are very manifest."

NEWS BRIEFS

Toronto.— Reports from the north shores of the Great Lakes are to the effect that the catch this season is panning out better than it was thought would be the case earlier in the year. What promised to be a very light catch is now turning out to be a fairly satisfactory one and fair prices are being realized. The Port Stanley tugs started pound-netting the latter part of July and they are meeting with very good success and the prospect is that there will, on the whole, be a very good season for the fishermen of that and other ports on the Great Lakes.

Reports reaching Pieton from tourists along the Bay of Quinte and the lake shore complain of a large quantity of dead fish of the shad variety that strew the shores.

In the neighborhood of Sand Banks the wash has driven up these fish in sufficient quantities to make the vicinity offensive. Local fishermen say that the fish are a salt water variety that have got into the St. Lawrence and cannot stand the high temperature of inland waters.

In the police court at Ingersoll, Ont., two Norwich young men were each fined \$50 for throwing explosive bottles into the Thames River near Ingersoll as a means of obtaining fish. Large quantities of dead fish had led to an investigation being conducted by local officers and Overseer Caldwell, of the Game and Fisheries Department at London, Ont. The two young men were caught by the official throwing bottles into the river filled with lime and water. Many fish were killed in the explosion. They admitted throwing the bottles into the water on one occasion but denied any previous violations of the law.

Reports dealing with the death of fish at Healy Falls, near Campbellford, Ont., owing to the turning off of the water from the river to raise the supply in the Trent Canal, resulted in J. W. Coffey of Ottawa, district fish and game warden going to the district to investigate. Mr. Coffey stated before leaving Campbellford that the officials of the Trent Canal are required by the regulations to leave sufficient water in the river at all times to assure the safety of the fish, no matter what the conditions are in the canal.

Added proof, if such were needed, that Northern Ontario is the sportsmen's paradise, was furnished at the Toronto Union station in July, when a whole train-load of fishing enthusiasts passed through en route to the North Country. They were the Keewatin Club, Philadelphia, a sportsmen's organization and they numbered about three hundred.

When Frank Brown, a well-known fisherman of Hilton Beach, near Sault Ste. Marie, Ont., pulled in his net a few days ago he found in it a monster sturgeon. With the assistance of several men the sturgeon was finally got into the boat. This king of fishes tipped the scales at 150 pounds and measured six feet from tail to head. The fish was sent to New York. A sturgeon was also caught at Kensington Point which weighed 90 pounds and measured over five feet in length.

Norfolk, the county that stated the rest of Ontario last winter with stories of horned rabbits, has turned its attention to fish. Citizens of Simeoe have had a seven days' wonder in the piscatorial success of a big Chesapeake retriever dog, known as "Jaek" and owned by James Miller of Simeoe. A crowd had been watching a big carp floundering around in a shallow pond in the town, when "Jaek", noticing the splashing and whacking of the carp's tail, became interested and gave chase. After diving twice "Jaek" got a firm grip on the slippery tail fin of the big fish, and, making for the shore, he landed his catch high and dry. Enthusiastic witnesses of the dog's exploit had the carp weighed, and it tipped the scales at 24 pounds. "Jaek's" position as a fish-hound is now on a firm basis in Simeoe.

There is a good deal of resentment at Waubauskene, Ont., over the treatment accorded by the authorities to a

party of summer visitors at that place. A few weeks ago the superintendent of the Moredolphen Fishing Club of Pittsburg applied for 150 fishing licenses from F. W. Holland, the license issuer at Waubaushene. The licenses were for the use of 150 fishers who had gone there from Pittsburg. At the time 50 licenses only were available and those who were not given licenses were told to go on and fish till the licenses arrived. Under this arrangement the entire party proceeded to fish but a Government official swooped down on a section of the party who had not received their licenses and a number of fines were imposed. The government officials say they were within their rights in prosecuting but inasmuch as the Pittsburg visitors spent thousands of dollars at Waubaushene in a season they claim that some latitude should have been allowed in the present case.

FRESH FISH SHIPPED IN TANKS

Mullet, of which fish there are great schools in the waters of the Gulf of California below the Colorado river delta, are now being transported alive in tank trucks over the intervening 125 miles of arid desert, and reshipped from here by express to the various fish marts of the country. Sea bass, weighing from 125 to 300 pounds, and turtle tipping the scales at from 200 to 500 pounds, are to follow in their season. Fishermen of wide experience pronounce the Gulf of California on the Lower California side the most prolific in all kinds of fish and shell fish on the entire west coast of the Pacific Ocean.

FINDS NEW FISHING BANK

A new fishing bank, 200 by 90 miles, off the coast of Labrador, has been discovered by Captain Daniel McDonald, formerly skipper of the British trawler *Sir John French*. Captain McDonald believes it to be a valuable acquisition to the already known fishing banks, abounding in codfish and halibut, but he has not yet made known the exact location, although he has it accurately charted.

The bank runs 200 miles southerly and 90 miles in an easterly direction. It is something of a kite shape. The shoalest water is 76 fathoms and the same soundings, varying but little, were prevalent over a large part of the bank.

Capt. McDonald believes that the bank has been fished on before, but never charted. There seemed to be plenty of codfish and halibut. The quality of the halibut is exceptional and fish of the same quality which he took in this venture have never been caught in those waters previous to this trip.

Capt. McDonald will communicate with the authorities in Washington shortly and will call the new find McDonald bank.

Shortly before reaching the new fishing ground, Capt. McDonald sighted seven polar bears on the drift ice and icebergs. They were within sight of and within a few miles of the land and were off the Labrador coast. The country was wild and in about longitude 54 west, and latitude 53.30 north.

REFRIGERATING ENGINEERS

The annual convention of the National Association of Practical Refrigerating Engineers is to be held this year at Memphis, Tenn, December 12 to 15.

"LOBSTER CAVIAR"

A new lobster preparation is being put on the market. The consuming public is well acquainted with ordinary canned lobster and tolerably familiar with tomalley or lobster paste. Now comes "lobster caviar". We have not had the pleasure of sampling the new commodity but the name is to say the least, misleading. Caviar is the roe of certain fish. We have never heard it applied to the undelivered eggs of a lobster, and, furthermore, if the source of origin of the new food is the eggs of the lobster, the manufacturer has indeed a precarious source of raw material. The government protects these crustaceans during the reproducing period and any effort to turn to commercial use a lobster about to propagate would be frowned upon by the authorities. Judging by description, however, one is led to believe that the new article of food is merely mis-named.

Lobster caviar, says a circular, is the essence of the deep sea lobster, combining the wholesomeness, deliciousness, and strength building qualities of all the other parts of the lobster taken together. Deep sea fish contain a large quantity of iodine, and no other fish contains as large a quantity in proportion to its size, as does the lobster. This iodine content is concentrated, as it were, in the part used in the preparation of "lobster caviar". Medical men and scientists tell us that iodine is essential for the growth, maintenance, vitality, and in fact, for the whole vital metabolism of the human body. And we ourselves know from experience that people living inland and thus removed from a sufficient quantity of sea food, are subject to different dangerous diseases which their more fortunate neighbors near the sea and its products — are, as a rule, never troubled with in the least. The cause of this effect — the answer to this obvious phenomena — lies in the fact that sea food contains something necessary for the regular, healthful functioning of the human organism. That something we are told is iodine.

Lobster caviar, as said above, is rich in iodine. It is, in a word, the concentration of all that is valuable as nutriment in deep sea fish. Today the human race is buying and consuming large quantities of iron yeast and other supposed vital essences. Iron yeast is only a concentration of substances called vitamins proven to be essential for the life of the human body. But if iron yeast is essential, not less essential are the products contained in lobster caviar.

Lobster Caviar is packed by A. R. Shea, of Tignish, P. E. I. who holds a patent for Canada, and is only packed, as yet, in the province of P. E. I. The best method of preparation, so as to bring out to the best advantage, its wholesomeness and deliciousness is to fry with butter and onions. It may also be used out of the container or in the preparation of sandwiches. Used as last mentioned it is a luxury to those on picnics and outing parties.

FRESH FISH EXPORTS

The exports of fish (fresh, dried, salted and preserved) from France, in millions of francs, during recent years and their comparison with the average annual value for the pre-war years, 1909-1913, have been as follows:—

1909 - 1913.	1919.	1920.	1921.	1922
37	73	121	135	128

Here, There and Everywhere

Schooner Capsized; Two Drown

Struck by a monstrous sea which broke both spars and smashed to matchwood one of the two dories, the auxiliary *sehr*. *Arequiba*, Capt. Fred McLean, halibut fishing out of Liverpool, N. S. capsized 15 miles southeast of the Liverpool buoy on July 10 with the result two members of the vessel's crew of five lost their lives. The dead men are: Sinclair Thorburn, of Shelburne; Harold Hemeon, of Liverpool.

The remaining three members of the crew: Capt. McLean, of Port Clyde, John Thorburn, of Shelburne, brother of one of the drowned men, and Calvin Jones, of Roseway, were picked up after being in their dory, for about two hours, by the Red Cross liner *Rosalind*, Capt. William James, and, at their own request were set down again in their dory off Liverpool, which port they reached late the same evening.

Monster Tuna

A tuna fish, weighing 1,600 pounds, the largest ever caught in New Jersey waters, was landed on July 20 at Manasquan by a crew of the Manasquan Fish Company. The fish weighing 100 pounds more than another of the same species caught by the same company a few days ago. The crew, under Captain Holding Swanson, struggled with the monster for two hours and were finally compelled to dive into the water to shackle it with ropes after it had smashed to pieces two sets of tackle. Some of the crew were injured in their efforts to hoist the fish into their boat. It was fourteen feet long.

Cancer In Fish

"What is really very curious is that every kind of cancer affecting sea fish can be exactly paralleled by a human disease. . . .

"This similarity in the ways in which the bodily tissues of such very different animals as a man and a ray can be affected is very strange, and may be of great significance in our effort to understand the nature of cancerous disease."

This passage by Professor James Johnstone occurs in the annual scientific report on the Lancashire Sea-Fisheries Laboratory (Liverpool University) and the Peel Sea-Fish Hatchery.

It is probable that an increase in our knowledge of the causes of cancer will, he says, come from analogous conditions in the lower animals, and so any records of malignant tumours in fishes are likely to be of the utmost value. The most sinister of these human affections is melanotic sarcoma, and several cases of this in fish (ray and halibut) have been seen.

Canadian-Built Trawler Sold

The steam drifter "*Rito*" a Canadian-built vessel constructed during the war period for service on coast defence, was sold by auction at Grimbsy, Eng. recently by Jas. Eves for £200 to the Boston Deep Sea Fishing & Ice Co., Ltd. She is a wooden ship, built in 1917, having a length of 84 ft. by 19 ft. by 11 ft., and fitted

with engines of 150 h.p. capable of steaming at 9 knots per hour.

Columbia Run Down At Sea

Sch. *Columbia*, pride of the Gloucester fleet, launched at Essex in April as a possible challenger for the International Fishermen's Trophy, has met with a serious accident on the banks, the latter part of July. The *Columbia* was run into by the French steam trawler *La Champlain* off the Northeast bar of Sable Island, graveyard of the Atlantic, where the bones of the champion *Esperanto* now lie near where the Puritan predecessor of the *Columbia*, went down a little over a year ago.

The *Columbia* has been towed into St. Pierre, Island of Miquelon, where it is expected that the damage will be repaired and the vessel will then proceed to sea.

Germans Buy Bank Trawlers

Owing to a trawl fishermen's strike in Germany and the consequent scarcity of fish in that country, a German owner has visited Aberdeen, and bought not only fish, but the steam trawler, *Star of Liberty*, with her full catch of three hundred boxes of Faroe fish. The *Star of Liberty* is an ex-German vessel, and was bought with a number of other vessels after the armistice. The crew are taking her to Bremerhaven, and returning by passenger steamer. The German owner has also bought five other Aberdeen trawlers, all ex-German vessels.

Fishing Schooner Burned

The French fishing schooner *Bassilour* was destroyed by fire after a gasoline explosion on the banks, says a despatch from St. Pierre, Miq., on July 11, and 34 members of the crew were rescued. Twenty-four men were picked up by the fishing schooner *Eglantin*, while the *Ville Dys* rescued eight from the water. The *Bassilour*, a three-masted schooner, burned while on a fishing trip to the Grand Banks.

Maine Lobstermen Disheartened

This year is the poorest season for lobster fishermen of Maine for more than a decade. Where formerly the trappers each hauled 100 crustaceans from the waters of Caseo bay in a day, now they secure but four or five during the same period. Several methods of securing relief for the discouraged fishermen have been suggested. One is to put a closed season on lobsters from June to November, giving them a chance to increase their numbers. Another plan is to develop the crabmeat industry, for crabs infest lobster traps and eat bait ravenously. They are usually thrown away when found in traps. There is an increasing demand for crabmeat throughout the coast states, and the establishment of crab-canning factories on the Maine coast might help the situation.

HALF AND HALF

Those who pride themselves on being hard-boiled usually are only half baked.

Doing of the Fish Culturists

The Department of Marine and Fisheries announces the distribution of 27,861,000 salmon trout fry from its hatcheries in Ontario in the waters of the Great Lakes. All the fry were distributed in a free swimming state after the food sac was absorbed and in addition nearly 7,000,000 were fed for several weeks and attained some growth before they were planted.

95 Percent Hatched

Attention is called to the splendid returns that were obtained in the dominion government hatchery at Thurlow, near Belleville, Ontario. Over 95 per cent of the white fish eggs placed in the incubators in the fall of 1922 were hatched and distributed this spring in the Bay of Quinte and adjacent waters as free-swimming fry with the food sac absorbed. The beneficial results from the hatchery operations in Lake Ontario are evident in the present condition of the whitefish fishery which has increased over twenty-fold in the last twenty-five years.

Large Pickerel Distribution

The lakes and rivers of Ontario and Manitoba have been enriched to the extent of over 211,000,000 pickerel this year, as that number was distributed by the Department of Marine and Fisheries from their five hatcheries at Belleville, Sarnia, Collingwood and Kenora, in Ontario, and Gull Harbor in Manitoba. This is an increase of nearly 20 per cent over last year. In the cases of Belleville and Gull Harbor hatcheries, new records were established, Belleville surpassing any previous distribution by over 9 per cent and Gull Harbor being slightly higher than in 1921, the best previous year.

Young B. C. Salmon Liberated

A total output of over 83,000,000 Pacific salmon of the different species from hatcheries in the Province of British Columbia is reported. This output was composed of 76,300,000 sockeye salmon, 2,300,000 spring, 1,700,000 coho and 3,000,000 chum, which were distributed in the various watersheds in the following proportions:

Fraser River	36,800,000
Skeena	14,600,000
Rivers Inlet	14,200,000
Skeena River	14,600,000
Vancouver Island	17,700,000

The greater part of the output has already been planted on the more important spawning grounds of the province, but nearly 19,000,000 are being retained and fed, and will not be liberated until they have attained some growth.

Work of Thurlow Hatchery

Satisfactory returns are obtained in the Dominion Government hatchery at Thurlow, near Belleville, Ont. Over 90 per cent of the whitefish eggs placed in the incubators in the fall of 1922 were hatched and dis-

tributed this spring in the Bay of Quinte and adjacent waters as free swimming fry with the food sac absorbed. Departmental heads claim that the beneficial results from the hatchery operations in Lake Ontario are evident in the present condition of the fish.

Atlantic Salmon

Distribution of 910,000 Atlantic salmon eggs in the eyed stage and 13,282,000 Atlantic salmon fry has been made in the more important salmon streams of the maritime provinces. The fry were distributed in a free swimming state and after their food sac was absorbed. In addition there are nearly 4,000,000 fry in the various hatcheries which will be fed and will not be liberated until they have attained some growth.

Killing Two Birds

Of late years the suckers and other coarse fish in Lake Winnipegosis have increased out of all proportion to the whitefish and other commercial species. This year the Department of Marine and Fisheries undertook the netting of these fishes and disposed of them so far as facilities available would permit, by placing them in other lakes, the character of whose waters precluded stocking with the finer species. In all 281 adult fish and 5,530,000 eggs were planted in the lakes, the species being pike, suckers and pickerel. The following lakes were stocked, — Lenore, Burton, Stony, Crystal, Boyds, Grays, Pelican and two lakes unnamed, one near Roblin and the other near Binscarth, Manitoba.

In addition over 42,000 suckers were removed from Lake Winnipegosis and destroyed. More than 550 young catfish have been transferred from Selkirk, Manitoba, to Prince Albert, Saskatchewan, for the Saskatchewan River and 400 to Quill Lake, Saskatchewan.

From the lakes near Fort Qu'Appelle 180 yellow perch have been placed in Waseana Lake, 150 in Round Lake and 80 in Lovering Lake. Seventy-two pike and perch were planted in Lady Lake and 60 in the Moose Jaw River.

This method of stocking with older fish is supplementary to the regular stocking of waters with fry from the various hatcheries.

STILL IN DOUBT

Tommy had been playing truant from school, and had spent a long, beautiful day fishing. On his way back he met one of his young cronies, who accosted him with the usual question, "Catch anything?"

Tommy, in all the consciousness of guilt, quickly responded:

"Ain't been home yet."

Lucile: "What is it that keeps the moon in place and prevents it from falling?"

"Buek": "I suppose it's the beams."

A FEW POINTS TO BE REMEMBERED WHEN PACKING SPLIT HERRING FOR THE DOMESTIC MARKET

Following is a circular, issued by Leonard Fisheries Limited, which is indicative of the general effort among the bigger handlers to assist the authorities to secure a better quality of processed fish.—Ed. C. F.

1.—Herring Must Be Absolutely Fresh When Put Under Salt and Pickle. — Do not attempt to cure fish that are the least bit soft or old. The bellies will be ragged and the fish soft. Do not waste your salt and your labor.

2.—Avoid Forking or Bruising the Fish When Fresh. — When the flesh is punctured or bruised the blood vessels are ruptured and stain the fish. This stain shows black when the fish is cured and spoils the appearance.

3.—Clean and Wash the Fish Thoroughly. — Make sure all guts are removed. Pay particular attention to the removal of the sound. After the fish are gibbed they should be washed through at least two waters, to which a little salt has been added. In the final washing make sure that all traces of blood and milt or roe are completely removed. The blood should have been scraped from the backbone before the final washing leaving only small particles to be washed away.

4.—See That All Puncheons, Tubs, etc., Are Absolutely Clean Before Fish is Salted Into Them. — It is as important to clean the container as it is to clean the fish. It would be well, before your season opens, to have all your puncheons, etc., washed thoroughly with clean strong pickle and put in the sun to sweeten.

5.—While Fish is Curing, Cover Puncheons, etc., and Examine Regularly To See What Fish is Covered With Pickle. — Do not take a chance of the fish getting rusty.

6.—Prepare Packages Properly Before Packing Fish. — When buying packages, insist that they have the inspector's stamp on them as being passed. This stamp consists of a crown with the inspector's number in the center and is indented in the head. Before opening the package, drive tight the lower quarter hoops and nail the hoop nearest the bottom with three one inch nails (one near the lock, where the hoop laps the tail, and one each one third the circumference from the lock either way). Drive the bottom iron hoop flush with the end of the staves. Before taking out the head, number it with corresponding number on the package and mark it with a mark touching the head and stave. Soak all packages well before packing.

7.—Pack Fish Carefully.—Sec. 28 of the FISH INSPECTION ACT says in part "Herring when packed shall lie evenly in tiers and be uniformly salted —". Sec. 29 (amended) says in part "—The packer or repacker shall put sufficient weight of fish in the container when packing to ensure the—weight of fish being in the container at the time of sale." When packing allow 208 pounds for a barrel and 104 pounds for a half barrel.

8.—Use Clean Salt And Clean Pickle When Packing. — Wash the fish in the pickle from which you take them and pack them in the packages with clean salt and pickle them in the packages with clean pickle. When you use old or dirty salt pickle the appearance of your fish is spoiled.

9.—Make Packages Absolutely Tight. — Put the original head in the package which you had previously

numbered to correspond to the number on the head and make the marks on the head and stave correspond so that the head is put back in the same position as when the package was made. Drive the upper quarter hoops and nail the top hoop on the same way the lower quarter hoop was nailed (as cited in point 6.) Drive the top iron hoop flush with the staves. Your package should be tight. If not flag any leaky joints until you are sure the package does not leak.

10.—Mark Packages Clearly As Soon As They Are Packed. — Sec. 51. (amended) of the FISH INSPECTION ACT says in part"—each container immediately after being filled shall be marked to denote the grade of fish in accordance with the requirements for the kind of fish, contained therein." Provide yourself with stencils showing GRADE, "Large (or No. 1)", "Medium (No. 2)", etc., FISH "Split Herring", WEIGHT "100 lbs." "200 lbs." and PACKER "Your full name and your address."

CANADIAN OYSTERS

Oyster growers of Eastern Canada, including those owning beds in New Brunswick, Prince Edward Island and Nova Scotia, are anticipating a busy season, opening during the latter part of August.

The Canadian oyster industry has been quietly advancing in importance since the close of the war. There has been no flourish of trumpets, but yet improvement has been shown each year. Indications are that the 1923-1924 season will be a successful one. The frequent storms and cold weather of last winter and spring wrought havoc to more or less extent with some of the beds and equipment, but such winters as that of 1922-1923 happen infrequently, and, therefore, the oyster growers of Eastern Canada are looking forward to a comparatively mild winter for 1923-1924.

The British market has been developed exceptionally well in the past few years. It was not until the commencement of the war that large shipments of Canadian oysters were made to England. With so many Canadian soldiers in England, during the war, naturally, Canadian oysters were in demand. These served, also, as an introduction to many English people for the Canadian oysters, and the demand has been continued to some extent. The British market is now rivalling the Canadian market and the American market as a field for Canadian oysters. As more oysters are being grown in Eastern Canada now than ever before, it is possible to handle all three markets efficiently. It has been proposed that a Canadian trade agent should be sent to Britain with the objective of further popularising Canadian oysters in not only England but in Wales, Ireland and Scotland. It is felt that much could be accomplished in the development of the British oyster market in this way. In the past, the Canadian trade department has done little to broaden the market. — Fish Trades Gazette, London, Eng.

THE FACE OF COIN

Here's to the girl, the prettiest girl,
The sweetest girl to me;
Her face is on the dollar
And her name is Liberty.
She will clothe you, she will feed you,
She will take you out of soak,
With her picture in your pocket
You will never need be broke.

—Selected

The Romance of Fish Oil

Process of expressing oil, refining it and preparing by-products explained in detail

(From Raw Materials Review)

The source of a great volume of fish oil is the menhaden or mossbunker, a small, bony inedible inhabitant of the coast waters of the Atlantic Ocean from Texas to Maine. These fish originate in the warm waters of the Gulf of Mexico and the Caribbean Sea, travel northward in great schools as the summer progresses and return to the south in winter. The fishing season, according to Paul T. Bruyere, follows the movement of the schools, and beginning in April, continues until cold weather sets in.

During the early years of the nineteenth century, settlers along the U. S. coast made use of these fish as fertilizer, by spreading them over the ground and allowing them to rot, but the value of their oil was soon discovered, and a means of extracting it devised. It consisted in placing the fish in open boxes, covering them with water and pressing the mass with weighted boards under which disintegration took place and oil was given off. As the oil floated to the surface, it was skimmed off in dippers and loaded into large containers for transportation and further treatment. This process was soon improved by boiling the fish in kettles before subjecting them to pressure, and resulted in a considerable increase in both the quality and quantity of the oil so produced.

The next step was the introduction of the process of cooking by steam, under which disintegration was rapid, and the yield of oil was again increased, so that the business of treating fish for the purpose of extracting oil began to assume importance. Plants were established along the northern coast adjacent to the fishing areas, and in 1866 the first of the so-called "floating factories" was built. This outfit consisted of a steamer equipped with apparatus for treating the fish as soon as they were taken aboard, and it made possible not only a further improvement in the quality of the oil, but also greatly extended the area over which the fishermen could operate. New land factories were built and new methods devised to get the fish into the cooking kettles before putrefaction, the fishermen soon realising the necessity of cooking and pressing them while they were relatively firm and solid in order to obtain a maximum yield and a satisfactory quantity of oil. This expansion of the industry continued normally, until in 1920 there were approximately sixty factories in operation along the eastern seaboard, served by a fleet of 150 steamers and employing perhaps 7,000 men.

Fishing

The fishing steamers are of the tugboat type built with a high bow, on which the pilot house is placed, in order to provide a vantage point from which the sea may be surveyed. Engines and machinery are placed astern, leaving the central portion as an open hold for the handling and storing of fish. The larger steamers have a capacity of 2,000,000 fish, and in addition to their regular equipment, carry with them several small skiffs or striker boats used for following the schools after they have been located, and also a larger type of craft called seine boats, which serve to carry nets and other paraphernalia to the point of operation. The nets are ordinary purse seines about 2,000 ft. long and 50 to 60 ft. deep, made of heavy twine of fairly small mesh and fitted with a ring attach-

ment at top and bottom to hold them in place.

The steamers leave their berths in the early morning, spend the day cruising within ten or fifteen miles of the coast, and put back to their home factory or into the nearest harbour at dusk. They are limited in range only by the necessity of discharging their cargo promptly, so that the cooking of the fish may be started before they begin to deteriorate.

The transfer of the fish from the steamer's hold is accomplished by means of a bucket elevator into which the fish are fed and carried to a revolving cylinder arranged to weigh or measure the mass before discharging it into the cooking machines.

Production

The cooking is done in a long cylinder about 2 ft. in diameter equipped with a screw conveyor that slowly forces the mass through the cylinder while heat is being applied by means of steam jets in the bottom. This treatment breaks up the fish so that the oil will flow readily when pressure is applied, and the soft, wet mass is then conveyed to the presses which consist of a tapered screw fixed on a hollow shaft rotating inside a similar and parallel shaft called the curb. The mass moves forward and is pressed by the decreasing size of the screw and curb. It is subjected to steam pressure during its travel and drained both internally and externally.

Oil and water are caught in concrete basins beneath the presses and carried to receiving tanks for further treatment, while the remaining solid matter or scrap is deposited separately, dried, treated with acids, and sold as fertilizer. Each press has a capacity of 100,000 fish per hour, and in each 100 lbs. of material leaving the presses there are approximately 4 lbs. of oil, 46 lbs. of water, and 50 lbs. of scrap.

The separation of the oil from the water is accomplished by means of a series of open tanks, each connected to take the overflow or skimmings from the preceding tank in the series, so that when the fluid has reached the last tank, it is practically free from water. After separation has been accomplished the oil is heated to the boiling point for about thirty minutes, and then, after being allowed to stand for several days, exposed to the rays of the sun, it is run into storage tanks and held ready for shipment to the refiner.

Both the quality and yield of the oil depend primarily on the quality of the fish, which varies with the locality in which the catch is made, the season and the year. The best oil is obtained from the large, fat fish, which are found usually in northern waters toward the end of the fishing season, and a yield of eight gallons of oil per 1,000 fish is a fair average, though this figure will be exceeded under favourable conditions during the late summer. The quality of the oil also depends on the skill of the handlers at the factory, and the promptness and thoroughness with which the cooking and pressing is accomplished.

During recent years the fishermen have begun to realise the necessity of producing not only as much oil as possible per unit of fish, but also an oil of good quality

as determined by its colour, odour, and clearness. This realisation on the part of the producer has resulted in a raising of the standard of their products, and a general improvement in every process in which fish oil is a component. The output of these seaboard factories is the crude oil of commerce, sold and delivered to the refiners in tank cars or barrels, from which it is dumped by them into storage tanks and drawn off as required for further refining.

Refining Process

The treatment to which the crude oil is subjected by the refiner is a continuation of the process carried on at the fish factory, and consists primarily in heating it to a fairly high temperature and then slowly chilling it in order to allow the solid matter to congeal and separate from the oil. This is accomplished by drawing the oil from the storage tanks into steam-jacketed kettles, where it is heated for a period of about six hours to a temperature of 170 deg., during which time it is constantly agitated either by air or by mechanical means. This drives out the moisture and dissolves the crystals of foots which have formed in the oil during its stay in the storage tanks.

The oil is then drawn off into cooling boxes or pans and allowed to stand three or four days subject to a gradual reduction in temperature. The cooling is done by means of pipe coils with which the pans are equipped and through which a circulation of cold water or brine is maintained. As the temperature of the oil falls the foots separate from it and remain in suspension until the oil is ready for filtering.

Filtration may be accomplished in several ways, but the method longest in use consists of straining the oil through a series of canvas bags hung on wooden racks over a group of sheet-metal pans. The chilled oil is run by gravity into the bags, through which it drains into the pans below, the foots remaining inside the bags, while the clear oil passes through. Oil so accumulated is the first run of refined oil, and its quality depends on the temperature at which it is strained.

The foots is then removed from the bags, gathered in portable tanks of three or four barrels' capacity and carried to a press, where it is subjected to a pressure of about 3,000 lbs. for a period of eight or ten hours, the work usually being done at night, since no labour is required other than an occasional inspection of the gauges. The oil thus separated from the foots is collected in pans beneath the presses, and is known at the refinery as hydraulic oil because of the type of press used. Its quality again depends on the temperature under which it is pressed, but regardless of this factor it will usually show a few degrees weaker in cold test than the oil obtained from the first straining through the canvas bags. During recent years attempts have been made to separate the oil and foots by centrifugal force, but the result has not been entirely satisfactory. Some foots can be removed in this way, but not enough to leave the oil clear. An oil having a cold test of about 42 deg. F. is the best that has been obtained by the centrifugal method, and in spite of many experiments in this direction the ordinary straining and pressing process continues to stand alone in producing a uniformly reliable, low, cold test oil free from moisture and foreign matter. The oil so obtained should show a cold test of from 30 to 32 deg. F., with other physical properties as indicated in the following tabulation of properties of ordinary winter-pressed menhaden fish oil:

Free fatty acid.....	3.64
Saponification value.....	196.5
Iodine value.....	188.5
Colour.....	.4

Gravity Baume.....	20.4
Gravity specific.....	9309
Pounds per gallon.....	7.75
Flash (deg. F.).....	515
Fire (deg. F.).....	635
Viscosity at 100 deg. F.....	128
Viscosity at 210 deg. F.....	50
Cold test (deg. F.).....	28
Cloud test.....	34

These tests were determined from a sample of oil worked during the month of November, and slight variations may be expected in oil worked during either colder or warmer weather.

Bleaching and Blowing

The refined oil as obtained from the straining and pressing processes is stored in closed tanks from which it is drawn for blending or for direct delivery to the consumer in tank cars or barrels as required. Certain consumers require particularly light-coloured oil or perhaps a high viscosity, in which cases the pressed oil may be either bleached or blown, or both, to satisfy the demand. Bleaching is accomplished by filtering the oil with fuller's earth or by cooking it with an alkali.

In the fuller's earth process, oil is mixed with the earth and forced through an ordinary horizontal filter press consisting of a series of canvas sheets hung vertically between perforated metal plates so that the clear oil runs through the perforations into adjacent pans, while the compressed earth and foreign matter adhere to the canvas sheets. This has the effect of lightening the oil several shades in colour and also clarifying it to a considerable extent.

In the alkali process the oil is mixed with caustic soda and subjected to heat in an open kettle which produces practically the same results as filtering with fuller's earth, and also tends to cut down the acidity of the oil and to create soap in proportion to the acidity of the oil used. A low acid oil is therefore usually treated by filtration in order to bleach it, and a high acid oil is treated by the alkali process in order to produce soap. In the latter case the resulting bleached oil is separated from the soap by skimming it off the top, and the quality of the oil so bleached is equal in every way to that obtained from the filtration process, but the quantity obtained is considerably less. Oil bleached by either process is sometimes transferred to shallow pans and allowed to stand for several days exposed to heat and to strong rays of sunlight, which treatment clarifies it still further by removing the last traces of moisture and further lightening its colour.

Blown fish oil is obtained by forcing a strong current of compressed air through the oil while it is hot. A special blow tank is used for this purpose, usually a tall tank of relatively small diameter equipped with a steam jacket, and with a ventilator arranged in the top. The tank is filled with oil, gradually heated to about 160 deg. F. and agitated by means of a column of compressed air entering through the bottom, the agitation or blowing being maintained until the oil has absorbed enough oxygen to thicken it to the desired gravity or viscosity, as the case may be. This treatment increases the acidity of the oil, darkens its colour, partially deodorises it, and shrinks its volume.

In one or another of these forms all the refined oil derived from the crude is accounted for, but there is another usable product remaining after the refining of the oil, and that is the foots. Foots is a chemical ingredient of the crude oil appearing as solid matter when chilled in quantities varying in direct proportion to the temperature at which straining takes place. Approximately 10 per cent. of the crude oil by weight is foots, and it must not

only be removed from the oil in order to make the oil commercially valuable, but may itself be refined and used as a base for making soap.

The foots remaining in the hydraulic presses after the oil has been discharged is in the form of a solid ake, dirty brown in colour and granular in structure. This cake is dumped into a kettle and bleached with soda in a manner similar to that followed in bleaching refined oil by the alkali process. The product as it appears in the kettle after treatment is a clear blackish fluid which is drawn off from the top while still hot and filled into barrels. As its temperature falls it congeals into a hard, silky, white substance known as bleached fish foots, or fish stearine, and is used not only in making soap but also as an ingredient of certain kinds of greases.

By-Products

The accompanying list shows the products that are obtained from the crude oil by means of the processes herein described:— Crude fish oil, low cold-test refined oil, soft foots, blown oil, bleached oil, high cold-test oil, hard-pressed foots, soap and platers compound, bleached foots.

Demand for refined fish oil products in an average year just about equals supply, but both elements are subject to fluctuation. Demand varies with general business conditions as reflected in the manufacturing industries, and supply varies with the weather and other conditions affecting the catch of menhaden during a given fishing season. Owing to these circumstances the price of fish oil products is not altogether a matter of the actual cost of refining them, but is rather a question of whether the fishing season will produce enough fish to satisfy the demand for oil, and the producer's sale price varies accordingly. Similarly, no fixed relation exists between the demand for refined fish oil and the demand for the by-products, foots and soap. The result is that the refiner sometimes finds himself forced to sacrifice foots and soap, although they have been made from high-priced oil.

In order to meet this situation successfully a unique

cost system has been adopted by one of the largest refiners of fish oil, based on the theory that the price of foots and soap is fixed by competition alone, and that any loss or gain from the sale of these by-products must be taken up in the selling price of the oil. This cost-finding system establishes the true cost of making foots from crude oil purchased at a fixed price, and it is then compared with the price that can be obtained for such products under the existing market demand. The difference, if against the refiner, is figured for the total quantity of foots that will be reduced from the total quantity of crude oil available, and that sum is added to the cost of the refined oil. In this way the loss on foots is adjusted with only a slight increase in the cost of the oil, because of the greater quantity of oil over which the loss is spread. Under this method neither a profit nor a loss is figured on foots, and the oil, which is the principal product, is allowed to carry the entire burden, as it is able to do, without strain.

The system of cost accounting used in this refinery, as in any well-managed plant, readily indicates the true cost of labour and expense against each unit of the refining processes.

Uses

Fish oil is largely used in the paint trade in combination with linseed oil, and also as a direct substitute for it. Their general characteristics are somewhat similar, but in addition fish oil has a greater tendency to resist heat, so that it may be used to advantage in paints for smoke-stacks, boiler fronts, and other iron works exposed to relatively high temperatures. It often replaces linseed oil in the manufacture of patent leather, printing inks, japans, linoleum, cork flooring, and products in which its quick drying and binding qualities are valuable.

During recent years fish oil and foots have been successfully hydrogenated, and chemists are now applying their ingenuity to the problem of converting it into an edible product.

No Fishery Commission for East

Ottawa has announced that no commission will be appointed this year to investigate the lobster fisheries of the east coast, nor any other commission for fisheries investigation. It had been recommended to the house of commons by the committee on marine and fisheries that a royal commission composed of members of the house be named to investigate generally the fisheries of the maritime provinces. At the time, the leader of the opposition requested that if the resolution to appoint such a commission be passed, that it be on division. Hon. Ernest Lapointe, minister of marine and fisheries, at this juncture suggested that consideration of the matter be deferred. Parliament prorogued without reconsideration of the issue.

On the west coast of Nova Scotia where the difficulty arising out of the lobster fishing regulations is quite acute, keen interest was manifest in the proposal of the committee of the house and the department of marine and fisheries at Ottawa was recently requested for definite information as to what it proposed to do. The answer was returned that it was not intended to appoint any commission this year, either for inquiry into the lobster fisheries or for any other fishery investigation work. However, the letter from the department added:

In view of the necessarily hurried and incomplete

enquiry last November into the matter of a fall lobster fishing season for Western Nova Scotia, and as the Fishermen of Yarmouth County are sure to again raise the question, we have decided to send Mr. Cowie, of this Department, to continue the enquiry begun in November last. It will commence as soon as definite arrangements can be made therefore. The enquiry will be confined to the counties from Halifax to Digby."

The question of whether the lobster fishing season in western Nova Scotia should be changed so as to permit fishing in the fall or winter, has been constantly raised in recent years, especially in parts of Yarmouth and Shelbourne counties. The season as at present fixed for the district runs from March 10 to March 31. The area affected covers the Coastline from Cole Harbor in Halifax county, to Brier Island in Digby county.

An inquiry was held into the matter last November. It was necessarily hurried and incomplete, officials of the fisheries department say. As a result the season was not changed.

Beginning the middle of August informal meetings will be held at central points in the district affected. Due publicity of the time and place of the meetings will be given by fishery overseers, department officials stated, so that all fishermen and canners affected may have an opportunity to express their views.

PLANKTON AND STREAM POLLUTION

Some years ago it was freely asserted that the degree of pollution in a stream was indicated by the presence or absence of this or that species of "plankton", a name applied collectively to the minute free-floating plant and animal organisms that live in practically all natural waters, says the U. S. Public Health Service. It was held that some species inhabited only grossly polluted, others only moderately polluted, and still others only clean waters. From this it was argued that the degree of pollution in a stream at any point might be inferred from the species that infested the water in much the same way that, if a given stream contain considerable numbers of trout, the water is known to be essentially clean, for otherwise the trout would not be there; whereas, if carp be present, and trout absent, the essential purity of the water is questionable and calls for investigation.

While the above principles are well founded, and have never been disproved, it is nevertheless true that certain other factors must be considered. Just as trout might be absent from a stream because fishermen were too active, or perhaps, because some tannery or saw mill dumped its waste into it, so certain microscopic organisms (plankton) might be absent because of too many enemies, or because they were driven out by tannery waste or mine drainage in the stream. The task of establishing a stream pollution index by a study of the plankton must allow due weight to these and to numerous other possible factors which can be ascertained only by prolonged and careful study of the water concerned.

The U. S. Public Health Service, in a bulletin just issued on the self-purification of the Ohio River, says that the next problems that await solution by sanitarians are the determination (1) of the relations between plankton and the pollution of stream waters; (2) of the correlations between this fact and other known stream factors; and (3) of the manner in which all these and other factors work together in self-purification of water.

Subjected to Hazards

These problems will, of course, be difficult to work out, for plankton are subjected to many hazards.

As they are carried down stream by the flowing water, says the bulletin, they increase and decrease in accordance with changes in the depth, velocity, and turbidity of the stream; changes in the temperature and amount of sunlight and organic matter brought by natural drainage and city sewage; and changes that result from the increase and decrease of other sorts of plankton that form their chief food.

The acid waters of a tributary mean death to many of the plankton in the main stream; the sewage from a great city means a huge increase in food and in those plankton that thrive on grossly polluted waters and a decrease in those that are suited to cleaner waters. Farther down stream, after the sewage has mostly been devoured, the stronger types of plankton eat the weaker and are themselves eaten by those that are still stronger.

Sluggish water, due to riffles, bars, islands, etc., give most plankton a chance to multiply; flood waters interfere with their feeding and bury them under sand and mud. Cold lessens their increase; and warm weather augments it. Turbidity kills and sunlight helps.

Pollution, in brief, is shown by the bulletin to be only one of the factors that control the numbers and kinds of plankton; and that before any deduction can be drawn from their presence or absence at a particular spot, it is necessary to know, for instance, whether the water there is quiet, whether the weather has recently been sunny, whether any freshets have occurred, whether industrial acids could have entered the river, etc., or whether the converse is true. These factors vary with each river, with nearly every place on each, and with weather and other conditions. Nevertheless the problems can and some day will be worked out.

INSULATED FISH VANS IN GERMANY

The distribution of fish in Germany has become a very important economic question says "Frigor" in the *Fish Trades Gazette*. Hitherto, it has had to struggle against high railway rates, always rising as the value of the mark falls, and also from the lack of refrigerated vans for carriage. The transport has taken place either in covered goods wagons, which, as the sole protection from heat, were painted white outside, or in so-called insulated wagons with triple walls with a duplicated air-space for insulation, and these, also, were found to be very ineffective. The management of the Imperial Railways have been making experiments with new types and of the first 300 refrigerated wagons to be constructed, 180 will be used for sea fish and 120 for milk. In the June number of *Ice and Cold Storage* there is an interesting article on the subject. Certain conditions were laid down as to the insulating material to be employed. It had to be a good insulator, light in weight, not hygroscopic, and resistant to vibration, as the wagons undergo severe strains in use. Two substances have been employed, cork slabs and torfoleum slabs, which are made from German peat, pressed into slabs by hydraulic pressure; 100 wagons will have the former, 100 the latter, and the third 100, a combination of the two. The new wagons have an iron framing, absolutely rigid. The insulating slabs are laid on the side walls and roof to a thickness of 4¾ ins., and on the floor to a thickness of 4 ins., and they are lined on both sides with giant paper, a pliable, impregnated board, both acid and water-proof. Ventilation, as in the case of all modern cooling wagons, is completely left out, because it admits air, moisture and germs. Each wagon is provided with an ice-holder at the side, the cooled air descending to pass under the latticework on the floor. The floor has a waterproof covering, generally zinc sheeting. It is expected that wagons will be able to carry a large load of fish with less consumption of ice, as trials have shown the ice-consumption is as 3 to 5 for the old insulated wagons, and 7 for the covered wagons — a saving of 2 to 4 tons of ice to 10 tons of fish. Once the new system gets into order, it may be expected that the consumption of sea fish, in the interior of Germany, will increase, as one of the great troubles in summer was the fish going bad in transit. It ought to lead to a keener market at home for the Iceland supplies, which have been going largely to Aberdeen. It is also desired to increase the export of fresh fish to Austria and Switzerland.

Missionary (to cannibal) — What makes your chief so talkative today?

Cannibal — Oh, he ate a couple of barbers this morning.

Historical Sketch of Fishing in Guysboro, N.S.

On of first sections of the east to be settled but is still deprived of modern transportation facilities

Those interested in the advancement of Guysboro County, Nova Scotia, whose great wealth of natural resources in fishing, farming, lumbering, etcetera, has been so largely neglected and hindered in the past, through lack of adequate up-to-date means of transportation, had their hopes raised recently to a high pitch, by the announcement of the Federal appropriation of \$25,000,000 for the acquirement of branch railway lines to the C. N. R., included in which was the sum of \$3,500,000 for construction of the much talked of but long overdue "Guysboro Railway," but those high hopes were very rudely dashed to the ground again by the action of the Senate in throwing out the Bill. It is indeed unfortunate that, while Guysboro County languishes the question of giving it very tardy justice in the matter of necessary railway facilities is still being used as a convenient political football, kicked about from pillar to post. It is much to be regretted that the Government did not show more sincerity in its action, by including the appropriation in the regular estimates, and thus have deprived the Second Chamber of its chance to show the cloven hoof.

In the July number of the *Canadian Fisherman* there is a good editorial plea made for the Gaspé coast, another section of Eastern Canada affected by the killing of the branch line grant, under the title of "Give Gaspé A Chance." This present article is a plea for Guysboro County, which like Gaspé, is one of the very oldest settlements in Canada, yet has stood by throughout the years and watched other and newer sections of the Dominion, sections that were wild wildernesses when Canso and other of her county ports were frequented and busy fishing centres; sections that were no more, many far less, fertile in natural possibilities than herself, she has been forced to watch these receiving all the benefits and advantages of having the iron horse at their command, transcontinental lines travelling through their midst, while she herself, the third largest county in the Province of Nova Scotia, has received nothing, been absolutely ignored. Surely such treatment would be expected to embitter the sweetest disposition, and surely something ought to be done to remedy the neglect of the past at the earliest opportunity.

I have already said that Guysboro County contains some of the oldest settlements in Canada. This is a statement easily proven, and quite well known to all who are familiar with the early history of Nova Scotia and our Dominion. Perhaps a few reminders of this fact may not be without interest, and I therefore propose to cull for this purpose a few brief paragraphs from various reliable sources, which plainly prove its claim, a claim never for a moment disputed by historians, to a very early white-man history and settlement.

Dates Back to 1520

While we know very little about many of the very early explorers who came to this continent, we do find it stated by a writer, who has gone deeply into the subject, that "in the year 1520, Joao Alvarez Fagundez petitioned the King of Portugal for a grant of the islands he might discover 'within the Portuguese sphere of influence.' He appears to have explored the coast of Nova Scotia, and to have given the name of Freshwater Bay to the present

Chedabucto Bay. He also proceeded as far as Placentia Bay in Newfoundland, claiming the islands between these two bays, which were made over to him by letters patent dated March 13th, 1521." It is also stated further that Stephen Gomez, a Portuguese, was appointed by Charles V., commander of a caravel, fitted out at the expense of the Emperor, to discover Eastern Cathay. He sailed from Corunna on August 3rd, 1524, westward to Cape Breton Island, and coasted towards the South touching at Canso and Halifax Harbor, and rounding Cape Sable into the Bay of Fundy. Even earlier than this, it is said that the French had begun to fish and trade along the coast of Acadie as far back as 1504, and the chances are that the Cape Canso coast, which from its position of prominence and proximity to the fisheries was always a favorite with the early French fishermen and traders, was a centre of these activities. At any rate, we know that late in 1518, Baron de Lery left France intending to make a settlement in Acadie, but finding the climate somewhat cold for comfort, took his people back again after leaving cattle at Canso and Sable Island. So there is very little doubt, that about the first places visited in this Province by the early explorers were Canso in 1518 or earlier, Chedabucto Bay as a whole in 1520, and Canso again in 1524.

Made Forty Voyages

In those distant days of our Canadian fishing industry, the French seem to have chosen Canso as a favorite place for the drying of the season's catch before carrying it to their far off home markets. Haliburton, the Nova Scotia historian says;—"The harbor of Canso was distinguished at an early period as a place suitable for the fishery, and Savalette, an old man who frequented the port, had made no less than 40 voyages to it previous to the year 1609." From Lesearbot, the Frenchman who has preserved for us so much interesting description of conditions during the early French régime, tells us that "Savalette began to fish at a harbor 4 leagues (12 miles) to the Westward of Cape Canso in 1565." In Champlain's map dated 1632 the Port de Savalette is marked. Local authorities take this to be the Raspberry Harbor of today, which lies between Canso and Whitehead.

In 1607, Savalette told Lesearbot that the voyage he was then engaged in was the 42nd that he had made in these parts. He was marvellously well pleased with the fishery, and said that he took every day fifty crowns worth of fish, and that his voyage would be worth \$1,000. He paid wages to 16 men; his vessel was of 80 tons and would carry 100,000 dry fishes.

In 1688, when war was brewing with Great Britain, Sieur de Pasquine came out to examine and report on the defence and other conditions of the colony, and in his report the fisheries are very favorably spoken of.

After the mainland of Nova Scotia had passed to France by the Treaty of Utrecht in 1713, an official report to the British Board of Trade refers to Canso thus:—"The French from Cape Breton have continued their fishery last season at Canso under a guard of soldiers intending that for their chief settlement, if their pretended right can be made out. It is, by all accounts, the best

and most convenient fishery in any part of King George I's dominions. The people from the West of England have found great satisfaction in the place and will return in the spring with many ships."

With British ownership, fishermen and traders from New England flocked to the Canso coast during the summer months, erecting many buildings to be used as residences and warehouses for fish and stores, thus making the place a centre of greater activity than ever, interrupted rather rudely now and then by Indian raids, one of the worst of which occurred on August 17th, 1720, when four Englishmen were killed, and the stores plundered to the extent of \$20,000 currency.

Most Important Centre

In September, 1720, General Phillips, who had become Governor in 1717, writes thus to the authorities at home:—"Canso is the first which we think ought to be possessed and defended in regard to the great advantage which accrues from the fishery and the number of British subjects which would resort there, if a sure protection can be obtained." That same autumn a small detachment of soldiers was sent to Canso to take possession of the small fort, which the fishermen were building, and their commander, Major Armstrong, had power to allot the ground and beaches for the fishery.

Early in September of the next year, the sloop *William Augustus*, with the governor and an engineer on board, surveyed the coast, and carefully mapped out Canso harbor, for the information of the Secretary of State, and on October 1, the Governor wrote the Lords of Trade, saying:—"It was an agreeable surprise to find Canso in a flourishing condition. It would have been broken up for good, if I had not sent the detachment which has since been reinforced by two companies." He urges the importance of Canso to the fishery and to the settling of the province, and recommends that it be made a free port for three or four years. He remained at the port that winter, and while waiting for the expected crown lands surveyor, (in connection with the British regulation setting apart all forest areas as crown reserves for the use of the navy), he proposed to allot small sections of land, and the rocks and islands in the harbor for accommodation of the fishery.

The Lords of Trade in reply said that they had proposed to His Majesty that the government be given power to set out and grant lands to settlers. As to settlements on the small islands about Canso, he must keep in mind his instructions that the coast be left free for the fishery to all His Majesty's subjects. During the next few years, while fishing was flourishing, Canso and the coast suffered severely from the ravishing raids of the red men, one of these being carried out just after a friendly feast given by the governor, and at which friendship between native and British was pledged. An interesting account might be given of these, but space forbids. It suffices to state that finally two sloops were manned and equipped for the protection of the fishery, and in the short space of three weeks all the vessels, and all but four of the prisoners had been retaken.

On August 11th, 1725, Colonel Armstrong, who had arrived from England in May, succeeding Phillips as governor, held a council with three leading officials of the port, and one of the papers placed before them gives us some idea of the port's commercial activities. It listed the craft loading fish at Canso for foreign markets, from the first of the year up to that date. It contained 197 names. A little later that year, writing of Nova Scotia, the governor says:—"The great number of harbors is most convenient for the fisheries. Canso is

the only settlement on the coast. Its inhabitants amount to 49 families. The New England people trade in the cod fishery on this coast to the extent of £150,000 (New England currency) annually."

In 1728, Richard Phillips again became Governor. Arriving at Canso the latter part of June, he found business booming, vessels to the number of 150, and between 1,500 and 2,000 men being employed in connection with the fishery. In 1730, he writes:—"Canso, which is the envy and rival of Cape Breton in the fisheries, will be the first attacked in case of war with France. . . . It is reported that the return of the fish carried to markets from Canso bring £30,000 to £40,000 yearly increase to the home duties.

Shortage of Freighters

In 1731 it is said that there were not enough craft at Canso to carry to market all the fish on hand. At this period, the quantity of dry codfish shipped annually in British and New England hulls to Spain, Portugal, and other European countries was about 50,000 to 60,000 quintals. The whole revenue of Nova Scotia amounting to the princely sum of £30 sterling, was obtained from Canso and its sea harvest, and consisted of one quintal of cod collected yearly from each proprietor of a fishing room.

During the next few years increased success followed the fishery, in addition to the cod, from 1,500 to 2,000 men found profitable employment in the whale-fishery, a new departure. On September 20, 1733, 14 whales were bought in by a fleet of 70 sloops. The arrivals reported large whales plentiful on the banks, and a bigger fleet of 100, laden with this valuable freight was daily expected.

With the treaty of 1763, Nova Scotia finally became British, and the following year a township was laid out at Canso under the name of Wilmot in honor of the Governor. Certain regulations were also laid down covering the granting of licenses for fishing rooms. The same fall, Governor Wilmot referred favorably to the settlement, and asked that money be voted for the building and upkeep of a lighthouse. During this period, the fishery taking on new life, continued to expand until at the time of the revolt of the New England colonies it had again reached a yearly value of £50,000. The revolutionary struggle did much damage to the industry here. The celebrated John Paul Jones and other American privateers picked up at least 15 Canso craft, many of them square-riggers, and the trade of the Canso district suffered a decline, until about 1811, when Abraham Whitman, a timber merchant of Chester passed through Canso, and, struck with the possibilities of the place for the development of the fish trade, decided to remove there which he did in 1813, after a successful venture in the fish business. From this time, the modern growth of the place in the fishery world may be said to date; and here I will pause in our narrative, my object in this article being to briefly show how very far back the history and settlement of parts of Guysboro county coast go. I have referred to Canso chiefly because my data was more complete and readily available for it, but Guysboro town, Whitehead, and other sections are also very old settlements compared to vast districts of the West and other sections of Canada, which for years have enjoyed all the advantages of railways in abundance, while Guysboro County, through all the long decades of its history, has had an empty hand extended and a deaf ear turned to all its many pleas for evenhanded justice, for a square deal, in this vital matter of railway construction.

SOME SWIMMING BIRDS

By L. E. EUBANKS

Most of us if asked to name the swiftest thing in the water would answer that fish are the best swimmers and divers. But that is not true. It has been well said that a fish has no more chance to escape from a cormorant, after the bird has once spied it, than a cottontail rabbit has of outrunning a greyhound.

An observer of these birds, as they "hunt" on San Francisco Bay, describes them as "a pirate crew in black." They line up on the weather rail of an old wrecked vessel in the mud flats, and watch the fish hunting for crabs and worms on the moss-covered, rotting timbers. Then, quick as a flash of lightning, a cormorant dives. He has seen a fish, and nine times out of ten that fish is doomed, for the bird has wonderful sight, can dive fully as well as the fish and swim decidedly faster. Cormorants — at least in some countries — are protected by law; not because they destroy fish, but on account of the fertilizer, guano, which they deposit. Wherever their fishing is good, millions of these birds gather, and the guano becomes a valuable commercial product.

The penguin has been called as much fish as bird, and an examination of its feathers shows them to resemble scales. Accordingly, one writer has suggested the name squami-pennis — scale-feather. The penguin's wings are useless for flight, but he can strike out and swim fifty miles to sea with astonishing ease; then, with his appetite for fish and exercise satisfied, he returns to his home among the rocks near shore. The female penguin is a staunch defender of the home nest; she will fight anything, man included, in defence of her eggs.

The pelican is another good swimmer, though not so fast as cormorants and penguins. He is a little too fat and clumsy to dive well so he adopts strategy and co-operation in his fishing. A flock of pelicans, selecting some shallow lagoon that is full of fish, form a line across it and, according to Edward T. Martin, who has been favorably situated to study bird habits, splash the water and beat their wings until they drive the fish up the gradually sloping bank and out onto the mud. Here they fill their bags at their leisure. The pelican's greatest foe is the fish-eagle, but here again he resorts to "headwork", dropping one fish and making his escape with the rest while the eagle secures that one.

Among the smaller water birds none are more clever than the dippers. They like a waterfall, and find most of their food in the eddies and around the stones. Usually they go through some interesting preliminaries before the plunge, but once they have made a dive it is surprising how easily they progress under water. They actually fly beneath the surface, staying near the bottom and searching among weeds and rocks for food. I do not know just how long they can remain under, but the fact that they do not hesitate to enter through a hole in the ice indicates that they have but little fear of suffocation.

A WOMAN'S WAY

Always exercise a certain amount of care in sympathizing with a woman in tears. She may be having a time of her life.

SEA FISHERIES IN JUNE

The total quantity of sea fish landed on both the Atlantic and Pacific coasts during the month of June was 819,164 cwts. valued at \$3,313,095. This catch is 131,897 cwts. less than in June, 1922, but the value is \$230,819 greater.

The quantity of cod, haddock, hake and pollock landed was 338,611 cwts. compared with 535,196 cwts. The catch of cod decreased from 423,563 cwts. to 270,049 cwts.

The catch of mackerel decreased from 132,893 cwts., to 87,969 cwts.

There were 157,832 cwts. of lobsters taken during the month compared with 101,529 cwts. in June, 1922. The total catch since the opening of the season was 313,502 cwts. Of this catch 56,663 cwts. were shipped in shell and the remainder canned making 128,462 cases. In the same period last year 305,337 cwts. were taken of which 54,478 cwts. were shipped in shell and 125,407 cases canned.

The catch of alewives was 19,508 cwts. This is a decrease of 12,130 cwts. from June last year.

On the Pacific coast the catch of halibut was about the same as in June 1922, while the catch of salmon was slightly greater.

Two fishermen lost their lives on the Atlantic coast during the month.

ITALY ADMITS CERTAIN FISH FREE

Recent modifications in the Italian customs tariff, explained in a recent issue of the British Board of Trade Journal, are, as regards fish, as follows:

Tariff	Rate of Duty
No.	(Gold Lire.)
Ex 34. Fish prepared:	
(a) 2, 3, and 4 Dried, salted or smoked codfish, stockfish and herrings ..	Free
(b) Marinated, in oil or otherwise prepared:	
1 (c) Salmon in tins, weighing up to ½ kilog, each (including the receptacle)	Free
2 (a) Tunny in tins, weighing (including the receptacle) from ½ kilog, up to 20 kilogs	20
.. . . . 100 kilogs.	20
3 (a) Tunny in other receptacles	15
.. . . . 100 kilogs.	15

SOUNDED LIKE HOME

Two young kindergarten teachers, intelligent and attractive, while riding downtown in a street car were engaged in an animated discussion. In the seat behind them sat a good-natured, fatherly-looking Irishman enjoying a nap. Finally one kindergarten inquired of the other:

"How many children have you?"

"Twenty-two," she replied. "And how many have you?"

"Oh, I have only nineteen," replied the first.

At this point the Irishman, now wide awake with astonishment, leaned forward in his seat and, without any formality, inquired in a loud voice:

"What part of Ireland did youse come from?"

Only 47 Salmon Canneries Take License

Confusion over senate rejection of reduced fee--The outlook for salmon fisheries this year

Vancouver, B.C., July 18. — Up to yesterday only forty-seven canneries of the one hundred and two along the coast, had secured from the fisheries office a license to operate this year. In a number of cases permits were issued for \$20, it being understood that this would be the fee. The senate, however, killed the proposed amendment to the fisheries act which provided for the reduction from \$500 and consequently the iniquitous rate which has prevailed since 1918 must continue. Those cannerymen who have secured a license on the \$20 basis must make good the balance or have the license revoked. Future licenses will be on the \$500 basis.

It is rather difficult for British Columbia cannerymen to comprehend why various features of the Duff report unfavorable to their interests were enforced by the government, while this license reduction, one of the few clauses favoring the interests of the canneryman, was not made effective. They feel there is a nigger in the woodpile somewhere.

Licenses issued up to yesterday may be classified as follows:—

District No. 1—	
Fraser River	3
District No. 2—	
Skeena River	14
Rivers Inlet	9
Naas River	5
Bella Coola	2
Smiths Inlet	1
Namu	1
Dean Channel	1
Lowe Inlet	1
E. Bella Bella	1
Work Island	1
District No. 3—	
Alert Bay	1
Knight Inlet	1
Seymour Inlet	1
West Coast V. I.	1
Kingeome Inlet	1
Nanaimo	1
Victoria	1
Quathiaski Cove	1

PROSPECTS IN SALMON FISHERY

Vancouver, B.C., July 18. — While it is still early to obtain any intelligent idea as to what the salmon pack will be this year, we do know that up to date the fishing for sockeye, which is the most expensive variety, has resulted as follows:

Naas River district: The run has been very small to date and up to the 14th instant a pack of only 4,075 cases has been put up. It is not anticipated that the pack of sockeye put up in this district this year will be of any considerable size.

Skeena River district: The pack of sockeye put up to the 14th instant was 16,070 cases. While this is not large it is felt that there is ample time for a good run to come in and the cannerymen are expecting quite a successful season this year.

Rivers Inlet and Smiths Inlet Districts. The pack of sockeye in this district up to the 14th instant was 56,275 cases. The run has been unusually good and it is expected that quite a large pack will be put up there.

The above districts are all in the north and what is known as District No. 2, which extends from the north end of Vancouver Island to the Alaskan boundary. The fishing in the south is always later.

Price same as last year

In the Fraser River district there have been very few sockeye salmon showing up to date but they should be arriving by the 20th instant.

The prices paid to the salmon gill-net fishermen in the north this year for sockeye are 30c per fish to those using cannery gear and 45c per fish to those using their own gear. This price is the same as that paid last year. As no fish have shown yet on the Fraser River it is impossible yet to say what prices will obtain there.

In the Puget Sound area, which is on the American side and through which the salmon have to pass before reaching the Fraser River, their natural spawning grounds, the amount of fishing gear in the way of traps and purse-seines has been considerably increased this year over last year owing to this being the year when pink salmon (humpbacks) run in large quantities and the cannerymen on Puget Sound are expecting to put up considerable packs of pinks and at the same time will naturally obtain a large proportion of the run of sockeye proceeding to the Fraser River.

1,880 Sea Lions Killed

In the sea lion hunting operations conducted by the Fisheries Patrol boat "Givenchy", 1,880 sea lions were accounted for by means of machine gun and rifle fire and clubs.

CAN'T BLAME THEM

The suggested solution of the vexing problem as to why men leave home is that they don't like to stay there alone.

ONLY HALF PLEASED

Leading Man — The audience seemed pleased to-night.

Leading Lady — He looked pleased, but I don't think she was.

HOSE LINE

Another reason why a man can dress quicker than a girl is because it takes a girl half an hour to get the seams of her silk stocking exactly straight up and down the back of her calfettes.

Notes of the Pacific Coast

In official statistics of the output of canned products and by-products of the United States and Alaska last year, the grand total of the canned salmon is placed at 5,234,898 cases, valued at \$38,420,717. The total for Alaska was 4,501,652 cases, of a value of \$29,787,193, the states of Washington, Oregon, and California making up the balance.

The total salmon pack to date on the Skeena River is slightly higher this season than it was at a corresponding date last year. On July 22 the pack stood at 40,956 cases as against 40,920 cases on July 22 last year. The Naas River pack is, however, little more than half what it was at a corresponding date last year. The total there up till July 22 was 11,890 cases as compared with 21,512 cases on July 22 last year.

Making the distance of 500 miles in 7 $\frac{3}{4}$ hours actual flying time without delay or mishap, the flying boat G-CYDX of the Royal Canadian Air Force Unit, Jericho Beach, Vancouver, piloted by Squadron Leader A. E. Godfrey, arrived at Prince Rupert July 22 — the first air machine to fly from Vancouver to Prince Rupert and the first machine to make the flight up the coast in a single day. The G-CYDX is to enter the service of the dominion fisheries here in patrol work and will be here for a fortnight or more.

Fisheries Inspector Adam Mackie made his first patrol flight on the flying boat C-GYDX next day, after which he expressed himself as being assured that the air machine would be very effective in doing the work that it was brought here to perform. The flight proved very satisfactory and Mr. Mackie was very pleased with the possibility provided of seeing from a height what was actually going on below. The machine went to an elevation of 5,500 feet and everything below could be distinguished very plainly.

"Pious statements, scientific discussion and political oratory will not spawn salmon." Secretary Hoover, as head of the governmental department having to do with the Alaskan fisheries, asserts. He declares there will be a temporary reduction in the number of fish taken from Alaskan waters and at the same time there must be constructive measures for increasing propagation, otherwise, he said, salmon fishing, now one of the largest of Alaska's industries, will be lost in a few years."

The secretary says he found unanimous support among Alaskans of the action taken by the federal government in creating fish reserves in western Alaska.

From every standpoint the month of June was a very successful one on the whole as far as Prince Rupert halibut fisheries were concerned. The fares for the month totaled 2,807,000 pounds as compared with 2,085,000 pounds in June last year and 2,542,000 pounds during May of this year. Fishing conditions

during the month closing were good, the weather was favorable and prices were well sustained. The high price for the month was 16c and 9c drawn down by the Sherman for 15,000 pounds on June 1. The lowest price was paid to the Alten for 65,000 pounds during the ear shortage last week, 12 $\frac{3}{4}$ c and 9c.

J. A. Motherwell, chief inspector of fisheries, made a trip of inspection in district number 3 early in July aboard the fisheries patrol steamer Givenchy. He visited Lakelse Lake hatchery and the spawning grounds, satisfying himself as to the conditions at that place. The sockeye had not yet begun arriving at the spawning grounds in any numbers.

A. L. Hager of Vancouver, western manager of the New England Fish Co. and president of the Canadian Fishing Co. and the Atlin Fisheries Ltd., visited Prince Rupert and along the coast of British Columbia recently inspecting the various interests under his control. He was accompanied by E. P. Randlett and Dana F. Ward, directors of the New England Fish Co. from Boston. A. Z. De Long, prominent Vancouver insurance man, and E. H. Grubbe, manager of the Cordova Street East branch of the Bank of Montreal, Vancouver, are also members of the party.

Establishment of a fish curing and refrigerating plant at the Outer Wharves is the latest objective of the Industrial Group of the Chamber of Commerce, of Victoria, B. C. Members of the group state that the plant formerly used on Dallas Road by B. Wilson & Company for curing hams has been abandoned since the Government provided a subsidy and had not been in use for two years. They suggest that this plant might be fitted up for the purpose of handling fish, thus making Victoria a packing and distributing centre for fish from the West Coast — a situation that has long been sought by business interests. It is pointed out that, with modern facilities for handling fish, Victoria will be at a distinct advantage over mainland cities owing to the proximity of the fishing grounds.

Regarding the controversy over the removal of salmon eggs from the Skeena river to stock other rivers and streams of British Columbia, the department at Ottawa has advised the Prince Rupert Board of Trade that the practice of transferring salmon eggs from the Skeena River to the Fraser River has been discontinued. It was now proposed to stock the upper Fraser with spawn from below Hell's Gate. Reserves in the Skeena River would be used in smaller streams in the same watershed.

IT DOES

Frequently the blind-fold over the eyes of Justice looks suspiciously like greenbacks. — Greenville Piedmont.

INTERESTED IN CANADIAN FISH OILS

In view of the new tariff of 20 per cent on fish oils entering the United States, the attention of Canadian exporters should be directed to the United Kingdom as a market for their product. Not only is there a large consumption in the country itself, but there is also a fair re-export business, says Douglas S. Coley acting Canadian Government Trade Commissioner at Bristol, Eng.

Some well-known general import houses who in the past have specialized in vegetable oil are interested in Canadian fish oils of every description including the following specification:—

No. 1 Whale Oil.— This is an oil analyzing under 2 per cent free fatty acids and under 2 per cent combined moisture, impurities and unsaponifiable matter. It is a light coloured oil, and produced in very large quantities in British Columbia.

No. 2 Whale Oil.— This is an oil guaranteed under 5 per cent in free fatty acids and under 2 per cent combined moisture, impurities and unsaponifiable matter.

Salmon Oil runs reddish in colour. The No. 1 oil is guaranteed under 3 per cent F.F.A. and under 2 per cent M.I.U. The next grade is No. 2 oil, and is guaranteed under 12 per cent F.F.A. and under 2 per cent M.I.U.

Pacific Coast Dog Fish Oil.— This oil is guaranteed to analyze under 2 per cent in F.F.A. and under 2 per cent in M.I.U.

C.i.f. quotations on the above may be forwarded to the Bristol office, for United Kingdom, Dutch and German ports. British firms interested are prepared to work either as brokers or as principals.

In so far as the indent business is concerned, one large firm state they are in the habit of buying whale oil in full cargoes in tanks with an option to discharge the cargoes at Rotterdam, Schiedam, Vlaardingen, Maasluis, Brake, or Hamburg. It may be impossible to ship sufficient to fill a tank steamer, but if so it might be possible to obtain freight space in deep tanks, failing which quotations should be forwarded for the oil in wooden barrels or iron drums. It is naturally preferable to obtain the oil in bulk owing to the labor involved in handling packages.

Sunday School Superintendent — "I am happy to see all these shining faces before me this morning." (Sudden application of thirty-seven powder puffs).

FROZEN SALMON TO BRITISH MARKET

The trawler "Kanuck" owned by Messrs. Hudson Bros., Ltd., returned to Hull, England, the latter part of June with a cargo of frozen salmon from Newfoundland, the enterprise being one in which Messrs. Hudson Bros. were associated with the Newfoundland Fish Products Co. The "Kanuck's" cargo consisted of 30 tons of the silver fish, or roughly 60,000 lbs. It was packed in ice in boxes, which in turn were stored in heavy layers of ice, the fish rooms being completely filled. Her journey occupied nine days. The work of discharging was difficult and slow, owing to the ice around the boxes having solidified. This had to be broken with picks and the boxes brought up one by one. The market report was one of disappointment. The salmon made from 9d. to 1s. per lb., a low price which was probably influenced by the fact that there has been a lot of Norwegian salmon on offer recently.

Old country authorities feel that failure of the first effort should not discourage. One man says:

"In the circumstances it seems rather surprising that the fish turned out saleable at all, for we gather that the salmon was caught too soon and kept in a very primitive manner pending the arrival of Messrs. Hudson Brothers' vessel, when proper preservation may well have appeared impossible. If the salmon had not been taken out of the water until the boat came in, and then practically alive put straight on the ice, and landed here nine or ten days later, the result must have been very different.

"To ensure this course being taken Charles Hudson has crossed the Atlantic, for the firm's faith in the possibilities of this business is unshaken, so that there may be no handicap to success on the other side. Mr. Hudson also will have a proportion of the fish gutted, because he feels strongly that practical people in the industry realise that a fish must be in a better condition when gutted."

The British trade is in great need of new sources of salmon supply as there is grave fear for the future of domestic resources. Norway is one source, but Newfoundland has the advantage of being within the Empire. Sentiment, however, will not go a long way in the trade and the enterprise must succeed on its merits.

NOTHING

Newspaper reporters are certainly in a class by themselves. When they meet, one never fails to ask the other: "Well, what do you know?" and the other replies: "Nothing?" And the next morning the paper is filled with news.

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PACIFIC WHALING INDUSTRY

The British Columbia whaling fleet is to set out again this year for the grounds of the northern coast of the province about thirty to forty miles out to sea where the finback, set, sperm and sulphur bottom abound. The Pacific Coast industry; it is stated, faces much better prospects this season and a lengthy expedition and substantial catches are anticipated.

For some time past adverse economic conditions and the depressing prices of whale oil have been discouraging. In the year 1920 a total of 432 of the mammals were taken. In the year 1921 the situation was so black that the fleet did not set out at all, and the continuance of these conditions in 1922 caused it to operate for a period of three months only, in the course of which 187 whales were captured. This contrasts with the bumper year for the Pacific Coast activity when 999 whales were dispatched and brought into the refineries.

There are now four whaling stations on the British Columbia Coast. Two are on Vancouver Island at Kyuquot and Rose Harbor, one at Naden Harbor, Queen Charlotte Islands, and one at Barkley Sound. From these stations the modern whaling fleets depart on the chase in the northern waters, and to them tow back their catches in an inflated state. Each station contains a plant capable of utilizing practically every part of the whale.

Most of the whales caught in British Columbia waters run from twenty to ninety feet in length and weigh on the average of a ton to each foot. Different parts of the carcass produce oil, guano and glue, fertilizer, and the bone is utilized in corset and comb factories. An average whale weighing sixty tons will yield approximately six tons of oil, three and a half tons of body meat, three and a half tons of guano and three hundred pounds of whalebone. Such a specimen will return about \$1,000 in revenue.

The value of the whale catch to the province of British Columbia usually exceeds half a million dollars annually, while the sale of whale oil yields a further revenue of more than a quarter of a million dollars. The export of the whale meat from Canada in the last fiscal year to the United Kingdom, United States and other countries amounted to 6,671 hundredweight, worth \$10,969, and that of whale oil to the same destinations 65,357 hundredweight, worth \$27,108. In average years this latter industry is worth much more to Canada as evidenced in the figures of 1920, when 557,299 gallons with a value of \$682,365 were exported.

The utilization of whale meat is not increasing at the rate in which its high quality and valuable properties justify. Experts state that it is as fully nutritive and appetizing as mutton. During the war great quantities were sent to Europe and favourably received there. Nowadays the greater quantity of export goes to certain sections of the United States Fiji and Samoa and Oriental countries. A new feature has been introduced into the industry by cutting the meat into cubes of twelve to eighteen inches, freezing them and shipping them to Japan, where a ready market exists. A special delicacy in the Far East is the whale tail, and at the close of each season the British Columbia whaling operators contribute a few tons of salted tails to the Oriental market, where they are promptly snapped up.

A certain prejudice unfortunately exists against the use of whale meat on this continent, which is acting as

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whaling industry to the proportions it might assume. The greater popularity of this diet would furnish the people of this continent with an economic meat procurable at all times. It has been estimated that the industry of the British Columbia waters could furnish the people of the American continent with 100,000,000 pounds of whale meat annually at a price of 12½ cents a pound. —Agricultural and Industrial Progress in Canada.

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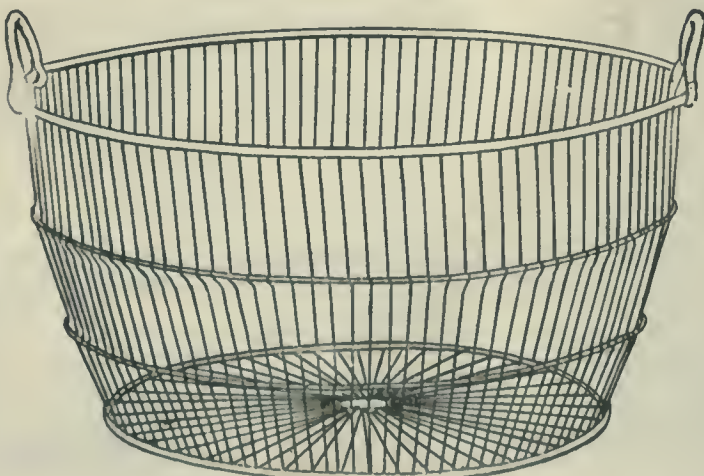
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Official Organ of the Canadian Fisheries Association
A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada,
and Technical Education of those engaged in the Industry.

VOL. X

GARDENVALE, P. Q., AUGUST, 1923

No 8

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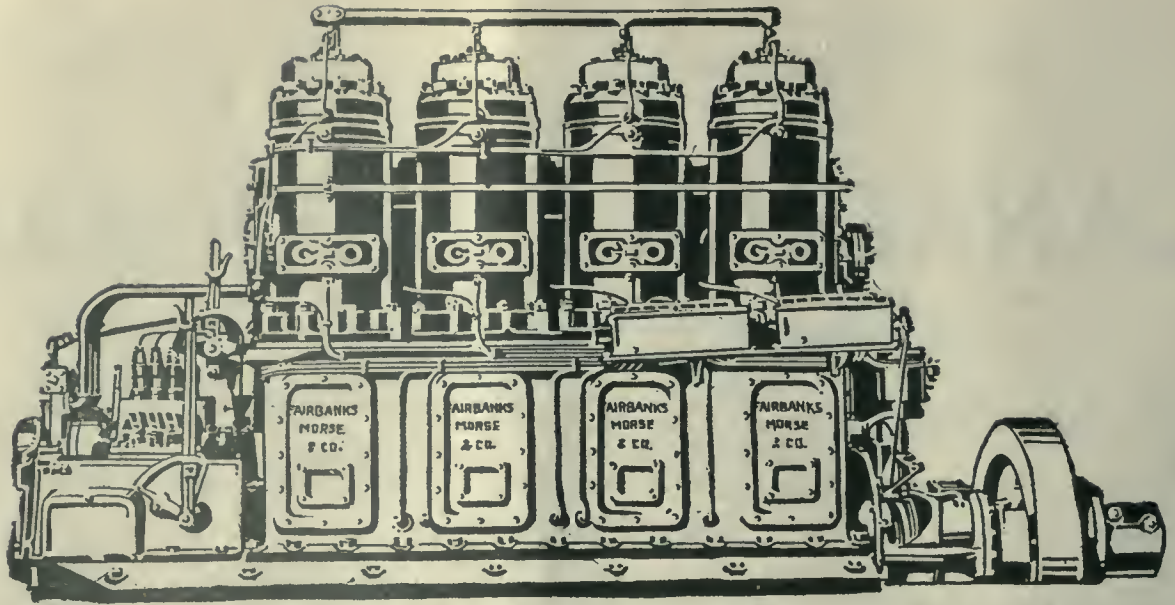
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Published on the 17th of each month. Changes of advertisements must be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication, these will be paid for at our regular rates.

The Industrial & Educational Publishing Co. Limited

J. J. Harpell, President and Managing Director
GARDEN CITY PRESS, Gardenvale, Que.
Telegrams and Express Ste. Anne de Bellevue, Que.
Eastern Manager, A. S. Christie, Gardenvale, Que.
Toronto Office, 263 Adelaide St. West, Toronto, Ont.



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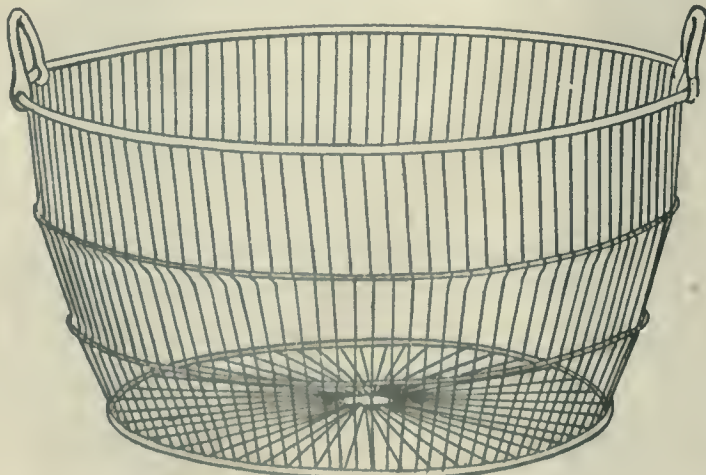


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: : EDITORIAL : :

Official Organ of Canadian Fisheries Association

JAS. H. CONLON, Editor.

CONSOLIDATION OF LOBSTER CANNERIES

A certain phase of the lobster canning industry in the Maritime Provinces strongly invites discussion just at this period. On previous occasions we have dealt in a theoretical way with the economic waste involved in having a lobster pack worth, approximately, \$5,000,000 distributed among six hundred canneries. There was then no immediate demand for consolidation because, fortunately, we have more or less of a monopoly on canned lobster production. More recent events, however, would seem to indicate that consolidation is no longer a matter of idealistic discussion, but one which looms on the horizon as a practical problem demanding adjustment.

Elsewhere in this issue we print a statement of the lobster pack in the east. One paragraph is striking. It says: "It should be noted that of the 141 canneries of the above district (northern New Brunswick), 98 packed less than 100 cases each; 91 less than 75 cases; 71 less than 50 cases and 32 less than 25 cases. These small packs are common each season and not due to any unusual conditions this year. Without doubt there are entirely too many canneries operated in this district. The industry generally could be better served and economic waste prevented, by consolidation."

Under the unsanitary and generally careless conditions in which certain canners have been permitted to operate prior to the progressive movement inaugurated under the direction of Dr. A. P. Knight, it has been quite possible, and it has, perhaps, proved profitable, to maintain these small canneries and operate them as a sideline during the lobster fishing season. The Government, however, has introduced a standard of sanitation and equipment which must be adhered to one hundred percent by the opening of the fishing season of 1926. This, the first year, all canneries were graded as per standard; next year 75 percent of standard will be tolerated; in 1925, 85 percent; but the year following all canneries must measure up to the wholesome standard in every particular or be denied a license.

Now what does this signify? It means that canneries putting up a hundred odd cases will not find it profitable to operate on the same volume of business and at the same time conform to the requirements of the

set standard, which, among other things, calls for a steam cooker. Not that the Government is proving unreasonable in its exactions, because it is not, but that in many cases the individual pack is so small as to return a profit only when the crudest equipment and methods are used.

What is going to happen these canneries, included in the above classification when the season of 1926 opens? Are the owners going to automatically close up shop and apply their little capital and their energy to some other industry? That may happen, but to calculate upon such an event is to place a very low estimate upon the intelligence of owners.

The natural solution is consolidation and it would appear wise advice that these small canners, especially in northern New Brunswick, seek an understanding at once. It is impossible, without a thorough survey of the situation, to state definitely how many properly equipped plants can serve this area, but we would hazard a guess that, all things considered, six to eight would do the job quite handily. The argument has been advanced that lobsters are perishable, which fact frustrates any scheme of centralization. Of course they are perishable if they are handled in a certain way. But then again if they are handled in a certain other way they are not perishable. The main point seems to be to locate the centralized canneries where they are readily accessible by water, so that collecting barges, if that means of transportation be found necessary, may cover the shore and land their cargo alive in wells.

The fisheries department would not go astray in encouraging consolidation and it may, by so doing, hasten more desirable conditions.

A LESSON IN CO-OPERATION

A western contemporary draws attention to the situation which has prevailed in the British market as regards canned salmon and quotes circular letters sent out by a reputable British house to show that the Japanese are dominating the market because of their centralized selling organization, against which Canadian and American packers, due to multiplicity of selling organizations, are rendered more or less helpless.

One circular letter observes:

"We are afraid the B. C. canners will have to make up their minds to the fact that the Japanese salmon is the predominating feature of the market here, whose sales will fix prices in this country. The quantity of B. C. salmon available is not sufficient to supply the whole trade with Red halves, so that the control of this market has passed into other hands. We should not be surprised if eventually the Japs do better here with their salmon than we do; not because it is better or so good, but being a combination and acting for the whole of their pack as one individual they may eventually reach such a strong position that the B. C. salmon will always be at a disadvantage."

While another letter, sent three weeks later, has this:

"The Japanese are still holding off the market. There is not, we believe, much B. C. salmon left now on the market and it is simply a question as to whether the dealers can last out until they bring the Japs down. These latter people are now announcing that they mean to get 65 shillings or they will not sell. It will be very galling to us if they do get this figure, but it will be an illustration of what can be done by a combination of interests acting as one person."

TRAWLERS TO OPERATE INSHORE

By order-in-council of August 17 steam trawlers are permitted for this year to operate on the Atlantic coast within the twelve mile limit, but not within the three mile zone, during the months of August, September and October. An officer of the fisheries department is to be placed on one trawler operating in a previously restricted zone to the east of Prince Edward Island, and another on one operating in St. George's Bay, to insure that the equipment of inshore fishermen is not disturbed.

By order-in-council of December 28, 1916 trawlers were forbidden to operate within the twelve mile limit along the Atlantic seaboard, the area within twelve miles being reserved for the operations of the inshore fishermen, with St. Peter's and Chedabucto Bays totally restricted to the use of the latter. Recently, however, representations were made to authorities that sufficient quantities of fish to meet the requirements of the fresh fish markets are not obtainable from the inshore fishermen on the portions of the coast from which fish suitable for the purpose can be drawn. Experience has shown that during the months of August, September and October the haddock taken by steam trawlers on the outside banks are thin and flabby and unsuitable for the fresh fish trade. It was suggested, therefore, that, as fish of excellent quantity is obtainable during these months in certain more inshore areas, particularly in St. George's Bay and the east end of Prince Edward Island, trawlers should be permitted to fish within the twelve mile limit, assurance being given that the hand trawls of inshore fishermen

would not be interfered with. As has been said, the Government has consented, but should the officers placed aboard the trawlers find that inshore fishermen are being tampered with in their operations, then the privilege will cease immediately.

CLOSE HALIBUT SEASON OR NOT?

The entire industry, from the fishermen to the retail trade is much disturbed over the halibut situation. No one, apparently, knows yet whether the close season in the north Pacific is to be effective this fall. Ottawa has ratified the treaty but joint action cannot be assured unless the United States congress which convenes in November takes immediate action to ratify the treaty without the controversial rider which the Senate attached to the document last fall. There is a general understanding in official circles that the treaty will be immediately approved and that being the case there would be the full machinery to make the close season effective immediately.

Without positive assurance of what is to be done, the trade on the Pacific coast is in a quandary. J. W. Nicholls, director of the Canadian Fish & Cold Storage Company of Prince Rupert, recently pointed out that "the trade is in a very nervous condition owing to uncertainty as to the proposed closed season next winter, and the impression that has become prevalent that the closing will not take effect this year. In order to stabilize the situation, his company is recommending that the Government announce definitely that there will be no close season during the coming winter. If fishing should be stopped, it would be necessary to materially increase the quantity of frozen halibut to avoid an embarrassing shortage. The normal supply of frozen halibut is about 12,000,000 pounds; if the operators put up 15,000,000 pounds and fishing is uninterrupted, it may cause a loss of \$750,000 or more, which would be a serious disaster to freezers.

"Mr. Nicholls believes the quantity frozen on the Pacific coast to date is less than at the same time last year, but prices have been very high, which may curtail the demand for frozen fish next winter; although the current demand for fresh halibut has been quite strong. However, he looks for lower prices the balance of the summer, as production is heavy and little will be frozen from now on."

LOBSTER FISHING REGULATIONS

During the past month Mr. Cowie, of the Marine & Fisheries Department, Ottawa, has been along the coast of Nova Scotia from Halifax to Digby securing the opinion of practical fishermen as regards the lobster fishing season. Mr. Cowie has been sent into the territory to strike a compromise, as we understand it, between two schools of opinion. While Mr. Cowie's

integrity and clear vision may be confidently depended upon to make the best of the situation, he seems to have been burdened with a more or less hopeless task.

The lobster situation in the east needs a thorough going-over by an expert commission and it will require more than casual study to evolve a set of regulations that will insure the permanency of the lobster industry and at the same time do equal justice to all sections. It can hardly be expected that Mr. Cowie's effort will settle dissatisfaction all round. It may ease the situation for a time, but sooner or later the authorities must face the necessity of revising the regulations. Like Topsy, the present regulations 'just grewed'. They have no single author but have been patched and pieced here and there, largely for pol-

itical expediency, so that it is not at all strange that a new outfit from head to foot is needed.

ROTTEN, BUT NOT IN DENMARK

The following significant paragraphs were culled from different sources recently:

The Danish Parliament has voted the money for the establishment of a Ministry of Fisheries. This is a department which has been advocated for a long time in Denmark. The money recently voted for the assistance of the fishing industry is to be applied to bringing about a 30 per cent. reduction in freight rates chargeable on Danish-caught fish upon Danish railways."

"Denmark, with an area of approximately 18,000 square miles, now has a population of 4,000,000."

How we envy Denmark!

The Lobster's Dietary

BY M. H. NICKERSON

In none of the many learned essays on the lobster have I seen a single allusion to the creature's natural food, or way of procuring it. Yet the merest description of a poultry yard, or advice on tending it, would be incomplete if it omitted mention of the proper feed for the pullets.

The lobster does not catch fish for a living. Anything that swims can escape its claws. Neither can it live on suction like the sponge and other low marine organisms. It is extremely slow in movement, being better fitted for retreat than pursuit. Moreover it needs a kind of nutriment that will supply the lime element necessary to build and strengthen its shell, and this can only be obtained in sufficient kind and quantity from feeding on smaller shellfish. Accordingly, the natural bill of fare is varied, including crabs, clams, mussels, sea-urchins, razor-fish, star-fish and even cockles of the larger size. The lobster does not eat the shells of those species, but, crushing them with its big claw first, and further grinding them with the small, it sucks the pulpy inside clean, drawing up with its mandibles the pieces to which the softer meat adheres. This last secretes the calcareous substance, without which the shell finally grows soft and becomes diseased.

Looking over the side of a boat on a calm day, and in the shallower coastal water, one may see the clearer spots of the bottom strewn quite thickly with fragments of shells which glitter like so many pearls. These are the relics of the lobster feasts. It would be interesting to tell how the foraging is done, as I have closely watched it many times and oft; but space will not permit. Having established the fact that lobsters can only subsist in a healthy state on diminutive shellfish, the important thing is to point out the ruinous effect of dumping refuse bait (mostly herring), and other fish offal on the grounds where lobsters feed and breed. If this kind of food is plentifully provided all over the bottom, the lobster will

not take his meals in a trap. Thus the catches dwindle, and the cause till the present is a matter of conjecture,—always wrong, of course. Then again, the lobsters caught are becoming yearly more remarkable for soft and yielding shells. That is now the general complaint all along the south shore of Nova Scotia, and some parts of New Brunswick, months after the shedding season. Besides, in numerous cases, a mossy excrescence appears on the shell, like lichens on the crumbling surface of a rock; and sometimes minute barnacles are present, all of which surely indicate a lack of the proper aliment, just as the shells of hens' eggs deteriorate and become thin if the grain feed is unmix'd with the essential element. Lobsters, of course, will devour any fish food handed out to them, as higher animals are prone to partake of that which ruins the constitution. But watch how the crustaceans prefer crushed clams to fresh herring when fed out to them in cans or pounds.

I have lately completed some observations in this line. The Nova Scotia coast reports waning catches. From Lockeport to Yarmouth Cape 400,000 lobster traps are set in season. From each a half pound of refuse bait is thrown overboard daily. That makes a dump of 100 tons or 10,000 for 100 days, the prescribed legal season west of Halifax. For the rest of the summer, line-fishing is the pursuit for boats and inshore bankers, both of which throw over the scrap from "dressing down." The free feeds for the lobsters from this source is not so easily summed up, but it must be enormous, not to mention the huge dumps from every haul of the beam-trawler!...Such a state of things, and its manifest consequence, call in stentorian tones for an immediate investigation by the staffs of all the marine colleges!

FISHERMAN DROWNED

James "Scotty" Beattie, a well-known salmon fisherman on the Skeena was drowned August 2., at Oceanic Cannery.

Co-operative Advertising Campaign Launched

Pamphlets distributed explaining necessity for immediate action and setting forth practical scheme to increase fish consumption in Canada

Following is reproduced a prospectus which has been pretty generally circulated throughout the industry, introducing the co-operative advertising campaign to increase consumption of fish in Canada. It is being organized by the Canadian Fisheries Association. The prospectus outlines reasons why such an undertaking is necessary and endeavors to establish that experience would indicate unqualified success as a result of the campaign.

Following the prospectus is printed a report made to the executive of the association setting forth a practical scheme of organizing a fund to carry out the idea.

Both these pamphlets are published herewith for the perusal of those in the industry who believe in the future of the Canadian market and who have not been forwarded the literature already.—Ed. C. F.

OUR AIM IS TO SELL MORE FISH TO CANADIAN PEOPLE

ARE YOU WITH US?

Prospectus of Campaign To Increase The Consumption Of Fish In Canada

CONDITION OF THE INDUSTRY

The statement was made some time ago by a prominent person in the fishing industry that eighty percent of the fish we produce must find a market abroad. That was a rather astounding statement. But upon investigation it proved to be essentially true. To put the point another way: If we do not continue to make a success of our foreign business Canada will fail as a fish-producing nation.

Is there any sound reason why we should place such absolute trust in markets over which we have little or no control? Does it not strike you as a sound proposition, that we should develop a bigger trade with our nine millions of Canadians and place ourselves in a position to be more independent of foreign buyers?

Our Canadian people are eating approximately twenty pounds of fish per capita each year, and a very heavy proportion of the total consumption is among 25 per cent. of our people. It is safe to say that one-quarter of our people are consuming three-quarters of the total. Though Canada ranks third as a fish-producing nation, there is not a single fishing country of consequence that eats so little of its own production. In England the average fish consumption is fifty-six pounds; in France it is between thirty-five and forty; in Germany about the same; while in Japan people eat an average of two hundred pounds of fish a year, or, roughly, four pounds a week.

You may say that Canadians are not fish-eaters. This is not correct, because in certain markets where fish is regularly available consumption is nearly equal to other countries. Fish need only be supplied to them systematically and in good shape, properly cooked and served to materially increase its use as an article of diet. Other food products are before the public in a hundred different ways. There are nearly nine fresh meat shops to every dealer handling fish, and for every fish dish served in the public restaurant, there are a dozen meat items on the menu.

The public is not to blame for this condition; the trouble is with our service. Fish producers are marketing their product in a haphazard way. Certain markets are glutted, the product deteriorates and the whole industry suffers. Other markets are starved. Canada will eat more fish if it is made available to the housewives. Housewives will serve more fish if they are educated to its value as a nourishing, health-giving, economical food, and the many attractive ways in which it may be served.

We must get our people in the habit of eating fish, not as a food for a particular day of the week, or as a matter of desire or ruling, but to let it rank where it properly belongs with other foods. If for instance, it was good form to eat lamb only on the first and third Sundays of the month and veal on the second and fourth Sundays, most of our farmers would stop the raising of sheep and cattle, except for their requirements as adult stock.

Canned fish has been looked upon as more or less of a pinch-hit purchase. It has been a fill in. Canned fish is not playing the important part it should play. People, especially in remote localities, should be educated to buy quantities or case lots as they buy other commodities.

The tender smoked fish should be a national breakfast diet. Is it? No. Except with those few who have had the secret whispered to them.

It is a reasonable estimate to say that our domestic consumption should be increased fivefold.—first by selling fish to a greater number of our population who today hardly use it at all and by increasing the sale to those who are already consumers in a limited way. Our present scheme of marketing just hits the high spots. It has been estimated that all our fresh and frozen fish shipped to the interior is made available to not more than forty percent of our population.

Bear this in mind—No miraculous force is going to make Canadians eat more fish. The producers of other food products, whether flesh or cereal, are keeping the merits of their respective products before the public and the fish producer who is waiting for the natural increase in population to proportionately develop his business is living in a "fool's Paradise" as every new consumer is set down in the centre of a community that is already predisposed in favor of other articles of food.

The market for fish can be enlarged but only by consistent co-operation, hard work and the investment of time, brains and a small amount of money, as compared with the results to be secured. What propaganda has done for other industries it can do for the fishing industry of Canada.

There has been no experience in the past in regard to the fishing industry to which we can point. We must hew out our own road but our path is not more difficult than has been that of the orange industry, the raisin growers, and a dozen other allied lines that have gone after business on a group plan and got it. We would mention the results that have been obtained in a few other instances, whose problems bear remarkable similarity to the fishing industry of Canada.

What Co-operative Propaganda has done for Other Industries.

RAISINS: In the year 1913 the production and consumption record of the California Associated Raisin Company, according to figures given out by the company itself, stood like this:

	Pounds
Production	140,000,000
Consumption	110,000,000

Unsold	30,000,000
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By 1917, through the employment of an energetic co-operative advertising campaign, the figures were altered in no inconsiderable degree. The record then was:

Production	326,000,000
Consumption	326,000,000

Unsold	None
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In four years the sale of California raisins was increased 216,000,000 pounds and the annual carry-over was wiped out, and the average consumer was eating 3.25 pounds of raisins a year instead of only 1.1 pounds as before.

Prior to their co-operative effort raisin growers had a problem on their hands very similar to ours. Their product was in demand only at certain seasons and not at others. Fish is in demand Wednesday and Friday, while there is little call for it on other days. Do the two cases not strike you as being remarkably similar?

Here's another case:

WALNUTS: Since the California Walnut Growers' Association was formed in 1913 and co-operative methods applied the total annual consumption of walnuts in America has increased from 49,000,000 pounds to 85,000,000 pounds. The output of walnuts from California doubled during the period from 1914 to 1917 and almost doubled again from 1917 to 1919. In other words the output is doubling every three years, and co-operative advertising is playing the big role in making these increases possible. Prior to the awakening of the industry walnuts were a Christmas and Thanksgiving luxury and at other periods of the year reposed in undisturbed tranquility in warehouses and cellars. The problem was to regulate the demand, to spread it over the year and make of the walnut a highly-prized food instead of a holiday sweet. There again we have the spasmodic demand as in the fish business.

California Fruit Growers

ORANGES: Let us go into a little more detail concerning the orange christened Sunkist, probably better known to all. Thirty years ago when California shipped about two million boxes of oranges a year, the growers thought they were over-producing. The supply was so far in excess of demand that at times the returns were less than the costs. By co-operation, chiefly in advertising and the dissemination of propaganda, they increased demand and improved the facilities of their distributing machinery until in 1906 they had pushed up their annual sales to 10,000,000 boxes. From 1906 advertising was intensified to widen their basic market by educating the public to the delicious and healthful qualities of oranges and suggesting new ways to serve this fruit in the home. In the twelve years since this first Sunkist publicity campaign was launched in Iowa, the consumption of California oranges has doubled. The American consumer has been taught by co-operative advertising to eat nearly twice as many oranges as before.

Then These Other Foods!

Numerous other illustrations similar to the above could

be cited in which the markets were broadened for lemons, grapefruit, apples, peaches, beans, prunes, apricots, almonds, peanuts, cheese, milk, eggs and cranberries, but it would be merely repetition. The illustrations we have taken serve the purpose.

And the "Save the Surface" Campaign

You are familiar with the "Save the Surface," campaign to develop demand for paint and varnish. It has been going on in Canada for five years. W. G. Borland, Secretary of the Master Painters' and Decorators' Association of Montreal speaking on July 5th, 1923, at Brantford, Ontario, strongly endorsed co-operative advertising and spoke enthusiastically of results produced by the "Save the Surface" campaign. People in the painting and decorating trades, he asserted, feel the new business developing.

Other Points to Consider

Another point is to be considered in connection with the matter. Any factor which enlarges a basic market benefits the consumer and producer alike and lifts the welfare of both to a higher level. It is, therefore, of genuine social as well as economic value.

Had the orange industry remained on the old basis there would have been no profit in growing oranges. New acreage would not have been planted. Old orchards would most surely have been uprooted and other crops planted. Co-operative advertising broadened the growers' market. It was fertilizer, to steal the thought, to better the soil of consumption. It enabled the producer to sell all he had at a profit and to increase his yield. The increased demand brought him not only profit where before there had been loss, but it also brought him a bigger volume of production with its tremendous economies in picking, packing, shipping and selling. Oranges are not the rare luxuries they were twenty years ago.

It is interesting to observe, too, that the percentage cost of sale of oranges and lemons by the California Fruit Growers' Exchange is lower today than it was ten years ago. Sales and advertising expenses have gone down as the volume of production and business increased. Whereas in 1905 on a volume of F. O. B. sales of \$7,124,377, the percentage for advertising and selling expenses was 3.28. In 1920 when the volume of sales was \$54,627,556, the percentage was only 2.01.

In 1921 the California Fruit Growers' Exchange handled the largest volume of oranges and lemons in its history. The association made an appropriation for co-operative advertising that year in excess of \$800,000. Based on the volume of shipment this total expenditure for advertising represents three-fourths of one per cent. of the delivered value of the fruit.

Another Point re Fish as Food

A very large percentage of our Canadian people, even those dwelling in the cities and large centres of population, came off the farms, where flesh foods were raised on the hoof, killed at home and cured at home. Having eaten meat foods on the family table, they continue to do so from a matter of habit in their later years and their children also are brought up at the same table.

If we do our part today in getting fish as an article of diet on more of the home tables and more regularly on all of those tables, a generation hence fish will be used in the family far more than it is today and we should not overlook that there are approximately 75,000 new housewives in Canada every year, many of whom have not had the responsibilities of the household before.

Beginning immediately, we, the Canadian Fisheries Association, propose to organize a fund within the industry to place the merits of fish as an article of diet before the Canadian public, to educate the housewife to

use more fish, to educate the individual to eat more fish, with the object of stimulating demand and fixing fish permanently and continuously in the diet of the individual.

In the light of previous experience of both similar group campaigns and campaigns of individual firms for other food products, we believe that three years is the shortest term that we should consider and we, therefore, set forth on our initial campaign with three years as our first unit.

The campaign will be conducted on the broadest lines, the fundamental idea being to create a demand for more fish regardless of what kind of fish it is.

We plan to solicit the governments, provincial and federal, to contribute to the campaign, and from feelers that have already been sent out we have reasonable ground to assume there will be a liberal measure of support from this direction.

Campaign Organization

A national committee will be named to take charge of the campaign and a manager will be appointed to administer the funds. The committee will be representative of all contributing areas and elements and due caution will be taken to do justice to all branches of the trade participating.

The head office will be located at Montreal, or near Montreal.

Before any plans are put into execution they will be submitted to individuals interested. Members supporting the movement will be kept posted at brief intervals on developments past and prospective.

In addition to newspaper publicity, various supplementary plans will be brought into play as, for example, the distributing of pamphlets, stickers for use by retailers, steamers and display cards for use on delivery vans; folders for use in trains, cafés, restaurants, etc., and other ideas which later present themselves as likely to produce results.

What May Be Expected From The Campaign

In concrete figures it is, naturally, impossible to state just what results will be obtained from the campaign. That there will be results of a highly satisfactory nature is evident from experience elsewhere. Canada offers our greatest and most secure market and it is the one we should develop. Recent events have proved how easily our foreign trade can be seriously distributed, but at home we have little or no competition to meet from abroad and we are not constantly in danger of having the market snatched from us.

Once built it is ours for good.

Isn't that the kind of investment you want to make?—
One that our business will consolidate and strengthen.

Save this prospectus. You will hear from us later.

Campaign to Increase Consumption of Fish in Canada.
CANADIAN FISHERIES ASSOCIATION,
July 25, 1923.

PLAN OF PROPOSED CO-OPERATIVE PUBLIC- ITY CAMPAIGN

To Stimulate Fish Consumption in Canada

Report to executive of Canadian Fisheries Association

At a special executive meeting of the Canadian Fisheries Association held on June 22, your secretary was instructed to prepare a practical scheme of organizing among producers and distributors in the fishing industry, a co-operative advertising campaign to stimulate consumption of fish in Canada. In pursuance to your direction, I have searched every accessible source for information

on co-operative advertising campaigns of a similar nature and, based upon experience which has been gathered in other fields, I will set forth some definite fundamentals which, I am convinced, must be accepted at the beginning if the proposed campaign is to produce the results expected of it.

I need not dilate upon the brilliant prospects which the campaign holds. In the prospectus, a copy of which is attached, (already forwarded to you), I have set forth quite clearly and concisely how problems in marketing, strangely similar to our own, were corrected in other industries, such as orange growing, lemon growing, raisin growing, apple raising and so on, ad infinitum. We are not launching upon any experimental project. We have proof in every direction that the campaign, if properly conducted, that is, if it conforms to the best experience of other industries, is bound to produce results. The nature of these results and their vastness in comparison with the meagre cost to producers and distributors may be estimated by the illuminating figures set forth in the prospectus. It is not necessary to sell you the idea of co-operative advertising. The facts will sell you. There are, however, some pitfalls which others encountered in the experimental stage of co-operative advertising which we should do well to avoid. I will enumerate these pitfalls briefly.

Flat Sum Assessment

No. 1 —A scheme of assessment on a percentage of turnover or any basis that will disclose the extent or limitations of one's business, is not popular and, in the light of experience, invites trouble. As an alternative I would suggest that corporations, companies and individuals falling in the contributing class be assessed a fixed amount based on their ability to pay. This plan has been applied with success in the "Save the Surface" campaign. Their plan of organization was as follows: A national committee was set up. Its members sat around a board and fixed an amount each prospective contributor in the industry should be assessed. The entire list of proposed contributors with the amounts opposite each name was sent to each individual concerned. In cases where there was complaint that the amount was too high adjustment was made. Since the inauguration of the campaign five years ago the initial assessment has been increased first by ten percent and then by twenty percent, but contributors were so highly pleased with results that they offered no objection. The campaign referred to was instituted on the basis of turnover assessment but it was quickly altered when individuals objected to making business disclosures. With limited companies this point offers no objection, but with others it does.

Must be on Broad Lines

No. 2 —If it is the intention to get effective results from the proposed campaign to stimulate the use of fish, fundamentals only must be dealt with in advertising. In the paint and varnish campaign no effort was made to prove the value of one kind of paint or varnish over another. The fundamental which was the key to the campaign was the use of paint and varnish to lengthen the life of property. Statistics show that individual contributors to the paint and varnish fund advertised more extensively on their own behalf when the campaign was in progress than before. The difference was that they, individually, did not have to waste any time educating people to the wisdom and economy of a liberal use of paint and varnish. That fundamental was dealt with co-operatively. The demand for paint and varnish was developed by all together. After the demand was created it was up to the individual to push his particular brands.

So with the fish campaign. We must adhere to fundamentals and the broader the fundamentals the less room will be left for friction. The main point we must achieve is to have the people of the country eat fish more regularly and in greater volume. We must get them away from the habit of using fish on Wednesday and Friday. That jerky system is a curse to the industry and must be overcome if we are to prosper. That condition has an exact analogy in the problem of marketing oranges. At one time there was a strong summer demand and none in the winter. Now, through co-operative advertising and publicity, the demand has become a twelve-month proposition. Similarly, raisins were in strong demand at Thanksgiving and Christmas. Now they are in demand all the year around. And likewise in the case of walnuts. And all this has been accomplished through educating the people by co-operative effort.

It would be my suggestion that the advertising we carry out make no specific mention of any variety of fish, but treat them as fresh, frozen, smoked, pickled, dried and canned, or as many groups as are represented in the contributors. If we go into too much detail there is bound to be jealousy. We might employ seasonable recipes, and our supplementary publicity, that is, outside the actual newspaper and magazine advertising, could go in to the minutest detail.

Must Cover Long Period

No. 3 — Positively nothing can be accomplished by a short term campaign. To spend \$25,000 on a four months' campaign, one might just as well stuff the sum in a drain-pipe. Before launching on the project individuals must commit themselves to contribute for at least three years, and five would be better. (It will be observed that the accompanying contract form makes this understanding specific.) Experience has proved this to be a fact. The campaign must be spread over a protracted period for twelve months a year, although it may be intensified at seasons when greater development is desired. At the end of one year results, as statistics prove, will be noticeable. At the end of two years they will be remarkable and at the end of the three year period they should be so generally satisfactory that a continuance of the campaign will be unanimously approved.

Proposed Organization

(1) I would suggest that a committee of seven to fifteen be named to handle the entire fund and that it report quarterly to the executive of the Canadian Fisheries Association. I would make that committee include members from coast to coast and proportion it, as nearly as possible, in ratio to the amounts each section are likely to contribute. I would insure a sufficient number in one centre, say Montreal, to keep a quorum always available.

(2) I would have this committee confer immediately and prepare a list of prospective contributors and fix their assessment and I would have this list sent immediately to all those whose names appear on it, together with a contract form, and endeavor to have them commit themselves. Those who failed to contribute may be canvassed directly or some internal pressure may be brought to bear as was the case, in numerous instances, in the paint and varnish campaign.

(3) I would suggest that the secretary of the Canadian Fisheries Association, or anyone else who may be selected for the work, secure the signature of our bigger companies to the contract form and solicit the smaller individuals throughout the country on the strength of what the larger companies had done and on the inherent merit of the proposition.

(4) To inaugurate the campaign will require money and I would suggest that the bigger contributors advance the first quarterly instalment to pay initial expenses. We need not have all the money in hand before launching the campaign. If we have members committed that will suffice.

(5) The person managing the fund must be paid. I would suggest that it be a fixed sum plus a ten percent bonus on all contributions. If he were guaranteed ten percent of every cent he raised for the fund, it would offer a strong stimulus.

(6) I would suggest that a copy of the attached prospectus (already forwarded) be sent to everyone in the industry at present on our mailing list to introduce the project to them.

(7) I would suggest that a portion of the fund be set aside to prepare supplementary propaganda in the way of booklets to retailers, window stickers display for delivery wagons, etc., etc., and also to keep contributors posted on what has been and what it is proposed to do. This supplementary work is very desirable and no modern newspaper campaign is considered complete without it.

(8) I would immediately arrange with our members in each of the fishing provinces to organize a deputation to the respective provincial governments to solicit a grant for the fund. I would suggest that your manager of the fund, whoever he may be, organize each provincial delegation and accompany it on its mission.

(9) The Federal Government has a regular appropriation of \$25,000 for publicity purposes and a supplementary vote of \$70,000 has been made for the "conservation and development of deep sea fisheries." We should immediately take a delegation to Ottawa and lay our cards on the table and ask for assistance in the form of a grant of \$30,000 or any sum that we may decide to ask.

(10) For the purpose of carrying on supplementary publicity and educational work as referred to above I would suggest that each contributor furnish the manager of the fund with a copy of his mailing list, from which the manager may compile a general mailing list of his own. The individual mailing lists will be kept secret and returned to the individual as soon as they are incorporated in the general list, and the general list shall be for use of the manager of the fund alone and only for the purpose of administering the fund.

(11) And finally, the business of the fund must be kept separate and distinct from the affairs of the Canadian Fisheries Association.

Jas. H. Conlon,
Secretary-Treasurer.

HIGH PRICE FOR SARDINE HERRING

St. Andrews, N.B., Sept. 7. — The run of sardine herring continues to be most disappointing. The catches have been small, many of the weirs not paying the expenses of operations. A number have made money, not, however, on account of the quantity, but due wholly to the increase in the prices. The past week sales were made at \$25.00 per hogshead and in one instance the catch of the "Shirley Point Weir," St. Andrews harbor, sold at \$40.00 per hogshead. This catch consisted of 47 hgs, and the high rate paid was due to unusual competition among the buyers bidding for the catch.

Little or nothing has been done by the weirs of Deer Island and Campobello and the catches at Grand Manan have been almost equally disappointing.

Season's Lobster Pack in Maritimes

Following is a comparative statement of the lobster pack for the several districts of the Maritime Provinces from March 1 to July 10:

Western Nova Scotia		
County	1922 cases	1923 cases
Lunenburg	142	267
Shelburne	4,480½	3,532½
Yarmouth	7,917½	8,639
Digby	1,293½	2,591½
Queens .....	.....	465½
	13,833	15,525

The pack by months this year was as follows:

March	25 e/s
April	2,672 "
May	7,277 "
June	4,953 "

It will be noted that the pack for the opening month of March was almost negligible, owing to the unfavorable weather conditions, and therefore an extension of one month was granted.

It should be noted that during the regular fishing season in this district the catch was 43,422 cwts., valued at \$782,558. During the extension period the catch was 22,005 cwts., valued at \$364,947,—showing a total for the whole season of 65,427 cwts., valued at \$1,147,505.

Eastern Nova Scotia

County	1922	1923
Halifax	1,446	1,335
Guysboro	3,344	3,377
Antigonish	5,174	5,462
Pictou	11,024	11,572
Colechester .....	.....	459
Cumberland	5,659	4,899
	26,647	27,104

These totals include the pack of tomalley, of which 458 cases were packed the past season. It will also be noted that there was an increase of 457 cases as compared with the pack for the spring season last year.

Cape Breton Island

County	1922	1923
Richmond	2,190½	2,560
Cape Breton	7,441½	7,035
Victoria	4,229¾	3,742¾
Inverness	12,432	12,941
	26,293	26,278

Of the above total for the past season 1,460 cases were packed during the extension period; Inverness being responsible for 1,225 cases, and Richmond 235.

It will be noted that this was a slight decrease of 85 cases as compared with the same season last year.

Northern New Brunswick

County	1922	1923
Restigouche	293½	440

Gloucester	8,682	8,569½
Northumberland	5,558¾	7,150
Kent	4,146½	5,396½
	18,680¾	21,556

Total increase over last season 2,875¼ cases.

It should be noted that of the 141 canneries of the above district, 98 packed less than 100 cases each; 91 less than 75 cases; 71 less than 50 cases, and 32 less than 25 cases. These small packs are common each season, and not due to any unusual conditions this year. Without doubt there are entirely too many canneries operated in this district. The industry generally could be better served, and economic waste prevented by consolidation.

Prince Edward Island

County	1922	1923
West Prince	9,095¾	9,605¾
East Prince	4,165	4,231
Queens	8,150	9,777
Kings	16,345	19,100½
	37,755¾	42,714¼

This shows an increase over 1922 of 4,958½ cases.

The total value of the pack was \$1,264,724, as compared with \$1,122,991 for the same season last year, or an increase of \$141,733.

Magdalen Islands

1922	10,760 e/s
1923	10,77 e/s

The returns for the Magdalens do not include the number of cases packed in July, as the information has not come to hand.

Total Pack Spring Season

	1922	1923
Nova Scotia	66,773½	68,877½
New Brunswick	18,680¾	21,556
Prince Edward Island	37,755¾	42,714¼
Magdalen Islands	10,760	10,776
	133,970	143,923¾

The excess pack over last season as shown was 9,953¾ cases, and this excess will be slightly increased by the quantity packed in the Magdalens during July.

The fishing and canning operations for southern New Brunswick, and the portion of the Northumberland Straits district where the season opened August 16, is being prosecuted quite vigorously, although the prices for the catch and pack are lower than during the spring season.

FISHING SEASONS LENGTHENED

Shad fishing in Chignecto Bay and Minas Basin at the head of the Bay of Fundy, which ordinarily ceases August 15 was extended this year until August 31 because of the late arrival of the fish.

Salmon net fishing in certain sections of the Maritime Provinces was also extended from the middle until the last of August.

Lake Erie Delegation Meets Government

Two arrested in Toronto in connection with theft of fish -- Other news from the lakes district

The grievance committee of the Lake Erie Fishermen's Association were in Toronto recently interviewing the Ontario Government with reference to matters affecting the fishing on Lake Erie. They were given a good hearing with the promise that their troubles would be investigated. The following composed the delegation; George Van Order, Port Burwell; C. W. Barwell, E. G. Anderson and A. B. Hoover, Port Dove; Alexander Crewe, Merlin; William Bates, Ridgetown; A. S. Brown, Kingsville.

Among the visitors to the National Exhibition at Toronto were A. B. Hoover and family of Port Dover. Mr. Hoover, is one of the best known men engaged in the fishing trade along the Great Lakes.

From reports received from many of the pound net fishermen on the north shore of Lake Erie, fishing has been very light with them so far this season. They are, however, expecting a good fall run. It is stated that the tugs operating out of Port Stanley are having rather light fishing on the whole but the tugs out of Port Dover and Port Burwell are enjoying a fairly heavy catch.

William Kerwin, the well known fish operator at Amos, Que., was a recent business visitor to Toronto.

J. W. McEwen, of the sales staff of the John Leekie, Co., Limited, Toronto, attended the annual convention at Cedar Point, Ohio, of the American Fisheries Association. He also spent some days holidaying at Cleveland and other American cities.

Two young men were up before Magistrate Williams at Picton, Ont., a few days ago, charged with running a fisherman's net and stealing 300 pounds of whitefish along with the nets. They were sent up for trial. It appears that they left in a motor boat for Cressy Point and owing to the circuitous route they took to approach the nets they aroused the suspicions of the lightkeeper, who with field glasses learned they were not the fishermen who owned the nets and in turn telephoned the owner who made chase with a fast motor boat which lead to the arrest of the men.

Upon information laid by F. T. James, dealer in fish, etc., at 29 Church Street, Toronto, Percy Stewart, a clerk in the firm's employ, and John Martin, were recently arrested by detectives. Stewart is charged with stealing 140 pounds of halibut from the firm, and selling the fish to Martin, who is charged with receiving stolen goods. Suspecting something "fishy" about the transaction the detective officers submitted the pair to a lengthy examination at headquarters before sending them to the police station.

Port Credit fishermen are interested in the experiments being carried on by the Dominion Fisheries looking towards the re-stocking of the lake with spring salmon. Meanwhile they are doing very well with the salmon's fresh water cousin, the salmon trout. One man lately had a haul of 700 pounds of trout, which at 20 cents a pound, makes a snug profit. It is not uncommon to draw in 500 pounds weight. Three gangs are operating the rows of nets which one sees drying in the sun. Early in the spring the fishermen have to fare as much

as seven miles out in the lake in their big, flat-bottomed, battleship-grey motor fishing boats ere they set their nets. In the late fall the fish come close into shore. Salmon trout are the lake's chief product just now and later on will come whitefish and herring. One man this spring did a good trade in live carp which he kept in a small water-filled scow for sale to Jewish customers who have a particular fancy for the fish.

Reports from Port Dalhousie, across Lake Ontario from Toronto, the lake during August was the lowest in the memory of many of the oldest residents, sand bars out from the shore being visible for the first time in many years. All season the sandy beach has been unusually far-stretching.

Fishermen in the vicinity of Cobourg, on Lake Ontario, report the catch of fish during August as having been very good and that large quantities of whitefish, trout and herring, which find a ready market in New York, and other United States cities, are being secured.

Considerable attention has been paid by the Department of Fisheries this year to the removal of suckers and other coarse fish from lakes where their rapid propagation has menaced the existence of whitefish and other better commercial species. Over 42,000 suckers were removed from Lake Winnipegosis, and destroyed, while 281 adult fish and 5,530,000 eggs were planted in other western lakes, the character of which precluded stocking with the finer varieties. More than 550 catfish have been transferred from Selkirk, Manitoba, to Prince Albert, Sask., for the Saskatchewan River, and 400 to Quill Lake, Sask. From the lakes near Fort Qu'Appelle 180 yellow perch have been placed in Wascana Lake, 150 in Round Lake and 80 in Lovering Lake. Lady Lake received 72 pike and perch and 60 were planted in the Moose Jaw River. The method of stocking with older fish is supplementary to the regular stocking of waters with fry from the various hatcheries.

Mrs. S. W. Cross of Warton has been dredging a channel from the large gut at Oliphant, Ont., through to the Indian channel. The cost, which is said to be considerable, is being met entirely by Mrs. Cross, who owns the property at Oliphant, which was cut off from the Indian Channel, where good bass are plentiful.

The beneficial results from the hatchery operations conducted in Lake Ontario are evidenced by the present condition of the whitefish fisheries according to information obtained by the fisheries branch of the marine department at Ottawa. The fishery it is stated has increased over 20-fold in the last twenty-five years. Attention is called to the returns which were obtained in the government hatchery at Thurlow. Over 95 per cent of the whitefish placed in the incubators in the fall of 1922 were hatched and distributed this spring in the Bay of Quinte and adjacent waters as free swimming fry.

"FISH TRUST" MEN PAROLED

The first four of the 14 fish trust men sentenced to hard labor at Deer Island (Mass) for conspiracy to create a fresh fish monopoly in wartime have been paroled.

Suggests More Fishermen on Parliament Hill

Port Dover, Ont.
Sept. 1st., 1923.

A recent issue of the "Canadian Fisherman" contained the report that a separate department of fisheries was nearer at hand than it had ever been. It is to be hoped that the dreams of the Canadian Fisheries Association will at last come true and that the great fisheries of this country will be under the guidance of a department that will co-operate with the association and build up this vast natural resource.

During the war, and since, those in authority have advocated the greater use of sea foods and have sent out literature as to the manner in which it should be prepared for the table. It is all very nice material to read but is productive of little, because of the fact that sea fish arrive in the inland provinces in a dilapidated condition. The writer has in mind a visit to a fish store in one of our large cities where fresh haddock were advertised for sale and on examining these fish the difference between them as they were and as they are when landed from the boats was so vast that it was decided not to purchase any. However, on second thought one was purchased and brought home but alas the delicate flavor of this splendid fish was gone. This reminded me of the story of the negro going into a fish store that was operated by a white man, the negro was smelling the fish and was told not to do so, when he said: 'Boss, I ain't smelling those fish, ise just talking to them.' "Talking to them are you and what were you saying?" "Well, I just asked them how things am down in de sea and dey said dey didn't know as dey hadn't been dare for six months."

Until such time as the products of the sea can be put before the consuming public in the condition they should be in, it is of little use to advise the public how they should be prepared and what an excellent food it is. How much better it would be for the government to provide proper cars for the transportation of fish and to assist if necessary in establishing proper stores in each municipality. Under such conditions it would not require elaborate literature for the public would soon find out for themselves. The average housewife can cook fish if she can only get it in its proper condition. In your last issue it is noted that Germany is working out a system of cooled cars for the transportation of fish and from time to time we read of other European nations giving a lot of attention to their fisheries, recognizing therein a vast resource worthy of the best they can give it.

We might ask why Canada with its great extent of coast line and its vast inland seas and rivers all fertile in fish life, does not act and act quickly enough to bring this great industry out of the haphazard condition it is in today. From our natural resources we can only hope to get clear of our indebtedness and among these resources fish is one of the foremost. It is not unusual to hear or read of our government spending days and weeks discussing a proposed railway or a new harbor even as far north as Hudson Bay, but we never hear or read of prolonged discussion of the fisheries of the country. In fact parliament does not seem to know there is such a thing, except when the Fisheries Association asks for an interview and then about all that is obtained is: "yes, all very good, we will consider it." Of course something has to be said to end the interview. Duff of Lunenburg

hammers away at the subject sometimes but it all seems to fall on deaf ears. Can't get the government end of the iron hot enough to weld.

It would be a good plan to nominate some of our big fishermen for the next election and get some men on Parliament Hill who will insist and insist again, until something is done.

In the meantime the summer fishing in the eastern end of Lake Erie has been the best in years and a large catch of herring has been made, prices have been fairly good and the market as good as could be expected for so large a catch. Here is hoping it continues, for the men need the business and the money.

Yours very truly,
P. C. Robinson.

LAKE WINNIPEG SEASON EXTENDED

Fishing regulations for Manitoba were amended so as to permit fishing for whitefish in Lake Winnipeg this year until August 18. Originally it was provided that fishing should cease August 15 and before that date if 3,000,000 pounds of dressed fish had been taken. Fishing was not good this year and as it appeared unlikely that the total summer catch would exceed 2,000,000 pounds, it was found advisable to help relieve the position of fishermen.

BETTER FISHING THAN JULY YEAR AGO

The total quantity of sea fish landed on both the Atlantic and Pacific coasts during the month of July was 822,043 cwts., valued at \$2,771,440 to the fishermen, compared with a catch of 873,382 cwts. valued at \$2,596,730 in July, 1922.

The catch of cod, haddock, hake and pollock during the month was 398,521 cwts., compared with 520,457 cwts. in the corresponding period of 1922. Hake shows a decrease in the catch of 56 per cent. and pollock a decrease of 40 per cent.

There were 15,257 cwts. of mackerel caught which was less than half the catch for July, 1922.

The catch of lobsters was 23,171 cwts., compared with 9,440 cwts. The total quantity taken since the commencement of the lobster fishing season was 338,673 cwts., compared with 314,777 in the same period of 1922. Of this year's catch there were 58,003 cwts. used fresh and 139,372 cases canned. From the catch for the same period last year 54,540 cwts. were shipped fresh and 130,096 cases canned.

On the Pacific coast the catch of salmon was 238,207 cwts. This is an increase of 78,263 cwts. over the catch for July, 1922.

The catch of halibut was 33,418 cwts., which is an increase of 44 per cent.

Six fishermen lost their lives during the month, three on the Pacific and three on the Atlantic.

EASIER TO REACH

She sang and she sang: "I will hang my harp on a willow tree-e-e. I will hang my harp on the willow tree-e-e." each time breaking on the high note.

Finally the patient father from the next room ventured, "Better hang it on a lower branch, Liz."

Statistics Indicate Prosperous Year

Value of yield likely twenty percent in advance of last year, which itself showed gain of twenty percent over 1921

From a viewpoint of production, the industry has had little to complain of since the winter blockade on the Atlantic seaboard. Judging from statistics it would appear that the losses, generally in late winter and earlier spring occasioned by conditions rendering it impossible to operate, have been fully made up. It is our guess that the value of our production this year will be in the vicinity of \$40,000,000, marketed value, or a gain of twenty-two percent over last year. And bear in mind that the value of last year's yield was twenty percent in advance of the previous year's crop. It will not be many years before the peak year of 1918 will be a regular thing. What we want is the injection of some pep into the business. The business of merchandizing fish is probably the slowest

to alter its methods and to conform to new conditions. Most businesses are like crude politicians. They coincide with the viewpoint which is most expedient for the moment. The same would be good policy for the fish business—to yield to changing conditions as soon as they are brought to notice. What buyers wanted yesterday is not the demand of today and their manner of doing business is subject to a similar variation, dependent perhaps upon conditions over which neither the buyer nor the seller has any control.

For the purpose of comparison it is interesting to study the sea fish production of July 1923 as compared with the corresponding months of last year, and also the totals for the first seven months of 1923 as compared with the similar period a year ago.

KINDS OF FISH	MONTH OF JULY				FIRST SEVEN MONTHS OF YEAR			
	1922		1923		1922		1923	
	Quantity	Value \$	Quantity	Value \$	Quantity	Value \$	Quantity	Value \$
Cod, cwts.	400,638	709,906	326,516	455,328	1,077,542	2,147,005	736,627	1,155,603
Black Cod, "	96	524	482	3,137	2,035	8,444	3,258	17,852
Red and Rock Cods, etc. "	101	351	1,071	4,298	1,166	4,904	3,496	17,956
Haddock, "	30,511	41,495	27,200	37,078	178,517	286,742	181,155	271,748
Hake and Cusk, "	57,862	40,621	25,812	16,217	85,495	65,785	34,223	22,268
Pollock, "	31,446	24,189	18,993	15,927	73,973	59,580	32,634	29,643
Whiting, "	2	12	1	3	133	811	91	369
Halibut, "	26,843	242,546	37,895	462,741	165,487	1,474,220	197,183	2,540,776
Flounders, Brill, etc. "	4,698	6,243	252	626	7,970	13,308	2,316	4,511
Skate, "	88	289	73	194	556	1,895	1,061	2,915
Soles, "	324	1,379	209	1,254	2,210	13,589	2,366	15,105
Herring, "	54,617	63,914	53,983	62,250	890,374	672,717	864,493	657,713
Mackerel, "	32,486	153,784	15,257	68,470	185,278	825,864	108,924	334,680
Sardines, bbls.	16,600	36,125	12,068	28,963	29,934	53,978	23,305	55,931
Alewives, cwts.	81	122	37	74	53,822	58,684	50,637	45,118
Salmon, "	173,473	1,177,183	253,899	1,397,816	248,246	2,005,530	346,013	2,421,231
Shad, "	341	4,606	295	3,347	1,219	12,435	2,583	20,734
Smelts, "	110	1,001	149	1,639	54,324	346,450	32,122	374,765
Albacore, "	690	1,380	1,007	2,158	1,290	2,460	1,007	2,158
Caplin (bait), bbls.	4,831	8,012	1,415	2,205	4,831	8,012	5,080	5,870
Octopus, cwts.	6	56	2	12	267	2,229	619	4,548
Oulachors, "	..	..	..	..	180	941	438	2,406
Squid (bait), bbls.	67	313	1,052	4,281	67	313	1,060	4,297
Swordfish, cwts.	269	2,308	..	..	269	2,308	..	..
Tom Cod, "	..	..	..	..	5,135	5,321	..	..
Clams and Quahaugs, bbls.	2,153	4,749	2,202	4,415	17,581	62,102	23,326	49,729
Scallops, "	417	1,459	661	2,567	5,221	22,617	8,649	52,175
Crabs, cwts.	941	5,656	707	3,510	2,258	13,329	2,943	17,058
Lobsters, "	9,440	67,426	23,171	190,881	309,406	2,743,296	333,334	3,577,912
Oysters, bbls.	46	644	63	1,069	708	3,727	2,261	20,789
Shrimps, cwts.	20	260	50	800	223	3,108	1,185	13,926
Winkles, "	..	..	60	180	3,096	5,608	1,210	2,153
Cockles, "	..	..	..	..	71	177	..	..
Mussels, "	..	..	..	..	42	30	45	63
Total	..	\$2,596,730	..	\$2,771,440	..	10,927,510	..	11,742,002

Offa at Canso Again

The steam trawler Offa has arrived at Canso, N.S., from Grimsby, England, and will resume fishing operations for the Maritime Fish Corporation. The Offa fished out of this port last year in charge of Captain Martin Olsen, and until she left for the Old Country last spring. Captain Olsen is still in command, and on this trip brought his wife and family.

Dragged Down By Anchor

Osius Arsenault, 34, fisherman, while in his boat in Eggmont Bay P.E.I., putting out lobster traps, was dragged overboard with the anchor which caught in his clothing. He was carried to the bottom and drowned despite the frantic efforts of his fishing mate, Tarry Cormier, to effect a rescue. The body, still fast to the anchor, was recovered half an hour later.

Copper Oleate Stands Test as Preservative

Experiments conducted by United States authorities indicate supremacy of new preparation-- Some information about it

[Another valuable report on fish net preservatives has been issued by the Bureau of Fisheries at Washington. It is a record of experiments and deductions therefrom regarding the properties and values of certain fish-net preservatives, and is the product of Dr. Harold F. Taylor, chief technologist and Arthur W. Wells, assistant technologist.

The following matter is taken completely from the above report with the exception that United States statistics have been replaced by Canadian statistics. We have extracted from the report the general introduction (with above-noted alterations), the general summary and specific directions for the making and using of copper oleate.—Ed. C. F.]

Most of the fish taken commercially in the waters of Canada are captured by means of textile gear that is perishable—chiefly cotton and linen. The value of the webbing and lines used by our fishermen, as shown below, is approximately \$9,000,000. When this sum is compared with the value of the annual catch of fish, which for the entire nation is about 1,000,000,000 pounds, valued at \$30,000,000 to \$40,000,000, it appears that the invested capital for gear is very large; boats, houses, machinery, and the like further increase the cost. Not only is this item for textile gear large, but the gear itself is very perishable. Many nets wear out in one season; perhaps most nets last less than two full seasons. Such rapid loss of invested capital becomes, therefore, of the nature of overhead expense, which helps to diminish the fisherman's reward for his labor, but which must in the end be paid for, at least in part, by the consumer. When considered from the viewpoint of the individual fisherman, a fishing vessel, or company, the importance of reducing the cost of this item is obvious, but no less obvious is its importance when considered as a part of our national economy.

Number and value of fishery nets, etc., in Canada

Sea Fisheries

	number	value
Gill nets, seines, traps,		
smelt nets, etc	100,989	4,220,905
Weirs	668	489,510
Trawls	23,658	431,571
Hand lines	59,407	94,498
Lobster traps	1,300,921	1,178,449
Total	1,485,552	6,954,933

Inland Fisheries

Gill nets	23,770	1,056,309
and		
6,181,883 yards		
Ontario		
Seins	338	33,700
Pound nets	1,072	722,410
Hoop nets	2,229	78,818
Lines	1,243	25,234
Weirs	431	116,582
Eel traps	431	772
Fish wheels	5	580

Total	31,281	2,034,405
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and		
6,181,883 yards		
gill net		

Grand Total	1,516,833	8,989,338
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and		
Gill net		

6,181,833 yards		
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Investigation long Delayed

One would think, in view of these facts, that the art of preserving nets effectively would already have reached a high degree of perfection, but it has not done so. The literature of the subject is very small; the number of scientific papers reporting serious research into the subject can almost be counted on one's fingers. The conclusions found in the few papers reviewed are mostly inadequate, dealing as they do mainly with the factor of tensile strength and being based on too short periods of exposure. Furthermore, the principal materials used for net preservatives seem to come into use for insufficient reasons. Tar, the commonest material, appears to be used principally because it is available, cheap, and does some good, though never developed especially to meet any particular requirement, and indeed answering rather poorly most of the requirements of a good all-round preservative. Tanning extracts seem to have come into use through reasoning by a false analogy that if tanning preserves skins it will preserve cotton and linen lines also. As a matter of fact, there is no chemical similarity between cotton or linen and animal skins, and, as will be seen later, very little good results from the use of tanning materials alone on cotton or linen.

The plain need is therefore obvious. The various preservatives now available should be subjected to thoroughgoing scientific investigation to determine their suitability and effectiveness in every way as general or special preservatives, and a serious effort should be made to produce a material that really meets the many requirements of a suitable, efficacious, and all-round preservative of fish nets. The present paper will report results of experiments and tests made during the past two years with these objects in view.

General Summary

The principal results and conclusions arrived at and reported in detail in the main part of this paper following are here summarized.

1. The following preservatives and preservative methods were tested: Coal tar, pine tar, tar, coal and pine tar mixed, two proprietary petroleum products, quercitron and potassium bichromate, the Dutch tanning method, copper oleate in nine variations, two proprietary copper paints, a proprietary waterproofing compound, gilsonite (sold under a trade name), and two combinations of copper oleate, and coal tar.

2. The textiles tested were No. 24 cable-laid, hard-finish twine cotton and 10-ply linen thread.

3. The factors determined were tensile strength, flexi-

bility, wearing quality, increase in weight, shrinkage, resistance to fouling by marine growths, color imparted, and in some cases liability to spontaneous heating.

4. For determining flexibility and wearing quality machines were devised and made. The construction and operation of these machines are described.

5. Series of lines treated with various preservatives were exposed to weather conditions in the air, in Atlantic Ocean water at three places, and in fresh water at one place.

6. In the series exposed to weather conditions, the deterioration was comparatively slight. Those preservatives with a heavy body, such as the tars and gilsonite, preserved better than did those without heavy body.

7. In the salt water, if preservation of tensile strength only is considered, those samples that contained copper in some form were best preserved.

8. Tar was a fairly good preservative in salt water for about two months, after which lines treated by it began to lose strength. Coal tar and pine tar were similar in effect, but coal tar was slightly better.

9. Tar, either coal or pine, caused a great increase in stiffness and weight, both of which increases were quantitatively measured. Tar failed to protect nets against fouling by growths of hydroids and barnacles.

10. Tanning by quercitron followed by a treatment with potassium bichromate, without copper, was a poor preservative. Lines treated by this method showed little superiority to untreated lines.

11. Tanning by the Dutch method (quercitron followed by ammoniacal copper sulphate, or bluestone, solution) was much better than quercitron and potassium bichromate. It deposited some copper in the line, preserved fairly well, and increased weight and stiffness only slightly. It was troublesome to apply, caused considerable shrinkage of the line, and was not so good generally as preservatives that deposit more copper in the line. On cotton lines in fresh water it was a good preservative.

12. The proprietary petroleum products and a proprietary gilsonite that were studied showed little value as net preservatives. They increased the weight and stiffness of the line without causing any noticeable preservation. They showed no favorable effect on tensile strength, wearing quality, or resistance to fouling.

13. Copper paint, of which two commercial brands were studied, gave excellent preservation of tensile strength and resisted to a high degree fouling by marine growths; but it excessively increased stiffness and weight of lines to which it was applied, and because of its harshness greatly diminished the resistance of the lines to abrasion or wear.

14. Copper oleate, here tested for the first time and now proposed as a net preservative, showed many valuable characteristics. Dissolved in gasoline and applied it penetrated instantly and dried on the lines quickly. It preserved tensile strength well in salt water, resisted fouling by marine growths, resisted abrasion or wear as well as any other preservative, increased weight and stiffness only slightly, and imparted an acceptable green color to the line. In fresh water results were less promising. Directions were given for making and using it.

15. Marked differences in the behavior of lines were manifested at different places and in different waters. At Beaufort, N. C., in salt water, sample lines fouled more heavily and disintegrated more rapidly than they did at either Key West, Fla., or at Woods Hole, Mass. In fresh water of Lake Erie, at Put in Bay, Ohio, the sample lines suffered more rapid deterioration than they did at any place in salt water.

16. On linen lines quercitron and potassium bichromate, the Dutch method, a petroleum product, and copper oleate were tested. Copper oleate preserved best in both salt and fresh water. The Dutch method was good; the others were worthless. Linen line, with or without preservatives, and in salt or fresh water, deteriorated more rapidly than cotton lines.

17. In no preservative studied was there detected any tendency toward spontaneous heating or combustion. Such cases of heating of nets as occur must be ascribed to something other than simply the preservative.

18. Even with highly oxidizable oils, such as linseed oil, the temperature necessary to kindle spontaneous heating is in excess of 122 deg. F. (50 deg. C.)

19. Cotton lines exposed to temperature as high as 302 deg. F. (150 deg. C.) dry heat, or 257 deg. F. (125 deg. C.) under steam pressure for two hours showed no significant loss of tensile strength. Higher temperatures than these are necessary to produce any weakening of lines.

20. A mathematical procedure was devised for grading the several materials for all-round usefulness as fish-net preservatives with new white cotton line as a standard of reference. By this method copper oleate easily led all the materials tested as an all-round preservative in salt water.

Chemical Properties and Manufacture of Copper Oleate

Cupric oleate $\text{Cu}(\text{C}_{18}\text{H}_{33}\text{O}_2)_2$ is a green substance of the consistency of beeswax, insoluble in water, soluble in alcohol, ether, benzol, gasoline, carbon tetrachloride, turpentine, oils, etc., forming emerald green solutions. It contains, on the basis of the formula given, 10.15 per cent copper, by weight, though the percentage of copper in commercial preparations may vary between wide limits. It has a metallic coppery taste and is poisonous when taken internally, though external exposure to it is apparently harmless.

Copper oleate may be made in a number of different ways. It is precipitated when sodium oleate and any soluble copper salt are brought together in aqueous solution. When prepared in this way, it is gummy and contains much water that is removed only with difficulty. Cupric oxide dissolves in hot acid with formation of copper oleate and water, but it is difficult or impossible to carry the reaction to completion. Copper acetate and oleic acid combine at an elevated temperature, whereby copper oleate is formed and acetic acid driven off. The latter may be condensed and recovered. This method produces a good product, entirely soluble, but some acetic acid usually remains. Moreover, copper acetate is expensive.

The method employed in our production of copper oleate was to treat copper carbonate (containing also copper hydroxide) with oleic acid. In this reaction carbon dioxide and water are produced, and both are driven off by heat. Both reagents are obtainable in commerce in large quantities at a low price. The current (December 30, 1922) price of copper carbonate is 20 cents per pound, and oleic acid (the red oil of commerce) is 10 cents per pound. The exact procedure as followed in the laboratory in making this material is as follows:

Into a 5-gallon copper steam-jacketed kettle put 4 pounds of dry copper carbonate. Moisten this with enough red oil (about 1 quart) to make a paste; knead the paste with a wooden pestle until all lumps are crushed and the mass is of uniform consistency. Stir in more oil. As the oil is added large quantities of gas are generated, and constant stirring is necessary to keep the contents

from running over the sides of the kettle. As the foaming subsides more oleic acid is put in until 15 pounds in all have been added. Steam is now cautiously admitted to the jacket, and with constant stirring the mass is kept from foaming over. A thermometer is kept in the mass. When the boiling point of water is reached, bubbles of steam escape rapidly. This bubbling may continue for two hours or more, until comparison with that in lines treated with copper paint, yet in preserving effect it occupied second place when it did not occupy first. In the Key West and Beaufort series, where different concentrations (7, 7½, 11, and 12½ per cent) were tried, solutions of copper oleate in gasoline, the higher concentrations, give in every case better results. The addition of a small quantity of cresol effected no improvement, but the small quantity of oil seemed to increase the preserving effect. It is probable, therefore, that still higher concentrations than we used or repeated applications of copper oleate will give even better results and should equal any other preservative tried.

Copper oleate does not stiffen lines to which it is applied to an objectionable degree. In fact, it appears to be quite suitable for gill nets and other soft gear, where flexibility is essential. Lines treated with it made about three times as many swings, acting as pendulums, as lines treated with tar. The weight imparted to lines by the application of copper oleate is insignificant, being only about 16 per cent of the original twine. In these two particulars—that is, flexibility and weight—copper oleate greatly excels tar and copper paint. In ability to withstand mechanical wear, lines treated with copper oleate are better than any other treated lines tested. In this particular, also, it is far ahead of copper paint, which causes excessive wear.

Copper oleate prevented the attachment of marine growths to the lines exposed at all places, in this particular being equalled only by copper paint. Copper oleate when used alone, dissolved in gasoline and with or without oil, imparts to the lines a color that varies between azure and green as concentration varies. This color is said by some to be desirable. Japanese fishermen have introduced in the northwest the practice of dyeing green their gill nets used for salmon. The acceptability to different fishermen of the color imparted by copper oleate will be greatly influenced by their customs and their notions of fish behavior.

In ease of application and time required to dry copper oleate is equal to any other preservative tested. When dissolved in gasoline or benzol in the proportion of 1 to 2 pounds of copper oleate to 1 gallon of solvent, the lines or nets need only be dipped in it and spread out to dry. Drying requires about one-half hour for cotton lines and two or three hours for linen or hemp. Applied in gasoline with a little mineral oil, then, copper oleate answers well all the principal requirements of a good net preservative. When copper oleate alone dissolved in benzol is applied to cotton twine, the copper oleate seems to creep to the surface of the twine as the solvent evaporates. The addition of about 1 pound of mineral oil or cresote to each 10 pounds of copper oleate prevents this creeping. Cresote seems preferable to oil as being cheaper and in possessing a toxicity of its own.

The combination of copper oleate and tar preserves the nets better than either copper or tar alone. After six months' exposure in both fresh and salt water the samples of cotton line preserved with these combinations were equal in strength to the original unexposed samples. It made little difference whether the copper and tar were applied separately, or mixed. This being so, the choice

would be the mixture that would require less labor in being applied. This combination is similar to copper paint in preserving effect and to mixture and hung (not piled) to dry. Any unused portion of the copper oleate in gasoline may be kept indefinitely in a tightly corked can, such as a 10-gallon oil can. For larger quantities a steel gasoline barrel is suitable. The treatment may be repeated as often as seems desirable without danger of injury to the twine.

OUTLOOK FOR COD OILS

Norway's 1923 codfishery has been some 4,000,000 fish less than last year, but greater in value than any fishery of the past seven years. The yield of each year in codfish and refined codliver oil was as follows:

	Catch of Cod
1923	44,800,000
1922	45,900,000
1921	37,000,000
1920	33,000,000
1919	26,660,000
	Yield of steam refined cod-liver oil
1923	77,267 (Heet.)
1922	76,000 "
1921	54,468 "
1920	49,997 "
1919	32,866 "

The hectolitre is a barrel (tin lined, with a capacity of 25 Imperial gallons. The last quotations were 107 to 110 shillings per barrel and this is an advance of about 10 per cent on last year's values. But we learn even with this fine figure it is impossible to pay more than 60 cents the gallon in the local market for cod liver oil.

Soap manufacturers in the United States held a conference not long ago at which it was pointed out that there was no surplus of fish oils whatever and no possibility of lower prices for such oils until a larger production of surplus was in sight.

The manhadden and pogie fisheries of the United States usually afford the American soap boilers with large supplies of the fish oils necessary to soap manufacture but this year up-to-date, the fisheries have been poor. The voyage will not terminate for another six or eight weeks and if it is a complete or partial failure then the outlook for cod oils should be very encouraging.

WHY THIS RETAILER SUCCEEDED

A merchant who has made a success of the retailing business, recently summed up the ten main reasons as follows:

1. He kept up with the times.
2. He didn't try to do everything himself.
3. He took time for exercise and relaxation.
4. He maintained efficiency by developing able help.
5. He did not permit system to run into red tape.
6. He did not practise cheese-paring economy.
7. He did the little things worth while.
8. He developed his capacity for large things by avoiding the pit-falls of details.
9. He took frequent inventory of himself and his stock, and last but not least—
10. He was a regular and consistent advertiser.

Doings of the Fish Culturists

Much evidence of the beneficial results of fish hatcheries is recited in the annual report of the Dominion Superintendent of Fish Culture. "From a state approaching depletion," says the report, "the whitefish fishery in Lake Winnipeg was brought back to a point where it compares favorably with what it was in the earliest days, and in one recent year the catch of whitefish, per net operated, was higher than it ever was in the history of the lake.

"Thirty-five years ago the whitefish fishery of Lake Erie was regarded as a thing of the past, but with intensive fish cultural operations on both sides of the line it has been brought back to a most remunerative condition."

The president of the Lambton Fisheries Association is quoted as to the beneficial effect on the Point Edward hatchery on whitefish in Lake Huron. Prior to the establishment of that hatchery the president of the Lambton Association had depended "wholly on pickerel and sturgeon to meet expenses," but after its construction "whitefish reappeared and increased yearly, until now he depends on them and not on pickerel and sturgeon for his season's profits."

"The Lake Ontario whitefish fishery was practically gone twenty-five years ago," the report goes on, "but it is now in an excellent condition, as is indicated by the catch. The department undertook to stock the lake at first with fry from the whitefish hatchery that was then at Sandwich. The results soon manifested themselves and the fishery became so built up that in 1914 it was found feasible to establish on the bay of Quinte one of the largest whitefish hatcheries in the province.

"When the collection of such eggs was first undertaken the department was satisfied with a take of thirty million; this collection has steadily increased in each of several successive years; new records have been established, and the collection of eggs was better than it was in all preceding seasons. The collection in 1922 was over hundred and eight million, and we are now able to ship large quantities of eggs from the Bay of Quinte to other less productive waters.

"Lake Ontario is now only second, and a close second, as a whitefish producer, to Lake Erie. The catch in Lake Ontario in 1921, the last year for which figures are yet available, was 21,885 hundredweights, as compared with only 1,266 hundredweights in 1895. This improvement has been brought about notwithstanding the fact that there has been no close season in the Great Lakes for years."

The superintendent of Fish Culture further reports satisfactory results from the planting of hatchery fry in the Restigouche and the Miramichi rivers of New Brunswick in Prince Edward Island, and in the Margaree of Cape Breton, and in the rivers flowing into the Bay of Fundy.

On the Pacific Coast he reports, amongst other instances of the usefulness of hatcheries, that on the lower Fraser, where hatcheries have been operated, there has been a continuance of promising runs, while the Upper Fraser, where very little fish cultural work

has been done, is practically barren. In this connection it is stated that, unless unforeseen circumstances occur, the Upper Fraser will this year receive an allotment of fry, and this will be carried on until spawning salmon again resort to these grounds.

SPRING SALMON ESTABLISH IN EAST

An abundance of red salmon in eastern waters is looked for by the Dominion Fisheries Department in view of the success already achieved in transferring spawn of the spring salmon of the Pacific coast to Lake Ontario. The spring salmon is not only the largest found in British Columbia, but it is also of the most valuable species. Not merely is the commercial fisherman interested in this departure, but also the angler. The spring salmon readily takes the spoon and makes excellent sport.

As a matter of fair exchange, the Atlantic salmon has been introduced by the Fisheries Department into the Cowichan river, Vancouver Island, in order to supply the need for a sporting fish, of which this is a good type.

Experience had shown that the Atlantic salmon would not face the pollution from industrial and other sources, and for some time had ceased to ascend the St. Lawrence river beyond the city of Quebec. The spring salmon, however, is not so dainty. Furthermore, it lends itself more readily to changed conditions than most other species.

For the past four years, accordingly, the department has distributed spring salmon spawn or "fingerlings" in points on Lake Ontario, principally in the Port Credit river and in Parks creek as well as at Wilmot's creek. Specimens of the salmon have now been taken at the Bay of Quinte ranging from a few months' old to the fully matured fish weighing over 20 pounds.

Have Had No Protection

During the experimental years the salmon have had no special protection and despite this last fall there were fully a thousand spring salmon, some of the full sized in the Port Credit river. The homing instinct of the fish is very marked and it has been observed that they return for spawning to the streams in which they were released as fry at a few weeks old. Tags used by the department for identification have shown a growth of from 7 lbs. to 15 lbs. between the month of October and the following June.

During the coming fall it is the intention of the department to keep the Port Credit run under observation, and if the fish appear in the same large numbers, to take the eggs for re-stocking Lake Ontario points instead of bringing further spawn from British Columbia. Success has also attended the efforts of the department in stocking the Cowichan river, Vancouver Island, with the Atlantic salmon, regarded as one of the most valued of sporting fish. Specimens have been caught and identified from young fish three months' old to fully developed specimens.

Will Malagash Solve Salt Problem?

Evidence would appear to indicate that salt fish trade has economic means of escape from rust trouble

What promises to be one of the greatest boons to fishermen and which will enable them to put up a better product and save considerable loss, has been discovered by Dr. F. C. Harrison, of Macdonald College, of St. Annes.

In the past years the fishing industry of the Atlantic coast has suffered considerably from the fact that codfish, mackerel and herring had become infected in such a way that the surface of the codfish acquired a distinctly pink or red color, and the herring turn rusty with impaired flavor. This, of course, detracts from the wholesome and palatable appearance of the fish and causes an unmarketable product, which obviously is a loss to the trade. In some cases dealers estimate their loss as running from 3 per cent to 40 per cent.

Herring are particularly affected by this trouble. It occurs only in pickled fish and is characterized by the appearance of a reddish brown discoloration on the exterior surface of the herring. Not only is the appearance of the fish spoiled by this semblance of rustiness, but the flavor of such fish is not so good, and they seem to deteriorate more rapidly than normal pickled fish.

The packers consider the trouble a serious one, and Dr. Harrison who has been in communication with the various dealers, finds they are seriously alarmed. They give various reasons for the difficulty and state that it specially affects the best fat July herring.

Samples of rusty herrings were received from various parts of Nova Scotia, and the other Maritime Provinces. Cultures were made and experiments conducted. Various brands of salt were used and it was found in the case of codfish, that the coloring was caused by the same red organism in solar or sea salt. Fresh herring salted with Liverpool and Malagash Salt remained fresh and bright, and no rustiness developed.

The reason given as to why the organism produces red color on cod, hake, pollock and crusk, and rusty color on herring is that the herring oil modifies the color. The red organism is salt loving, requires free oxygen, refusing to grow beneath the surface of pickle, or in any condition which deprives it of free oxygen and its growth is favored by warm temperatures. Remedial measures have been discussed, and the report of Dr. Harrison suggests that Solar or Tropical Salts should be either sterilized before use, or its sale should be prohibited until it is shown that such salt is free from the red organism.

Salt, therefore, is the source of the trouble. The latest report on this subject supplied to the Advisory Council for Industrial and Scientific Research, made by F. C. Harrison, D. Sc., F. R. S. C., Principal of Macdonald College, recently issued on "Rusty Herring," and an earlier report of "The Red Discoloration of Salt Codfish" states that — "undoubtedly the source of the trouble is found in tropical salt, that is, salt obtained by the evaporation of sea water in tropical

or semi-tropical regions." This difficulty can most easily be avoided by the use of mine salt.

The estimated quantity of salt used annually in Eastern Canada in fish curing is forty to sixty thousand tons, valued at about \$480,000. This salt is produced in many countries. It may be divided into two classes:

(1) Mined salt, coming either from deposits in crystalline form, or from brine. Examples of this kind of salt won from brine are known as Liverpool and Windsor. Mined mineral salts are found in Germany, Austria, several States of the U.S. and Malagash, N.S.

(2) Sea or Solar Salt. Salt obtained by the evaporation of sea water, coming as a rule from countries having a sea board where the climate is dry and the summer of long duration. Spain and the West Indies are the largest producers although it is manufactured by this means in Salt Lake City, and a number of places in California.

The Solar Salt is much cheaper than the mined salt, or at least it was until the deposit at Malagash was located and work vigorously prosecuted.

Packers who paid particular attention to putting up mackerel carefully and in suitable packages easily get from \$10 to \$18 a barrel more than the ordinary packers for their product. One of the greatest obstacles militating against the packing of this high grade article was the fact that solar salt was used and the fish turns a "rusty red" color.

The standard of quality is Liverpool salt, but this is expensive, selling for from \$15 to \$18 per ton at the point of consumption, making it prohibitive for use, for instance, with a cheap fish like herring. For codfish the crystal of Liverpool salt is too fine to cure it properly. It is fortunate, therefore, that there is in Nova Scotia a deposit at Malagash which can be used by packers, with the knowledge that it contains no red bacteria, and at the same time is coarse enough for all purposes. It is a high grade brilliant salt. It is much purer than the solar salts generally used for curing fish, and at the same time the mining facilities have been so developed at Malagash that it can be sold at a price to compete with the cheaper salts now on the market.

Out of some 28 experiments conducted by the faculty of Macdonald College with about twelve different salts, only two showed absolutely no infection, and these were Liverpool and Malagash brands.

In fish curing the chemical constituents of the salt play a very important, even vital part. Many exhaustive inquiries have been made during the past winter with various kinds of salt, looking to the improving of the fish curing defects. It has been found that contrary to the general opinion pure salt will not moisten in the air — the salts that moisten do so because they contain a small percentage of magnesium chloride, and other hygroscopic salts. This means that fish cured with these salts do not keep so readily in hot, humid

climates, and this is one of the reasons why Norwegian fish persistently brings a price of some two cents a pound better than Nova Scotia fish. That is, together with the fact that they persistently offer white "naped" fish which commands a better price for their product.

The situation then is that the bacteria which causes the discoloration of codfish, herring and mackerel is found in the Solar Salt so generally used by fishermen, but which is not found in Liverpool or Malagash salts. The big deposit of salt at Malagash, and the cheaper methods of mining, have brought this salt within the reach of the ordinary fish eruer.

The situation then is that the bacteria which causes the discoloration of codfish, herring, and mackerel is found in the Solar Salt so generally used by fishermen.

The United States Bureau of Fisheries recommend salt of the purity of Diamond Flake and Leslie Velvet — and a comparison of these standards with Malagash salt makes interesting reading.

Men closely in touch with the fish curing business have stated that Norwegian fish has been shipped to the West Indies, and after a time trans-shipped to Halifax. On arrival in Nova Scotia it was found to be in better condition than the local product ready for the southern market. The statement has also been made by those competent to speak authoritatively that Norwegian fish will keep very much longer in the Tropics than Nova Scotia product, and this is a decided advantage.

When the fishing industry of Nova Scotia really awakens to the importance of a thorough knowledge of the advantage of all these factors and study the application of the knowledge it will be the means of establishing their industry on a stable and more remunerative basis.

Substances Present	Malagash,	(Recommended by U.S. Fishery Dept.)			Typical analysis of Domestic Sole Grad. Call-impure formula Salt.
		Diamond Flake	Leslie Velvet	Solar Salt	
	Percent.	Percent.	Percent.	Percent.	
Sodium Chloride	99.095	99.78	99.98	95.32	
Calcium Chloride	0.118	.....	.....	0.32
Calcium Sulphate	0.401	.37	.067	.....
Magnesium Chloride	0.026	.....	.....	1.19
Magnesium Sulphate .. . . .	.....	.....	0.10	1.75
Sand, etc.	0.36	.....	0.22	.15

SWORDFISH ARRIVE LATE

Says a Canso, N. S. despatch of August 23:

The summer run of swordfish, which has been considerably later in showing up this year than usual, appears to be now along the coast here, and on Saturday last and the few favorable days since, a large number of these fish have been landed on the wharves here. The fishermen at present are receiving nine cents with ten per cent. off.

The usual number of outside craft are in evidence in port, remaining here for a period on their way to the Cape Breton coast. Among those noted this week were Captain John Taylor of Port Bickerton, who has been following the swordfish along this route for a good many summers past, and John Cashin of Port Felix.

NO, THEY DON'T BURN COAL

He: "I just read an account of two girls getting lost in the Alps in mid-winter."

She: "Terrible! Were they frozen?"

He: "No they warmed themselves on the mountain ranges."

LUNENBURG CATCH SMALLER

The Canadian fishery protection cruiser Arras was at St. John's, Newfoundland, August 31, from the Banks. The Arras reported the stormy weather and lack of bait have interfered with the bank fishery and the catch of the Lunenburg fleet is considerably less than last season's. In all some 76 vessels were operating from Nova Scotia ports and the whole fleet were at the time in Newfoundland waters seeking bait. At Cape Broyle there were 19, whilst the others were at Fermeuse, Renews and other ports right around to Carbonear.

Captain Barkhouse, of the Arras, stated that the French fleet was about leaving for home; all had secured good trips and should average between 4,000 and 5,000 quintals. This season 100 sail of French vessels operated on the Grand Banks and the Arras spoke to at least 20 of their large beam trawlers so that the French catch this year will be well over half a million quintals. There were 40 Portuguese vessels operating as well as several Danish vessels and like the French fleet these have done well.

POOR OUTLOOK FOR LABRADOR FISHERY

The fishery along the whole coast of Labrador from Battle-Harbor to Turnavik does not look very encouraging. Some fishermen have got as high as 300 quintals but others have no fish at all due to ice lying in their trap berths.

The outlooks for the Belle-Isle Strait voyage is blank failure. On the Newfoundland side of the strait codfish are fairly plentiful but on the Labrador coast there is little if anything doing.

The Canadian cutter Arras, operated by the Government for the protection of fishermen and the fishery service in general on the Grand Banks, reported at St. John's recently for fuel and supplies. The cutter is on this patrol work following representations that Portuguese and French trawlers were doing great damage to hand lines and fishermen.

Capt. Barkhouse stated that the weather had been very foggy all season, and hopes for a good fish harvest are not bright. There is a scarcity of bait, and very little has been done by any of the vessels.

PERSONALS

J. A. Paulhus, president of the Canadian Fisheries Association, and A. H. Brittain, past president, motored to Sandusky, Ohio, last month to attend the annual convention of the United States Fisheries Association. On their return they dropped in at Toronto. Altogether they travelled more than 1,600 miles, using Mr. Paulhus' new Packard.

Arthur Boutilier of the National Fish Co., Halifax, recently returned from a business trip to Great Britain and the Continent.

F. T. James, Toronto, has been recently holidaying in the Maritime Provinces, spending a few days with friends here and there.

Friends in the East are anticipating a visit from A. L. Hager, Vancouver.

It will be good news to his many friends in the fish business that W. R. Spooner, Montreal, is recovering from his protracted illness. Mr. Spooner has been confined to his home since early June.

Here, There and Everywhere

C.O. Engine for Patrol Boats

The Crude Oil Engine Co. of Canada has sold to the Marine & Fisheries Department, Ottawa, two Crude Oil Engines of the semi-diesel type, each of 60 brake horse power, for installation in fishery patrol boats to be built for service in British Columbia waters.

Fish Scale "Pearls"

The activities of an American firm at Peterhead in collecting herring scales for commercial purposes, believed to be the manufacture of artificial pearls, have not proved successful, and the station has had to be closed, at least for this season. Owing to the structure of the herring boats it was impossible to collect the scales in sufficient quantities, and the scales obtained from the kippering firms were not up to the standard owing to the cleaning process the herring had to go through in the kippering yards. It is understood, however, that experiments are to be made in order to secure the utilisation of the scales from kippering firms. — Fishing News.

Cold Storage Subsidies

Regulations providing for the payment of subsidies to cold storage warehouses "whether or not they be erected by municipalities or other public governing bodies," have been passed at Ottawa. Formerly such subsidies were paid only to cold storage warehouses erected by municipalities or other public governing bodies, but now any cold storage warehouse which complies with the Cold Storage Act is eligible.

Three Fishermen Missing

A Halifax despatch of August 27 states that three men are missing from the fishing village of Port Medway on the south coast of Nova Scotia, and that no trace of the men or their craft had been discovered. The fishermen, who are believed to have perished, are Zekariah Wamboldt, his son, Isaiah, and his son-in-law, Roy Selig. They set out for a day's fishing a week ago today in a 13-ton power boat, and have not been seen since. An overturned schooner sighted by an American schooner today near the fishing grounds, had not been identified tonight as the missing craft.

Salmon Season Extended

The angling season for salmon in New Brunswick, except in the waters of the Restigouche River and its tributaries, has been extended until September 31. The regulations provide that the inspector of fisheries for a district may grant permission to fish for and catch salmon by angling at any time after the end of March, in any stream where he finds that the salmon are in good condition for food.

Trout Fry Distributed

Nearly 2,200,000 trout eggs and fry, principally Kamloops and cutthroat, have been distributed this season, according to the Department of Marine and Fisheries, in British Columbia waters. Nearly 600,000 were distributed as fry, and the balance as eggs in an eyed condition. These latter were planted in places where it was not feasible on account of the

isolation and the lack of transportation facilities to distribute fry. There are still some 34,000 in the hatcheries, and these will be distributed as fingerlings when two or three months old.

Offa Gets Good Trip

The biggest fare caught by any Nova Scotia trawler during the present season was landed at Canso, N.S., September 3, when the Maritime Fish Corporation steam trawler Offa arrived with nearly 150,000 pounds of mixed fresh fish, being gone less than three days.

Pugnacious Swordfish

A gigantic swordfish, weighing nearly half a ton, recently caused a panic in Montauk Bay, N. Y., when, maddened by a lance thrust, it turned on its attackers and demolished a fishing boat by cutting most of the bottom away, throwing the crew into the water. Ignoring the struggling men, the monster charged other boats in the vicinity and sent them scampering to all parts of the bay. Finally a fisherman put out in a power trawler and succeeded in killing the fish after ten minutes of shooting.

To Build Fish Freezer and Storage

A Quebec paper says:

Commercial interests of Quebec will be pleased to learn that owing to the initiative and persistent efforts of the Quebec Harbor Commission the erection of cold storage plant has at least been assured. It will be at the corner of Dalhousie and St. James streets, and extend to the end of Atkinson Wharf at deep water. It will consist of three buildings, the cold storage warehouse proper, the power plant and the fish freezing and cold storage warehouse.

Fishing Plant Burned

Fire destroyed the La Have Fish Company's plant at Fort Point on August 20. The six buildings were completely razed. The cost when built twenty years ago, was thirty-five thousand dollars. In the building was a lot of fishing gear and a quantity of salt.

Biological Station at Canso?

It is said that there is a strong probability that the new biological station for Nova Scotia, an extension of the present system, may be located at Canso. Charles Bruce, chief engineer of the Fisheries Department, Ottawa, was down east recently looking over the ground. Owing to its proximity to the fishing grounds, and the large variety of the various fish species obtainable here, Canso is an ideal spot from the scientific standpoint. The question of an adequate fresh water supply is said to be receiving consideration. The Biological Station at present situated at St. Andrew's, N.B., was located for several seasons at Canso a number of years ago.

July Fish Exports Below July 1922

Total exports of Canadian fish for July brought \$3,141,692, according to a report prepared by the Dominion Bureau of Statistics. Of this amount, \$822,-

869 worth was shipped to the United Kingdom, and \$1,639,713 to the United States. The total figures show an increase over June business, but a decrease of some \$700,000 when compared with July, 1922.

Lower Freight Rates

Revision of freight rates on the Canadian National Railways generally, at least in so far as the Maritime Provinces are concerned, and the removal of the differential against North Sydney and other ports in the Maritime Provinces, were announced recently at North Sydney by Hon. E. M. Macdonald, Minister of Defence.

Heated Cars For Fish

The science of refrigeration has helped wonderfully to provide distant markets with fresh fish. Refrigeration cars have been responsible for improving our system of distribution. "Barney" H. Cohen, president of the Winova Fish Company in Manitoba has conceived the idea of heating cars in cold weather to keep fish from freezing. His customers in the eastern states do not want frozen fish. In the very hot months he uses refrigeration cars to preserve fish in transit and in the cold months he uses heated express cars to keep it from freezing.

Export Duties Lifted

The Government of Newfoundland has removed the export taxes on seal oil, whale oil, pickled salmon, turbot and trout as well as canned salmon and lobsters. The imposition of the duties on these articles was a great handicap to the profitable export of the same and was especially so in the case of the latter two items of export. One of the principal reasons was that it enabled the foreign exporters of canned salmon to undersell our own goods in the local market while our lobsters were also greatly handicapped in the foreign market. Whether inadvertently or advisably, the export tax is still retained on common cod oil and cod liver oil.

Green Fish For Portugal

In recent weeks the Portuguese three-masted schr. Ondina has been at St. John's; Newfoundland, and has been receiving green fish from the fishermen who work off this shore. The vessel, landed a cargo of salt. He paid for the fish from the knife at the rate of \$1.25 per cwt., and secured a fair quantity of the catch coming in.

The fish will likely be taken to Portugal to be cured, and the skipper is hopeful that the venture will pay. Those local people who are buying the same class of fish have had to advance their rate \$1.00 to \$1.25 to compete with the captain, whose action is more or less of an innovation in the business, for it is a new departure for Newfoundland green fish to be taken to Europe to be "made," and the transaction will be watched with interest, and especially as to how the fish, if cured in Portugal, will turn out.

Poachers Attack Officer

Charles Pitcher, of Kingsclear, a fishery warden on the St. John River, north of Fredericton, N.B. was attacked by poachers on the night of August 16 when he detected them drifting with a net for salmon. The net

fishing season for salmon on the St. John River closed on August 15th, and the incident was the first clash of a warden with poachers since then.

When the poachers found they were being followed by a warden they grounded their craft upon a gravel bar, jumped out and seized large stones, with which they proceeded to attack the officer at close quarters. They struck him in the face and the side, virtually showering him with missiles and threatened to kill him. Pitcher was unarmed and unable to reply to the barrage, but he secured the boat and the net which the poachers were using, and from which they made their escape.

So far as could be learned this morning the boat and net which the poachers were using had been stolen by them when they set out on their expedition.

Henry Ford Wins Lipton Trophy

The Gloucester fishermen "Henry Ford", which failed in an effort last year to lift the international trophy for fishing vessels, was the winner of a special fishermen's race off Gloucester on August 31 in connection with the celebration of the three-hundredth anniversary of the historic town. Sir Thomas Lipton presented a silver trophy and a purse aggregating \$2,400 for the winner. Two other starters were the Elizabeth Howard and the Shamrock, the latter named after Lipton's unlucky challengers. In two earlier races, which, however, were not completed in the specified time, the Ford led both its competitors quite comfortably and on the third occasion completed within the time limit and won easily. An effort was made to have the Bluenose of Lunenburg, N.S. compete and also the outcast Mayflower, but neither entered.

There was no restriction on the water line or overhaul length, sail area, spars, ballast. It was boat for boat. The race was open to any bonafide two masted fishing schooner in the world. Following were the prizes; 1st Sir Thomas Lipton trophy and \$1,000 in cash; 2nd Colonel Prentish cup and \$600 in cash; 3rd \$800 in cash; 4th \$600 in cash; 5th, \$400 in cash.

The course was twice around a 15-mile triangle, five miles to a side.

Season in Lesser Slave Lake

The Lesser Slave Lake was opened July 15 for summer fishing, with the following firms operating, viz:—McJames Fish Company, Menzies Fish Company, Lakeside Fish Company, and Clark & Johnson. The operators have been allotted as their season's catch one million and a half pounds of whitefish. Up to the end of July, twelve cars, containing an average of 24,000 lbs. per car, have passed Edmonton, moving to Chicago, Ill. A very heavy run has been reported and so large was the take that the fisheries officer in charge decided that over production would be the result and as a consequence, closed the lake from July 31 to August 6.

NO QUESTION

Smith — How's the liquor question in the West

Jones (who has just returned) — No question at all. Why in one town I was in, the water had been turned off for a week and the inhabitants didn't know it until they had a fire.

Things Nova Scotia Fishermen Must Contend With

Perils of marketing not the only worry-- Enemies of the deep offer trying obstacles as well

By BONNYCASTLE DALE

Take a look at my three neighbours who have just come in with some pollock. These are "shore fish" ("bank fish" come from "The Banks" one to two hundred miles out. The bankers use two—masters a hundred feet overall and catch most of their fish on set trawls, they are divided in salt bankers and fresh bankers) These men are shore fishermen who use gasoline motor boats from twenty-five to fifty feet long and have from two to six in a crew and catch all their fish on handlines, within a league of the shore, except when they go lobstering or mackereling. These three men had started out of Hawk Inlet about daylight, with bait costing them 60 cents a bucket and gasoline at 50 cents a gallon. They ran out about six miles, just off the "Automatic" buoy outside "Sou' west Ledge." They fished on the slack tide and hauled in the big soft pollock about as fast as they could draw them. The crates were full when they got into harbor at about mid-afternoon with six hundred pounds of pollock.

Meanwhile Uncle Sam had been busy with the big stick and had written a law which militated against our Nova Scotia fishermen, charging a cent to a cent-and-a-half a pound on all fresh fish coming into the U. S. That was more than the price per pound paid in Canada for freshly caught fish by the U. S. buyers. They paid this crew $\frac{3}{4}$ of a cent a pound for pollock—the really magnificent price of seventy-five cents a hundred pounds for these big fresh fish, and the same day they paid but a cent-and-a-quarter a pound for freshly caught shore cod. You may say "Why that's what they paid here last year; it is no less than it was before the new law", well, you cannot take something from nothing, so even this most unfair law did not further decrease the price of the shore caught fish when bought in Canada.

But try to take your load of fresh or salt banker's cod, taken in a Canadian bottom by Canadian fishermen to Boston or Gloucester and you will see what happens — duty $1\frac{1}{4}$ c. per pound. For this reason nearly all bank fish caught in Canadian bottoms goes to Lunenburg, N.S., and coastal towns and is there "made up" (salted, dried, flaked, or filleted,) and sold by us direct to the West Indies, South America and Spain. To get about this unfair law occurs "the exodus" Nova Scotians pouring out of Canada into the New England States. Go and stand on the wharf at Yarmouth and see the carloads of household furniture being hastened aboard. See the well-built squat man in the blue suit directing. He is the Nova Scotia fisherman, and he is going in his hundreds and his thousands and taking all his kiddies with him, until I can go down any road in Nova Scotia that leads to a shore village and buy a good hundred-acre farm, barn, fences, orchard, often the very furniture in the house, a good house, too, that would cost from \$1,500 to \$2,500 for \$250 up to \$500. And there are so many of them that we do not bother

buying; it is easier to pay rental than be burdened with depreciated household property. What is going to become of these villages?

The marvelous thing is that the decimated population that is left is keeping up the excellent gravel roads and keeping them open in winter, too, but the governments are paying good road work wages and some of the men are mightily helped thereby.

Well, let's return to my three neighbours — good hardworking chaps when on the sea. (Very few Nova Scotians can be both good fishermen and good farmers, so the land often suffers.) They got just for those three crates of big fresh fish. Let's see how much they made. The engine ate up two gallons of gas, there was some oil used and the gear and tackle is high-priced, and the two buckets of bait spoiled another dollar, so actual expenses were \$2.50 close figuring and the fish sold for \$4.50. And there were three men to divide that two dollars. Oh me! Oh my! What's the use of asking me why my neighbours go to the U.S.!

Enemies, too, Underneath Water

Man is not the only enemy these Nova Scotian fishermen have to contend with. Nature has just a few in the sea. I show you the typical motor boat coming in with a halibut. These three men did get a fish—a white (under 100 pounds; over they are "grey" and not worth nearly so much) 100 pounds of halibut. It took ten hours trawling to land this big sweet-fleshed fish and it used several gallons of gas. So even if these men did get 12 cents a pound for their one big fish they had less than two dollars a piece for overhead counts up fast on this harsh coast where so much gear is lost.

If you want to really see the enemies of the Nova Scotia fisherman look at my photographs of the wolf fish ("eatfish" locally) and the mouth of the Blue Dog Shark. I haven't a print off my Dog Fish negative to show you so I really slight the greatest enemy of all. These grey, shapely, smooth, swift, big-toothed dog fish are terrors. I have known boat after boat to be literally driven off the fishing grounds by the schools of "dogs" that attacked every bait and every hooked fish until the water fairly churned with them and the men unavailingly struck at them with killing sticks and "gafts". (Gaff hooks) until they had to up anchor and away to another spot and at once the school of dogs was there, so it was go home with all the bait lost and no fish to sell. There was a time when we had reduction works to take these lesser sharks and render them for oil and fertilizer but man in his usually greedy way, left the dogfish alone the moment fishing improved, and the plant naturally shut up.

Since that most wonderful diabetes cure, that new factor called Insulin, is to be found in the dogfish let us hope that it spells his partial destruction. There are places where they do render the dogfish for the oil. Individuals on little islands and reefs camp out in

summer and boil the pirate down. You just want to keep to windward of that individual plant. It may not be a large plant but it smells large.

Sharks are Bad Medicine

The big soft mud shark of this coast is a nuisance, but there are not enough of them to make much trouble. I know of a crew fishing out of a long motor boat getting their lines fouled one after another in something away down below until every man of the six was fast.

"Let's all draw up!" said Peter. They did and a shark almost as long as the boat slowly and sulkily rose to the surface. There it lay inert while the men cut out their hooks. Then, they elubbed and prodded the shark and finally they got a noose on its tail and drew about two yards of the thinnest part of Mr. Shark up over the rail. Just then he woke up to the fact that something unusual in his life was happening and he squirmed a bit. When a monster of a six hundred pound shark squirms something has to go and most movables on that motor boat went. The crew flew on high squat mast, deck house cuddy roof, aft with a grade of 1 in 3, through which the under-deck, anywhere out of that awful flail. Then the noose slipped off the bit and the beast went down below. And it seemed that he just had to have hooks in for he managed to get all those big codhooks firmly imbedded again in this dove-grey side and the men had to cut loose and lose several fathoms of line and a lot of hooks. I once came across a boat that was big enough to carry a cook. He was a "chink". The boys were dredging and there was a long rope with a noose on the end attached to the snubbing post so that the very next time a big shark came along and nosed about the cook's side they could snub him by the tail and watch his struggles. The cook heard the men telling just how it was done, so while they were smoking the noon hour away Mr. Chinaman went on deck and noosed that shark. The only mistake he made was that he undid the big rope from the post and held the end in his hand while he dangled that noose dangerously near that big forked tail — over went the big noose — tightly did the "chink" draw it — and just then the shark decided to go below and John went with him. There was a squeal like that of a baby being bathed and the men ran on deck to see what was splashing. Nothing was just then, but pretty soon John came up and he had that rope in a death grip and almost instantly he went below again. On his next appearance the Swede boss yelled: "Let go! let him go!" meaning the rope. Down went John again and into the hole in the sea went the big Swede. He euffed the chink once when he came up and tore the rope from his straining fingers. "Good rope ban down, I bet you!" the captain grinned as he clambered up the side. The men had most of the water drained out of the Chink by now and the moment he came too and could stand and he saw that big Swede making another noose he only said, "belly blad flish" and dived into his galley.

Wolf Eel is Dreaded

In this great rough tide-swirled and tempest-tossed Atlantic, there are many other dangers our fishing boys encounter but the wolf fish is always there or thereabouts. Look down over the side of the motor boat when it is swaying on the end of its anchor rope in "The Race". There, ten and twenty feet below,

lie a number of dark shapes; they look very much like four foot stieks of spruce cordwood waterlogged and sunken. These are the dreaded catfish of this coast. Utterly useless as food or bait they cover the bottoms of the reefs where the pollock love to lie and feed and eat greedily of the tiny silvery Billfish.

It is a wonderful sight to see a school of these tiny thin silvery bait fishes leap into the air ahead of a pursuing pollock or Wolf Eel. From the deck of the fishing boat they look exactly like a flock of shorebirds scooting over the sea.

Some of these young fishermen, to make a bit of money, join the dredgers and wrecking boats that from time to time salvage the bones of steamers that beat to pieces on these thickly strewn shoals. One boat was over a rusty wreckage on So'west Ledge. The boys helped the diver on with his weighted canvass suit, serewed the big goggle-eyed helmet on and carefully assisted the odd man-fish over the side. Down he went rung after rung. The water was clear and the tide almost slack. No sooner had the leaded feet of the diver touched the reef than as a spoon disturbs the grounds in a eup so did his big feet disturb the wolf eels big five-foot, myriad-toothed monsters. All the jaws and roof of the mouth are so thickly set with peglike teeth that there seems no room for a single one more. The swirling mass of wolves rose about the knees, the body, the head of the diver until he was completely hidden from the young fishermen leaning over the rail staring wide-eyed at the commotion below. It did just happen that this diver had had a like experience before so he knew enough to stand as nearly still as the tidal current would let him while the awful things swirled about him. He had a big hammer in his hand and he said after: "I'd like to have let one of 'em bally grinnin' things have one for his own!" He stood down there quietly until the several hundred great scavengers settled down to bottom and then he made his explosive fast to the rusty plates and ribs and slowly came up. So when you hear of anxious watchers for the bodies of the poor souls lost at sea you can account for their non-appearance.

The dogfish were so bad one year off the "so'west coast" that it was almost impossible to draw up a single eod through the snapping whirling mass. One odd thing is that these three to four foot, dove-gray, really very beautiful fish, give birth to their young alive. After we draw one in as a specimen she will disgorge all the crowded squid from out her stomach and then exude on the hot boards several exact counterparts of the mother fish.

WHEN THE CORK POPS

"Where are you going in such a hurry," asked Mrs. Bibbles.

"Over to John Jagsby's house. He has just telephoned to ask if I could lend him a corkscrew and I'm taking it myself."

"Couldn't you send it?"

"Mrs. Bibbles," said Mr. Bibbles, in cutting tones, "the question you asked me shows why most women are unfit to lead armies and make quick decisions in business deals involving millions. When the psychological moment arrives they don't know what to do with it."

BOOK BY RENOWNED FISHERY AUTHORITY

"The Days of a Man," a notable book from the pen of Dr. David Starr Jordan, M. D., LL.D., Palo Alto, California, is very interestingly reviewed in a recent issue of the *Journal of Commerce* by H. S. Ross, K. C., D. C. L., Montreal. The doings and sayings of Dr. Jordan are of more than ordinary interest to the fishing industry because of his outstanding eminence throughout the world as an authority on things piscatorial, and he has on more than one occasion been called upon to study Canadian fishery matters. The following paragraphs are culled from Dr. Ross's review. At a later date we hope to publish a review of "The Days of a Man" with an eye only to the author's references to fishery subjects:

In September 1882 appeared the first extensive memoir by Jordan & Gilbert, "A Synopsis of the Fishes of North America" and was replaced in 1896 by the much more extended treatise, "The Fishes of North and Middle America," of Jordan and Everman.

In 1891 he became president of Leland Stanford Jr. University the early history of which is told with a charm and modesty characteristic of this great teacher. His guiding principles were in part: "The first aim would be to secure and retain teachers of highest talent, successful also as original investigators. Work in applied science was to be carried on side by side with the pure sciences and humanities, and to be equally fostered. Woman and men would be admitted on identical terms."

During the summer of 1896 he took the headship of the American division of the Joint High Commission of Investigation of the Fur Seal problem in Bering Sea. Then follows many pages filled with pertinent facts (and the usual quiet humor) and impartial conclusions concerning events which at the time were closely followed by Canadians everywhere but in particular those on the east and west coasts.

In 1905 his "Guide to the Study of Fishes" appeared, an elaborate work on the general subject of ichthyology, in two large well-illustrated volumes. "Errors, of course, crept in, but I hold with Aristotle that it is a mark of the amateur to expect a greater degree of accuracy than the subject permits."

The Fraser River Puzzle

He was called in 1908 to carry on for his Federal Government a series of investigations relating to the protection and conservation of fisheries along the Canadian border. There is much of interest and value to Canadians in the chapters devoted to this important work.

Of the red salmon of the Fraser River he wrote: "In Puget Sound we encountered our most perplexing problems, the source of certain justifiable feeling on the part of Canadians, whose red salmon catch is limited to the lower reaches of Fraser River—in which magnificent stream, nevertheless, ninety-five per cent of the whole run are hatched. The fact that nearly all breed in Canada, to be mostly captured in the United States, prevents any equitable and permanent solution short of entire reciprocity."

In his opinion the Canadian patrols showed greater efficiency, "while our own State patrols, insufficiently manned and poorly supported, were far from adequate. Everywhere in Canada obedience to law was taken for granted by the fisherman, most of whom were of British origin. This was not the case on our side, where many nationalities are represented and where 'whatever can be put over, goes.'"

In January 1910 he visited Ottawa. Dining with Earl Grey he was invited for a sleigh-ride, "but as the thermometer ranged thirty or more below zero I soon begged to be allowed to return to the hotel!"

THE LOBSTERMEN

The lobsterman is growing old. His strength observes.
The rhythm of the years, but lacks its former thrust.
The thole pins, too, are wearing thin from chafing oar.
And leather pads on gunwhale-strips are quite worn through.

His scoop hangs ready for his use, if too much bilge
Collects from spray or straining seam. Two lobster pots
Across the bow and two across the stern, with bait
Well-hung are ready for the set. How leisurely
He rows along the shore!

Across the bay the sun
Is going down in golden splendor. Homing gulls
Are flying low above the waves. The sunset gun
Booms deep from far to northward near the Isles of Shoals.

He ships his oars. With skilful hand he drops the pots
Over the dory's side. The bobbing buoys show where
They rest upon the bottom of the fertile sea.
In favorite spots he sets them all, then turns and rows
Back to the cove and draws his dory high up on
The rocks. At dawn he'll launch again, row slowly down
The shore, and take the lobsters from the pots insert
The well-shaped plugs in snapping claws, and take them to

His lobster-ear moored quietly within the cove.
For many years he's gathered thus the wealth that fills
The sea—akin in craft to men of Galilee.

—Frank L. Duley.

Gloucester, Aug. 10, 1923.

INTERNATIONAL COMMITTEE AT WORK

Newfoundland is interested in the visit of a party of scientists representing the International Commission for the scientific investigation of the Fisheries which was due to arrive at St. John's on September 10. The investigating committee under the direction of Dr. A. G. Huntsman, visited the lower St. Lawrence for the purpose of making observations, also the southwest coast of Newfoundland and the Straits of Belle Isle. The S. S. Arleux, with the party aboard, is to call at St. John's at the completion of its observations and there will go into conference with the Board of Trade to explain the facts that have been discovered about the myriad fishes indigenous to the shore of the colony.

The countries taking an active interest in this very important mission are the United States of America, the Dominion of Canada, the Republic of France and the Dominion of Newfoundland and the party who will conduct research work here are Dr. Huntsman, of the Canadian Biological Board, Dr. Gilchrist of the University of Toronto and Alan Gardiner from the English Department of Fisheries whose services have been kindly placed at the disposal of Newfoundland by the department with which he is associated. James Davies, Bsc. of this city, the Newfoundland government analyst, we understand, is acting as the representative of Newfoundland in the research work which they are undertaking in Newfoundland waters.

IT WAS SLIPPERY

An officer was showing the old lady over the battleship. "This," said he, pointing to an inscribed plate on the deck, "is where our gallant captain fell."

"No wonder," replied the old lady. "I nearly slipped on it myself."

HERMIT CRAB LIKES COMPANY

The mystery of the hermit crab, and the reason why he always lives with "messmates of other species, has at last been cleared up.

Dr. J. H. Orton, of the Plymouth Marine Biological Laboratory, whose pet oyster became famous by revealing to science the power of the mollusc to change its sex, has studied the relationships of the common hermit crab to the anemone and certain aquatic worms which live communally with it.

The conclusions reached by Dr. Orton are that both animals are benefited by their habits. The anemone derives advantages from the hermit crab by being dragged about with its tentacles on the ground, and being given opportunities for picking up food left or lost by the crab. The crab obtains protection from fish attacks owing to the unpleasantness of the anemones as food.

In the case of the worm, one was observed to crawl alongside the body of the crab and literally take with impunity a piece of food from between the crab's jaws and bolt it — an action tolerated by the worm's landlord.

LARGEST AND SMALLEST SWORDFISH

The largest swordfish landed in recent years, weighing 625 pounds with the head off and dressed, was handled by the R. S. Hamilton Co., Boston Fish Pier, Boston, Mass., which firm, by coincidence, also handled what is said to be the smallest swordfish ever landed. It weighed seven pounds, six ounces. It now decorates the firm's office and is a source of interest to all visitors. This firm, by the way, is one of the biggest handlers of swordfish and has been associated with the business for many years. Eight or nine years ago when this branch of the trade was in its infancy, the Hamilton Co. predicted that swordfish would soon develop into one of the highest-priced fish. This prediction has proven true. From an average value many years ago of 4 to 6 cents per pound it has increased to 14 to 30 cents per pound. The firm now makes bold to predict that in five years' time the swordfish will sell at a higher average price than any other fish caught in salt water, the lobster alone excepted.

Besides the handling of swordfish, the Hamilton Co. is in a position to receive all kinds of Canadian fish and it has a selling organization adequate to dispose of any quantity. Shippers are invited to telegraph for information on the quick-changing swordfish market and same will be furnished by wire without charge to the inquirer as often as desired.

SCRAPPY SWORDFISH

Henry Kelly, one of the crew of the Gloucester swordfishing schooner Liberty, Capt. Claude Wagner, recently had a thrilling experience with a swordfish off of Nantucket Shoal lightship, which he does not care to repeat again in a hurry.

Kelly had jumped into the dory after a large fish had been struck with the lily iron, and from that moment until the fish was captured it was a case of "Hang on Kelly or sink."

The maddened swordfish went off with the line, turned suddenly and rushed back towards the dory in which Kelly was following, and came up under it,

driving his sword clear through. In the struggle the fish tossed the dory about like a piece of driftwood and all Kelly could do was to hang on to both sides while the fish battled to clear himself. The crew of the Liberty came to Kelly's rescue in another dory and managed to subdue the big fish. The dory was then hoisted to the Liberty's deck with the swordfish still hanging and his sword still pierced through the side.

NEW "HEALTH FOOD" FROM HERRING

So many herring have been caught off Icelandic coasts that new uses for the fish have been devised to care for the surplus after a sufficient quantity is salted. Several years ago, through Norwegian, Danish and Icelandic interests, factories were erected in Iceland for the preparation of herring flour, Consul General Letcher, Copenhagen, informs the Department of Commerce. This product is highly prized in Norway as a strength food, inasmuch as it contains 70 per cent of fat and protein. Much of this flour is also exported to Japan where it is used as a fertilizer in connection with flower growing. As herring can be caught in unlimited quantities off Iceland in summer time, it is planned in a greater measure than before, in connection with the salting for export, to use herring for strength food and for oil. Herring oil is extracted by pressing out the fats in the herring. By "hardening" it can be made both tasteless and odorless and is then well adapted for margarine production, being especially rich in body building properties. — Industrial and Engineering Chemistry.

JAPS IN SIBERIAN WATERS

Abandoning hope of reaching a friendly unofficial agreement with Russia to permit fishing in Siberian waters without interference, the Japanese fleet sailed north immediately under protection of Japanese gunboats. This probably will bring an end for the time being to talk of Russo-Japanese negotiations for recognition. The British ultimatum to Russia is also influencing the Japanese decision to ignore Moscow on the fishing question.

The interest taken by the business community of Japan in the fisheries negotiations with Russia will be understood when it is realized that the value of the products of Japanese fishermen in Russian waters is 30,000,000 yen annually. There are more than 1,000 sailing and steam trawlers engaged in the industry and about 18,000 small boats. Japanese men and women engaged number 20,000. There are six fishing grounds, one on the coast of the maritime province, where salmon, trout, herring and crabs are taken, and five on the coast of Kamshatka, where the catches are similar, but runs occur later in the season.

YOU CAN'T FOOL WIFE

Wife — "How many fish did you catch last Saturday, George?"

Husband — "Six, darling — all beauties."

I thought so. That fish dealer has made a mistake again. He's charged us for eight."

College That Turns Out Practical Fish Men

Skeptics who doubted that anything pertaining to fisheries could be taught in college have answer in College of Fisheries, Seattle

BY WARREN E. KRAFT. in "Better Business"

The passenger from Palmira, an equator town in Central America, left the ship at Seattle. When the biggest piece of his baggage, a heavy wooden box that had been carried below in cold storage, was lifted from the after hatch and dropped upon the dock in a net sling, he hustled it aboard a baggage flivver and sallied northward through the city until he reached one of three buildings facing on a canal. Here he halted. At last he was "putting it up to the eyebrows."

Just a few days later the traveler was again at the dock, departing. He was jubilant. Experts at the College of Fisheries of the University of Washington had tested the two thirty-pound fishes he had submitted and had declared that they were tuna, and excellent for canning. This time, as the sling took his baggage aboard the cold-storage box was replaced by a case of canned tuna—a highly tangible demonstration of the feasibility of opening a cannery in his home country.

The voyager from Palmira had been assured that this species of fish could be packed as tuna and had received detailed instruction in the proper canning procedure. And the "highbrows" at the university had charged him just enough to cover the cost of the cans. Down in Palmira this man now is the head of a big tuna cannery; and he's prospering.

That bit of special research, two years ago, was just an incident in a week's work at Washington University's College of Fisheries—a college, by the way with but one counterpart in all the world, and that one in Japan.

Eighteen months later, gathered in one or another of the three college buildings on the canal, a motley group was receiving instruction in many practical phases of the fishing industry. Here was the general manager of a great fisheries corporation, there the head of a wholesale fish company, and throughout a goodly sprinkling of office man, cannery foremen, superintendents and mechanics, gas boat operators from Puget Sound and Alaska waters, and women—yes, three women! All these experienced fisheries people were registered, not in the regular four-year course of the college, but in the "short course" of three month's duration specially planned for fishery executives and fishermen.

Yet this picture, too, reveals but a small part of the real college, for, in meeting its primary purpose, this remarkable college is training young people interested in fisheries for well-paid executive positions in the industry by a four-year course that covers all the science and art of wresting greater yields from the pastures of the sea. And in all its training, the institution stresses the practical.

In the beginning—back in 1919, when the college was founded—the fishing industry quite frankly looked askance upon science; fishing and fish canning, the industry was sure, could be studied and learned, not in a laboratory, but at sea and in the canneries. Then the college on the university campus in Seattle began to reveal its results; and the industry changed its mind.

The college sent its graduates out to responsible jobs, either with companies in the industry or into the service of governmental fisheries bureaus; and those graduates straightway began demonstrating that they knew their business. The college devised a way to can crabs — an unheard-of accomplishment — and to capitalize this discovery eight canneries sprang up on the Pacific Coast. The college developed new methods of curing fish — this for Alaska herring. It conducted biological surveys, covering not only fish, but oysters and clams; and from these studies benefit accrued even to the state's game fisheries. The college undertook as a special task all the scientific and economic work of the state bureau of fisheries and attacked the problem of a diminishing supply of salmon. Having studied the salmon situation, the college compiled a report; and the report startled the state into action for conservation.

Practical? The College of Fisheries is like its dean. John N. Cobb, head of the institution and director of the dozen instructors, is by training a practical man.

A well-built, keen-eyed person of medium height, he is a slow, calm speaker; he times his every action with the deliberation of a veteran skipper bringing a liner into its slip. Although he is that type of man who is willing to take a tow net and a row boat to drag for microscopic forms of plant and animal life in order to determine how well a certain body of water will environ fish, yet he is pre-eminently a man who emphasizes visible returns. Although he has written numerous books on fish and fisheries, yet the bulk of his knowledge comes from rearing fish in hatcheries and "putting them to bed" in commercial canneries.

Mr. Cobb entered the government fisheries services in 1895. As a field agent of the bureau of fisheries his duties took him to practically every fishing hamlet and fish-packing establishment in the United States. In 1904, at the request of the bureau of fisheries and President David Starr Jordan of Stanford University, he was appointed assistant agent of the United Salmon Fisheries of Alaska by the President of the United States. He was in sole charge in Alaska until 1912. After leaving the government service, he edited *The Pacific Fisherman*, and left off editing to become general superintendent of the Alaska Packers' Association which operates eighteen canneries. In 1919 he left the association to devote all of his time to the College of Fisheries.

Dean Cobb is a member of the executive council of the American Fisheries Society, president of the Pacific Fisheries Society, and a member of the Western Society of Naturalists, the California Academy of Sciences, the Ecological Society of America, the Pacific Northwest Statistical Society and the American Association for the Advancement of Science. He has twice investigated the possibilities for commercial fisheries in Hawaii and, altogether, is recognized as one of the nation's foremost authorities on fish.

"We are just on the eve of the development of the fish industry," Dean Cobb told me. "Since 1895 I have been

hearing the wail that the 'salmon is going,' and 'way back in 1870 there were just as many croakers with the same woeful prophecy. But, just the same, the annual salmon pack on the Pacific Coast has risen from a half million cases to ten million; and although the last three or four years have seen a temporary falling off, yet I fully expect that the pack will rise to much higher figures. With better methods of packing, there is a market in this country for all the fishery products that can be brought out of the sea.

"Take, for instance, the herring situation. On the Pacific Coast we have been canning herring only since 1910, and pickling it since 1915. Yet, whereas, in 1912 the total of sales was 3,400 barrels, the total in 1922 was 200,000 barrels. And still in 1922 importations totaled 240,000 barrels. The market, you see, has expanded tremendously. And we are aiming to teach packers how to realize on the demand by the most efficient methods of packing.

"With the nation's meat supply diminishing rapidly, there is more than ever a need for the conservation and efficient development of our great fisheries resources. There is no prospect that, with the vacant ranges and lands of the country steadily filling up and the space available for food-producing animals steadily diminishing, the supply of meat will ever again catch up with the population. Meat is certain to become scarcer and scarcer, and the scarcity will be accomplished by the inevitable increase in prices. In view of the diminishing of the meat supply it is evident that the people must turn to the sea for food; and to realize the greatest advantage of the resources of the sea it will be essential to train men to conserve and distribute the aquatic resources most advantageously to the people.

"In contrast to the diminishing meat supply of the country, consider the vast available supply of sea foods. In the North Pacific Ocean there are five hundred and eighty-five known species of animal life. Of these, about one hundred and fifty enter somewhat actively into consumption. Thirty are in common use. Five hundred of the five hundred and eighty-five may properly be called fish, and the remaining eighty-five are crustaceans, molluscs, reptiles and mammals. The reptiles include turtles and frogs, and the mammals take in the whales and porpoises. Besides these animal species, the sea is full of algae — sea plants with food value. At present the greatest proportion of the product of the sea consists of salmon and halibut, but our college is emphasizing the varieties not yet so highly commercialized.

"Already the Pacific Coast is far in the lead in salmon production and ranks high in the total fisheries production. Of all the states and territories, Alaska ranks second in quality and first in value of the catch; California is fourth in quality and second in value; Washington is ninth in quantity and fifth in value; and Oregon's fourteenth both in quantity and value. The total yearly value of the fish caught on the Pacific Coast is \$80,000,000, and the total for the United States is \$175,000,000.

"And yet with all this tremendous catch, statistics reveal that we Americans consume yearly only eighteen pounds of fish per capita and we consume during the same time one hundred and seventy pounds of meat. In England there seems to be a higher appreciation for fish. The average annual consumption there is fifty-six pounds."

And so with all the background of economic justification, the College of Fisheries was established at the University of Washington, Seattle, in 1919.

Already the inspiration of the college has quickened the spirit of the fisheries of the Pacific Coast; besides it

has contributed tangible results, highly direct and practical. Two years ago, for instance, it developed the process to can crabs and shrimps, the results of investigations by Dean Cobb, his associate professors and some of the students. Today in the eight canneries that are applying the rab-canning method, the annual pack is 12,000 to 15,000 cases. Another example of the practical good emanating from the work of the college is seen in the quick results that followed its "missionary" work on behalf of the Scotch cure for herring. The Scotch cure is the cure that appeals most to the American taste, and, although it costs a little more than other methods it is said to be by far the most satisfactory. Before the college began co-operating with the Government in sending out to the industry four Scotch-cure "missionaries" — two of whom were its own professors — there was practically no method or system in the preserving of fish. Big and little fish were thrown in together; methods of cleaning and of trimming followed no intelligent plan. In procedure the business was disorganized. Then the "missionaries" went out and preached the Scotch cure. Today the industry is standardized on a high plane of efficiency, and the herring packers are realizing lower production costs and better profits on a much improved product.

The college comprises a group of three buildings conveniently situated on the university campus, immediately adjacent to the short ship canal that connects Lakes Union and Washington.

Fisheries Hall No. 1, known as the technology building, embraces the administrative offices, the fisheries museum and library, and lecture and laboratory rooms. The museum contains a fine collection of the models of fishery apparatus from all parts of the country, samples of various forms of prepared fisheries products — including an array of over half a hundred different brands of canned salmon — implements and gear used in the industry, and so on. The apparatus laboratory is equipped to teach net-making and mending.

Fisheries Hall No. 2 contains the ichthyological and fish culture laboratories and a large lecture hall seating one hundred and fifty students. Equipment in the fish culture laboratory includes hatching troughs with facilities for 5,000,000 eggs, batteries for hatching shad and whitefish eggs, and apparatus for hatching lobsters. In the basement is a pathological laboratory for the study of the diseases and parasites of fish, store rooms for the safekeeping of specimens, and workrooms. The laboratories are equipped with elaborate dark rooms, both for photographic work and for testing the effects of colored lights on fish and other aquatic animals.

Most interesting of all is Fisheries Hall No. 3, which is a well equipped cannery, saltery and barrel-making plant, designed to demonstrate the most modern commercial methods. The machines are electrically operated, and the building boasts its own boiler to provide steam for cooking and heating. In addition, there are washing and brining tanks, machines for frying sardines, tanks for boiling crabs, shrimps and lobsters, an air drying fish before canning, pickle-making apparatus, and a machine for pressing out bricks of codfish. Barrels, tierces and tanks suitable for pickling fish are at hand. Just outside this building there is small smokehouse and a flakeyard.

On the college grounds, a pond system, consisting of seven concrete ponds, provides the setting for experiments in rearing and feeding young fish.

To this college, men are attracted from San Diego, from the Behring Sea and from Northern Siberia. From nothing, it has steadily grown until now it ranks with the more important vocational colleges of the world and is the example and model for foreign countries that are contemplating installing such schools.

Outlook for Season's Salmon Pack

It is too early yet to forecast the total pack of British Columbia salmon, but prospects are good. The pack to July 28 figured at 265,087 cases, including 187,628 cases of sockeyes, 14,630 cases kings, 42,806 cases pinks, and 10,568 cases chums. Up to the last week of July there had been no run on the Fraser, but there was a perceptible improvement during the first week of August. Only 3,291 cases had been packed in this district to July 28, including 1,082 cases sockeyes, 2,049 kings and 160 Cohoes.

This was the "fourth year" or the "big run year" on the Skeena. The sockeye yield was excellent and fell short of the record year of 1918 by less than 4,000 ounces.

The sockeye fishing season on the Skeena River closed August 28 with the total pack estimated at 119,503 cases. This is not the boxed up pack and the final figures will be somewhat higher. It indicates, however, that the pack this year will exceed last year's by some 30,000 cases. Coincidentally with the close of the sockeye season, the pink season is also over now with the total pack estimated at 123,917 cases as against 175,700 cases last year.

The figures for the Skeena River pack up to the closing day are as follows:

	Cases
Sockeyes	119,503
Springs	10,762
Steelheads	189
Cohoes	15,291
Pinks	123,917
Chums	3,400

Naas River

The Naas River sockeye pack is far below last year, the total being 16,486 cases.

	Cases
Sockeyes	16,486
Springs	890
Steelheads	220
Cohoes	3,220
Pinks	40,372
Chums	19,907

With the sockeye season over, most of the canneries on the Naas and Skeena Rivers have closed down for the year. Somerville cannery on the Naas is the only plant that is carrying on for the pack of fall brands. On the Skeena River two or three plants are still open. Of course, all the rest are still busy cleaning up the pack and preparing it for shipment.

Lockport and Lagoon Bay canneries on the Queen Charlotte Islands have opened up to pack fall brands.

Packs in other sections of the northern district are:

Bella Coola (up to August 16)

Sockeyes	2,524
Springs	1,461
Steelheads	29
Cohoes	1,127
Pinks	2,553
Chums	2,745

Kimsquiat (up to August 10)

Sockeyes	2,898
--------------------	-------

Springs	176
Steelheads	192
Cohoes	404
Pinks	2,816
Chums	2,267

When the use of the 5¾ inch mesh net was prohibited after August 24, the season was into the fall varieties of cohoes and chums. The sockeyes had been dropping off on the Skeena by the middle of August although some were still being caught. The run of cohoes and chums had not started in full yet.

Total B. C. Pack in 1922

	Cases
Sockeyes	299,614
Kings	39,596
Cohoes and Bluebacks	109,276
Pinks	581,979
Chums	258,204
Steelheads	1,657

Total	1,290,326
Fraser River Sockeyes, 1919	29,628

OLD WEEKLY CLOSE PERIOD RESTORED

The regulation regarding the weekly close season in district No. 2 on the British Columbia coast, enacted this spring in pursuance to the recommendation of the Duff Commission, proved a source of keen dissatisfaction among fishermen. In consequence the Government has by order-in-council, dated July 27, restored the weekly close period of the previous year. For this year only, however.

The special Fisheries Commission which last year investigated the conditions and requirements of the fisheries of the province unanimously recommended a weekly close time for all kinds of salmon fishing, excepting trolling, from six a.m. Saturday to six a.m. Monday — 48 hours, excepting in the portion of the Fraser River above New Westminster Bridge, where they recommended a close time from Saturday six p.m. to Monday six p.m. — 48 hours, and by order-in-council of April 14, 1923, acting on the advice of the commission, the regulation was amended so as to establish the weekly close times recommended by the commission.

In 1922 the weekly close times for salmon fishing in British Columbia (which are now restored) were:

- (a) In the portion of the Province south of the 51st parallel of north latitude, except in the Fraser River above New Westminster Bridge, and excepting seines and traps, Friday midnight to Sunday six p.m.—42 hours.
- (b) In portion of Fraser River above New Westminster Bridge Saturday six a.m. to Monday six a.m.—48 hours.
- (c) In waters north of 51st parallel of north latitude, excepting in Naas System, Friday six p.m. to Sunday six p.m.—48 hours.
- (d) Naas River System, Friday midnight to Saturday six p.m.—42 hours.
- (e) Purse-seines and drag-seines District No. 3 — Saturday noon to Sunday noon.—24 hours.
- (f) Trap-nets, District No. 3 — Friday six p.m. to Sunday six a.m.—36 hours.

B. C. News Items

Fishermen's Home Planned

A fishermen's home is planned for Prince Rupert, B.C., and another for Ketchikan. It is expected to raise \$10,000 in Prince Rupert by public subscription and the co-operation of the civic and provincial authorities is anticipated.

New Fish Company Incorporated

The Rupert Fish Co., with a capitalization of \$100,000, was incorporated at Seattle early last month. The incorporators of the company are Charles E. Peabody, J. S. Robinson and J. W. Nicholls, comptroller of the Canadian Fish & Cold Storage Co., Prince Rupert.

Interviewed by the Daily News in regard to the new company, Mr. Nicholls stated that there was nothing to give out in regard to the venture at the present time but an announcement would probably be forthcoming in the near future.

Whale Rams Vessel

A monster sperm whale, after being harpooned, charged the whaling vessel Brown, of the Pacific Consolidated Whaling Company, and damaged both propeller and shaft forty miles out from Kynquot whaling station, on the west coast of Vancouver Island, recently.

The Brown, commanded by Captain Martinson, had been cruising all day and had taken two whales. Another whale was sighted and a hide and seek game between the vessel and its quarry developed. After some manoeuvring the harpoon was launched and found its target. The whale dived, came to the surface suddenly, and charged on the vessel. The boat was badly shaken by the impact. The propeller blades were snapped and the huge shaft bent nearly double. Despite the bad ramming, the whale was captured. The Brown is now in drydock undergoing repairs.

Halibut off California

Small salmon trollers out of Eureka, California, have recently been catching large quantities of halibut and have glutted the San Francisco market with cheap halibut. Halibut are rather scarce off the California coast although considerable quantities of large flounders, sometimes misnamed halibut, are taken there.

Salmon Leads in Value

Of our chief commercial fishes in 1922, salmon was first, with a production valued at \$13,619,632, followed by lobsters with \$5,956,450, cod \$5,378,540, halibut \$4,342,526, herring \$2,067,277, mackerel \$1,500,357, and whitefish \$1,493,407.

B. C. Cannery Elect Officers

The canned salmon section of the B. C. division Canadian Manufacturers' Association has elected the following officers for 1923-24: chairman, J. M. Whitehead, general manager, B. C. Fishing & Packing Co., Ltd.; vice-chairman, Henry B. Bell-Irving, A. B. C. Packing Co., Ltd.; Robert C. Gosse, third member of the executive to act with the chairman and vice-chairman. Owing to F. E. Burke, manager of the Wallace

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WATERLOO - - - ONTARIO

Fisheries, Ltd., being chairman of the B.C. division of C. M. A., he becomes ex-officio a member of the executive of the canned salmon section.

Not Trawling for Flat Fish

Owing to the high prices paid for halibut the Canadian Fish & Cold Storage Company at Prince Rupert is not trawling for flat fish this year, such fish having only a limited demand. It is working up a good-sized export business in kippered herring which is shipped out frozen. A source of supply of herring of suitable size for this purpose was only recently discovered.

Flyers Protect Fisheries

During the month of August the air force has been co-operating with the fisheries authorities for the enforcement of fishery laws and regulations in the vicinity of Prince Rupert. Reports indicate that the innovation has proved so successful that the service will be continued for the rest of the season. In all likelihood the flyers will be permanently engaged to prevent illegal fishing.

Alaska Pack Promising

One of the heaviest salmon runs in the history of the packing industry in Alaska is reported in the southern end of the division by canners and fishermen, according to Karl Theile, surveyor general and secretary of Alaska. "I was told by J. R. Heekman, Ketchikan business man, salmon packer and vice-chairman of the Alaska Fish Commission, that the

present run is the heaviest he has ever seen in his many years' experience," said Mr. Theile.

Big Run of Humpback

A report from Everett, Wash., Aug. 28, says: "The present run of humpback salmon in local waters is exceeding all records here since 1913. The canneries are running at capacity and in spite of that are forced to refuse to accept fish offered them. The present run is believed to be due to conservation measures, and the state and fish commission rule of a ten day shut down for the traps and fishing at the height of the season.

A FELINE BREAD CRUMBER

"Mamma! Mamma!" cried a six-year-old, rushing in to the parlor, where his mother was entertaining some friends. "There's a mouse jumped into your bread pan!"

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THE CANADIAN FISHERMAN

Official Organ of the Canadian Fisheries Association
A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada,
and Technical Education of those engaged in the Industry.

VOL. X

GARDENVALE, P. Q., OCTOBER, 1923

No. 10

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SUBSCRIPTION

Canada, Newfoundland and Great Britain	\$2.00
United States and Elsewhere	\$3.00

Payable in advance.

Published on the 17th of each month. Changes of advertisements must be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication, these will be paid for at our regular rate.

The Industrial & Educational Publishing Co. Limited

J. J. Harpell, President and Managing Director
GARDEN CITY PRESS, Gardenvale, Que.
Telegrams and Express Ste. Anne de Bellevue, Que.

Eastern Manager, A. S. Christie, Gardenvale, Que.
Toronto Office, 263 Adelaide St. West, Toronto, Ont.



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:-: EDITORIAL :-:

Official Organ of Canadian Fisheries Association

JAS. H. CONLON, Editor.

A NEW ERA

We would ask every reader to digest carefully what is contained in this issue about the national advertising campaign being organized by the Canadian Fisheries Association to create a broader market here for our fresh and salt water foods. We have succeeded in convincing the federal government of the sincerity of our effort and our honesty of purpose, and the anticipated financial co-operation of Ottawa has been forthcoming. As yet some of the provinces have not been formally approached for assistance, but there is good reason to expect that our cause will have provincial backing of a liberal nature. There can be no hesitancy now that the federal government has stamped the effort with its approval. The basis upon which the fund is being managed leaves no possible opportunity for doubt on the part of any contributor, public or private, that every dollar will be spent legitimately and for the purpose outlined.

A year and a half ago we launched upon what then appeared to be a futile effort. The industry itself was doubtful of the scheme's practicability and at times the promoters, laboring only for the welfare of the industry, must have been excused a spasm of despondency. They stuck to it, though, and at length have been rewarded by conversion on the part of the industry and the instilling of a practical sympathy on the part of the government. For the period of six months, to the end of the fiscal year, March 31, the federal government gives us \$10.00 payable on a monthly basis like all other contributions. If in that time the scheme shows productive results or gives reasonable assurance of results, we may expect annual grants on the same scale during the term of the campaign. We have pledged ourselves to contribute half the government's grant. This, of course, was mere formality as at present there seems little doubt that we will equal, if not surpass it.

We know that individuals in the industry sense the wisdom of supporting the campaign. This simple argument is all sufficing: If a man entered your office and said: 'I will give you a dollar to advertise your wares for every fifty cents you put up' — what would you say. Well, of course, you would make secret inquiry as to the man's sanity, but you couldn't refuse

such a proposition, could you? The situation here is precisely the same, only the offer comes from a source whose interest in fisheries development is as great as yours.

Congratulation is due that quarter for its constructive policy.

PUT PEP IN NATIONAL FISH DAY

National Fish Day — October 31. We hope it is the last year when any day must be singled out for a splurge in publicity and propaganda. Before another moon has passed our national advertising campaign will be a reality, not an anticipation, and when Canada's next National Fish Day swings round, it will merely require accentuation and concentration of our national effort to make the day a feature event.

We had hoped that the national advertising campaign would be underway by the last of this month but unavoidable delays were encountered. This year the success of National Fish Day must depend almost completely upon individual effort and local co-operation. Elsewhere in this issue is related what is being done to boost the event nationally, together with suggestions for communities to follow.

Let's put a punch into our effort and make the day a fitting introduction to our more systematic and more consistent campaign to make fish a staple diet among Canadians.

POLITICS THE DECIDING FACTOR?

The Express Traffic Association, on behalf of the Canadian National Express and the Dominion Express, has submitted an application to the Board of Railway Commissioners for an increase in rates to make good an alleged adverse difference between receipts and expenditures. The Canadian National Express submits figures to indicate a deficit in 1922 of \$3,450,709, while the Dominion Express, on the basis of six months' operation in 1923, shows a deficit of \$733,929. These statements in themselves are alarming and that is just the reason why they are submitted in evidence by the express companies. Anyone who has had any experience with the keeping of books knows the facility which which figures may be manipulated. They

may be compared to the verses of the Bible, which can be invoked to prove almost any doctrine. We do observe that the financial statements of the companies are unduly skeletonized. They make no reference to capital. That, it is argued, is represented in equipment. Is it also represented in real estate, etc.? And are these tangible assets incapable of being reduced to figures? Everything is based on the railway cost of carrying an express car per mile, which in the case of the Canadian National Express is fixed at 43.93 and in that of the Dominion Express is calculated to be 38.82. These figures which form the basis of everything, are in themselves disputed, because the records upon which they have been computed are railway records which have not been submitted to audit by the Board of Railway Commissioners but have been accepted as axiom.

The applicants submitted certain other statistical evidence before the commission. It is interesting to observe a few comparisons and for convenience let us take cream and fish, both of which have been segregated for purposes of illustration by the Dominion Express Company in its own business. Picking out a single day in each month during the year 1922 and totalling these twelve days the company finds as follows:

	Cream	Fish
No. of shipments . . .	787,674	22,565
Percentage of total commodity shipments . .	77.76	2.22
Weight of shipments, lbs.	83,505,792	13,637,414
Revenue	\$368,109.88	\$264,064.53
Percentage of total revenue from commodities	26.27	18.85

Let it be noted the small number of individual shipments of fish handled as compared with cream and the comparative small volume of weight, and consider the consequent comparative facility with which the fish traffic may be handled. On the other hand be it observed the proportionately higher revenue from fish.

These facts, the evidence of the carrier itself, demonstrate a truth undeniable. That is, if the cream traffic pays, fish traffic is paying more than its shot. Or, corollarily, if the cream business does not pay, then fish rates must be kept up to meet a deficit on the handling of cream.

But we will be told that the rate on cream is fixed by an order from the Privy Council. That being so, it behooves fishermen to get into politics and exert the same influence which must have been brought to bear to secure favored treatment for cream, and which, a year ago, secured preferential treatment for western farmers in the issue of the Crow's Nest Pass agreement, at the expense of all other traffic.

Mind you, in politics we have an open mind. As regards the fishing industry we have well-defined policies. We are eager to give credit where ample interest is shown in our industry, and we are equally alert to criticize when we are being neglected or being sacrificed to more powerful interests.

This matter of transportation is vital to the fishing industry. We cannot afford to submit to injustices unchallenged. In a fair and open argument we apparently, cannot hope to win upon the merits of our case. Let us then take a direct interest in politics and secure redresses through the medium of parliament. Fully one-third of the electoral ridings in the country could elect a candidate pledged to advance the interests of the fishing industry. What we want to carry now to the citizens of the fishing communities is the urgency for united action. Let us as individuals take a keener interest in public affairs and let us not fear to aspire to the legislative chambers in the interest of our cause. Let us organize our forces. Let the question of political affiliation rest with the individual candidate, but make him first pledge his support to the fishing industry and let our forces be so united that we may not be hoodwinked by political tricksters who are only too willing to ride any horse to parliament hill as long as they are able to send the horse back to stable without a rider.

It is time for thought.

SOME OFF-STAGE DIPLOMACY

Ever since Hon. Ernest Lapointe went to Washington to negotiate the halibut treaty, the event has attracted public discussion, not only in Canada but throughout the British Empire, not because of the inherent interest of the convention but for the manner in which it was brought about. In Australia, South Africa and in the Mother Country, public men and the public press have waged controversy as to whether or not Lapointe's direct dealings with official Washington, that is, without the interposition of the British ambassador, set a diplomatic precedent. The method of procedure upon that occasion has, according to the press, been made mention of by Premier King in conference with Empire premiers in London. The same newspaper despatch intimated that Premier King was seeking official recognition of the new status of Canada and the inference is given that whether or not the halibut treaty episode establishes a precedent in the Empire, it is a precedent insofar as Canada's relations with the outside world are concerned and may have been wilfully entered into with the express idea of converting the tacit understanding of Canada's nationhood into a stated acknowledgement. This opinion would seem to be justified by the course of events.

It is quite generally known that the British ambassador at Washington resented the new Canadian policy of direct negotiation with the United States government and offered to advise that the ambassadorial signature must accompany that of the Canadian signatory to validate the convention. Ottawa, apparently, took a contrary view. Was it pure accident then, curious people ask, that the United States senate in ratifying the treaty in the dying days of the session, added an impossible rider making the treaty applicable to the entire Empire? People who have some knowledge of how things are handled in such a case consider it impossible that the U. S. senate would of its own accord attach the rider in question. It was quite generally understood that the treaty was satisfactory to all concerned and it was a shock to all interested that ratification was tantamount to rejection with the inexplicable string attached.

There is a suggestion that there was something behind the strange clause and people who are anxious to know the ins and outs of unusual events are convinced that the something was politics. They may or may not have ground for the belief, but they suggest that officials at the British ambassador's office at Washington resented the affront and, furthermore, sensed the possible danger of assenting to direct treaty-making powers by dominions of the Crown. To frustrate such an event, it is rumored, a whisper went from the office of the ambassador which found an echo in a proviso to the treaty, which, as we have said, meant in effect, a rejection, and gave a hint to Canada that the treaty should be an Empire one and hence a document for Downing street to deal with. The United States has not shown any disposition to discourage direct dealings between Ottawa and Washington, which fact lends stronger color to the belief that some one else was interested.

There seems to be assurance that the treaty will be properly ratified this year. Unofficially, it is learned, Washington has agreed and Secretary Hughes, when in Montreal recently, was favorably disposed to ratification without alteration.

PISCATORIAL PARAGRAPHS

The Boston Transcript moodily forecast the end of Gloucester as a fishing port. The quaint landscape of past years is giving way to residential development. The flakes are going and yellow oilskins are no longer seen about the streets. The fishing vessels now lie to Boston with their catches and the crew when ashore do not present themselves in picturesque togs. They shake the sea and fish from them when they step ashore. Gloucester is losing the fish atmosphere. Now down on our east coast, we have another complaint. Our villages still maintain the fish atmosphere, but unfortunately they are losing the fish population. Gloucester is not losing from the latter viewpoint, for

there is an insidious attraction there which lures our hardy fisher folk and leaves our ports deserted. Gloucester laments that her boys are not enticed to the sea. We lament that our boys lured to the sea, are ultimately enticed to Gloucester.

"Hey! You want any Codfish? — We only got mackerel today." This is the title of a new monstrosity that has been inflicted upon the musical world. As fishery propaganda we highly recommend it, but if you must sing it give us fair warning so that we can duck.

AUGUST POOR FISHING MONTH

During the month of August there was a total catch of 935,830 cwts. of sea fish taken with a value in first hands of \$2,678,223. This is a considerable drop from August last year, when the catch was 1,243,416 cwts. valued at \$3,157,009.

Decreases were shown in the catches of most of the principal varieties, one, on the Atlantic coast to rough weather and low prices offered the fishermen.

The quantity of cod, haddock, hake and pollock landed was 336,846 cwts. compared with 477,434 cwts. in August, 1922. The catch of hake was only one quarter of what it was in the same month last year.

The catch of mackerel was only 4,933 cwts. compared with 17,873 cwts.

Sardines were scarce, only 20,827 cwts. being taken compared with 62,900 cwts. in August, 1922.

Sword fishing was poor owing to the low prices offered for the fish.

The catch of lobsters, 17,539 cwts., was slightly less than in August, 1922, when 18,021 cwts. were taken. The total quantity taken since the commencement of the season was 356,212 cwts. of which 70,092 were shipped fresh and the remainder canned, making 142,098 cases. In the same period of last year's season there were 332,798 cwts. taken, from which 59,785 cwts. were shipped fresh and 136,484 cases canned.

On the Pacific coast 406,562 cwts. of salmon were taken, compared with 471,200 cwts. in August, 1922.

The catch of halibut was 38,442 cwts. compared with 30,805 cwts.

2,732 cwts. of pilehards were taken during the month.

Eight fishermen lost their lives during the month, seven on the Atlantic coast and one on the Pacific coast.

SWORDFISH CATCH IMPROVES

Canso, N. S. — Since my last month's report of the local fishing operations, which was a little too late evidently for the September issue, the swordfishing, which I had referred to as having been up to then somewhat handicapped by a late start and unfavorable weather, has greatly improved, and the season will finish up as a pretty good one. While these fish were later this year in coming on the coast, they have also stayed with us later, and good catches were made the last two weeks of September, so that the season turned out a fairly satisfactory one, after all. There were not so many craft from outside points following the wordfish in this vicinity as last year.

Put a Punch in National Fish Day

National Fish Day swings once more into the scene.

Although the fact may have slipped the minds of many, last year it was decided with unanimous approval that the event should be fixed on the calendar. A canvass of opinion was made last fall and there did not appear to be a shadow of a doubt that the fall of the year was the most suitable time to celebrate National Fish Day in Canada. The last of the month was ultimately decided upon for very excellent reasons. In the first place it is a day when people of the Catholic faith deny themselves the use of meat. It is at the period of the year when people's minds seem to turn naturally to a fish diet. It marks the opening of the active period in the movement of fish, both here and in the United States.

In past years the event has been shifted from one season to the other with the result that experience has directed the choice of October 31. Last year and previously an endeavor was made to have the United States Fisheries Association fix its National Fish Day so as to synchronize with ours. It seemed difficult, however, to come to an agreement, as the many diversified interests across the border militated against agreement upon any set date. At the present time many of our cousins to the south seem sold on the idea that the spring of the year suits their conditions best. So far as the writer can judge, conditions to the south very largely correspond with ours. Their big movement of fish begins in the fall and continues during the winter, and during that period, it must be noted, too, fresh fish is moved with the greatest facility and the least expense. It may be that dealers have not had sufficient time to experiment with the different seasons as we have had. They have a much bigger market to serve and naturally the difficulties of observation are multiplied in the same ratio.

Plans are Laid

At the October meeting of the executive of the Canadian Fisheries Association plans were laid for the celebration of the event this year. Members are being circularized to post them on what is being done and to encourage their support in a local way. It will be hardly possible for the association to inaugurate its national co-operative advertising campaign at this period, as had been anticipated, but next year, when the movement is in full swing, National Fish Day will be a much more elaborate event.

T. H. Johnson, of the Canadian Fish & Cold Storage, Prince Rupert, B. C., was at the October meeting and he pretty well epitomized the feeling of the public and the feeling of the industry in general toward National Fish Day when he explained that dealers in the west looked upon the day as a matter of course. It never entered their minds that the day should not be celebrated each year. It had come to be an annual affair and the public, as well as the industry, looked forward to it. As an evidence of the extent to which sales were stimulated by the bit of publicity given to fish on that day, Mr. Johnson said that in Prince Rupert it was noticed that fish sales were multiplied four, five and six times. People felt a natural urge to eat fish, just as at Thanksgiving they had a weakness for turkey and at Christmas for plum pudding. That's just the mental attitude it was hoped to develop when National Fish Day was first instituted and there is little to warrant doubt that in a few years' time National Fish Day will be hon-

ored by a place on the calendar and will be celebrated by the public itself without the urge of the industry.

This year the fisheries department at Ottawa is being prevailed upon to have the post office department use special cancellation stamps bearing a suitable National Fish Day legend, in the chief post offices across the continent for two weeks prior to October 31, to supply the very responsive press of the country with suitable literature attracting public attention to the occasion and its significance; to enroll the enthusiasm of fishery officers throughout the country and have them personally interview hotel and cafe proprietors, fish producers, newspapers, etc., to incite an active interest in the day in their particular territory. It would be interesting if we could receive from each officer an account of the day in his jurisdiction. Next year it would be of mutual help to the offices to know what their confrères had done.

At the same time the association has communicated with the dining car services of the different railways to insure special recognition of the day on the trains and it is endeavoring to interest public bodies who meet on the day to honor it with a fish meal and even make it a point to discuss the possibilities of our vast industry and the potentialities of fish as a food.

Montreal Preparations

As far as the local branch in Montreal is concerned it is the intention to conduct co-operative newspaper advertising. The retailers of the city were called together at a meeting with the wholesalers and distributors and their ideas were sought. In addition to newspaper advertising, the use of stamps, stickers, etc., on mail and parcels was decided upon, as well as the use of display cards and posters in windows and about stores; and streamers on delivery vans. Fish dinners and 'fishy' addresses at the Rotary and Kiwanis clubs were anticipated. A new stunt, suggested by the secretary, was expected to produce effective results. The idea is to have special decorative National Fish Day cards printed for display in hotels, cafes, etc; to interview proprietors and ask them to prepare special fish meals for Wednesday, October 31, and the following Thursday and Friday. On the promise of this co-operation a large advertisement will be run in the local dailies notifying the public in an attractive and seductive way, that palatable fish dinners may be had at the following places. And the names of the hotels, etc., uniting in the plan, would be enumerated. It was pointed out that the idea involved little expense, but at the same time linked up all ends of the machine from the wholesaler to the actual consumer. There was nothing of the miss-or-hit about it. We are telling the public where a fish dinner may be had and we have concrete directions to the public, relieving the individual of any further bother than the selection of a place to eat.

Members of the association, in being advised of what is being done by the association in a national way are also being acquainted with the plans for Montreal, with the idea that that they may be applied with necessary modifications elsewhere. It is only by the interchange of ideas that the best results may be obtained.

It is hoped that this year National Fish Day sales will surmount all previous records, but individuals must realize that they cannot hope to realize the full potential benefits without lending a generous hand.

Hop to it now! You! yes you!

Co-operative Advertising Scheme Over the Top

Federal government grants liberal assistance to project and trade is responding with enthusiasm--Campaign underway within a month

Our national co-operative advertising campaign is away to a start. Off with a bang!

On October 5 the Government at Ottawa passed an order-in-council granting \$10,000 to the fund for the period covering the balance of the government fiscal year, ending March 31, with the tacit understanding that the campaign will receive annual support in like proportion during the whole period of our programme.

About a month ago our plans reached the stage where we had a definite proposal to offer the Government. In consequence of a suggestion from the association, J. J. Cowie, acting head of the fisheries department, came from Ottawa and met with the executive of the association and members of our national co-operative advertising committee. Every detail of our organization was explained to Mr. Cowie. He was told that the campaign was designed to extend over a period of at least three years, that every branch of the industry was to be included and that every contributing factor was to be represented on the national committee. It was planned to conduct a permanent newspaper advertising campaign along with kindred propaganda and to improve our marketing system wherever weaknesses were disclosed. It was intended, too, to keep contributors posted on what was being done, on the advertisements used, on the nature and volume of supplementary publicity, and, finally, to issue regularly to each contributor a statement of receipts and expenditures. It was pointed out that it was quite impossible to have every member of our national committee present at each meeting, but it was maintained that they, as well, as individual contributors, no matter how small or how large, should be kept regularly informed on how their money was being utilized.

It was felt that the Government should participate in the enterprise and contribute its share to the advancement of the industry, which, heretofore, it must be agreed, has not received encouragement on the same scale as other natural industries. It was felt that the sum of \$20,000 a year was reasonable and it was promised that the industry itself would guarantee a sum equal to one-half the Government grant. He was assured that the industry's ante would exceed this guarantee and it was possible it would exceed the Government's share.

Mr. Cowie Enthused

Mr. Cowie was much impressed by the unselfish spirit of those interested and he felt that the industry in committing as it did, justified liberal government support. The dealers proved that they were not depending upon the Government entirely but were willing to put their shoulders to the wheel individually. He promised to recommend to his minister a grant of \$10,000 for the balance of the fiscal year. Of course money cannot be granted beyond that time, as parliament only votes it from year to year, but it was understood that we could expect \$20,000 a year thereafter providing the initial experiment gave proof of the effectiveness of the program.

As evidence of Mr. Cowie's enthusiasm and interest and his conviction that the programme we have devised is a

good one, not two weeks elapsed before the Government passed an order-in-council confirming his recommendation.

Marks An Epoch

The document, which really is an historic one in the annals of fisheries development, is reproduced herewith:
P. C. 1999

The following is a true copy of a minute of a meeting of the committee of the Privy Council, approved by His Excellency the Governor-General on the 5th October, 1923.

The committee of the Privy Council have had before them a report, dated 28th September, 1923, from the Minister of Marine and Fisheries, stating that the Canadian Fisheries Association plans to carry on during the next three years a publicity and educational campaign to increase the consumption of fish and stimulate the Canadian fisheries. A committee consisting of members of the association representative of all branches of the industry from the Atlantic to the Pacific has been appointed to direct the campaign.

The minister observes that it is proposed to run the campaign on a co-operative basis, by which all fish firms and dealers are to contribute to the campaign fund to the extent of the business they carry on. All kinds of fish will come under the advertising scheme. The members of the association will no doubt raise a considerable sum annually amongst themselves, but the association fears that without other financial aid a sufficiently large sum to put its whole plans into effect and secure the results aimed at could not be procured. The association has, therefore, appealed to the Department of Marine and Fisheries for a grant in aid of its scheme.

An officer of the Department of Marine and Fisheries met the executive of the association and discussed the plan of the campaign. It was found that the association proposed raising amongst its members ten thousand dollars per year while the campaign lasts, if the Department of Marine and Fisheries would help to the extent of twice that sum annually during the campaign period. The association was informed that not more than ten thousand dollars was available from the vote for the conservation and development of the deep sea fisheries this year. The association then undertook to raise five thousand dollars, if the department would help to the extent of ten thousand dollars to carry on the campaign from October to the end of the present fiscal year, the contributions from both sides to be paid monthly. The question of continuing the campaign during the succeeding years would after that date be further discussed in the light of experience of the first six months of the campaign.

The Minister states that the publicity work would be managed by an expert paid, directed and controlled by the committee of the association. An officer of the Department of Marine and Fisheries will be appointed a member of the committee in order that said department may be in close touch with the work of the campaign and have a direct voice in the expenditure of the money.

The Minister, therefore, recommends, with the advice

of the officers of the Department of Marine and Fisheries who deal with the administration of the fisheries and in view of the present condition of the Canadian fisheries, the result of depressed conditions of markets abroad, that ten thousand dollars of the vote for the conservation and development of the fisheries be granted to the association for the balance of the present fiscal year for the purpose of expanding the sale of fish in Canada.

The Committee concur in the foregoing recommendation and submit the same for approval.

(Sgd.) E. J. LeMaire
Clerk of the Privy Council.

National Committee Named

Just prior to the discussions with Mr. Cowie the following national committee was tentatively appointed, by all of whom with the exception of one, had accepted at the time of writing:

Arthur Boutilier, Halifax, N. S.
S. Y. Wilson, Halifax, N. S.
W. M. Hodge, Lockeport, N. S.
Capt. H. F. Robinson, Canso, N. S.
Lewis Connors, Mlocks Harbor, N. B.
Roy Langskill, Toronto, Ont.
F. T. James, Church street, Toronto.
W. S. Loggie, Chatham, N. B.
F. W. Bowman, Port Arthur, Ont.
A. S. Brown, Kingsville, Ont.
Charles Matte, Quebec City.
T. W. C. Binns, Ottawa.
Hon. Hugh Armstrong, Winnipeg, Man.

Hon. J. C. McLean, Sourie, P. E. I.
A. L. Hager, Vancouver, B. C.
F. E. Burke, Vancouver, B. C.
T. H. Johnson, Prince Rupert, B. C.
John Dybhavn, Prince Rupert, B. C.
J. A. Paulhus, Montreal, P. Q.
A. H. Brittain, Montreal, P. Q.
J. T. O'Connor, Montreal, P. Q.
D. J. Byrne, Montreal, P. Q.
W. R. Spooner, Montreal, P. Q.
J. J. Cowie, Fisheries Department, Ottawa.

A meeting of the committee had been planned for Monday, October 15 for the purpose of making final arrangements, and notices were sent out accordingly. It is contemplated that details regarding organization and the selection of an advertising agency with the idea of rapidly inaugurating the plan, will be dealt with.

Provinces May Contribute, Too

It is the firm belief of the committee that the various provinces, particularly Nova Scotia, New Brunswick, Prince Edward Island, Quebec and British Columbia will be encouraged by the action of the Federal Government to contribute to the fund. With this happy co-operation we may anticipate a 100 per cent organization of the industry, and an effective boost to the Canadian fishing industry which has been wanting just such a campaign for years.

It has been a long job for the executive to bring affairs to this stage and it is hoped that the trade in general will respond generously and prove itself worthy of the support we have won.

The World's Fish Production

It is an impossible undertaking to find, even approximately, the fish production of the world. Each country has a different system of keeping its statistics, and some countries have no adequate system whatever. Where one country considers only the first value of fish, others estimate on the basis of marketed value. Some countries, again, take account of everything, animal and vegetable life included, which is taken from the sea for the use of man, either directly or indirectly. Still further, some countries group sea fisheries and freshwater in the general total, while others compute them separately. Broadly speaking, the production of the United Kingdom is 3,000,000,000 pounds a year, that of France and the United States, about 2,000,000,000 pounds. Canada's production approximates 900,000,000 pounds, which is somewhat ahead of Norway's yield. Japan's fisheries, as near as can be ascertained, produce about 1,200,000,000 pounds. Of course, these figures are not accurate. The volume does not necessarily indicate the value of the yield in each case. A comparatively small production of a valuable species, salmon, for instance, may be worth much more than a bigger volume of other species, cod, for example.

The Fishing Gazette of New York recently estimated the aggregate value of the world's yield at \$737,004,234. According to this estimate, Great Britain comes first, France second, the United States third, Spain fourth, and Japan fifth.

In another statement, in *The London Times Trade and Engineering Supplement*, which was published a few weeks ago, this country comes first, Japan second, the United States third, Spain fourth, then, in order, Canada (with Newfoundland), Portugal, France and Norway.

In a third account, which appeared in *"The Fish Trades Gazette"* in March, 1920, in which the pre-war annual value of the European fisheries was placed at about £50,000,000, the United Kingdom takes first place, but Russia comes second, France third, Norway fourth, and Spain fifth.

Says the *Fish Trades Gazette* on the subject: "In point of fact, it is exceedingly difficult to institute a proper comparison. Sometimes, or usually, the years differ; sometimes inland or freshwater fisheries are included, and sometimes excluded; sometimes values are calculated, not on the fresh fish, etc., but on the cured and even canned; sometimes the figures refer only to fish and shell-fish landed and sold — as with ours — while in many other instances they include the products of sealing, whaling, etc., and various by-products, even the bait used, seaweeds, oils, manures, etc., so that a large total is soon reached. If our figures were built up in this way, the pre-eminence of Great Britain would be far more marked than it is. The position of Spain is, perhaps, the most surprising, and it seems probable that the values, in some cases at least, represent the manufactured articles."

How Other Countries Boost Fish

*Project of Canadian Fisheries Association provokes world-wide interest--
European Countries alive to situation*

What the Canadian Fisheries Association is doing to boost domestic consumption of fish by co-operative measures, is attracting widespread public interest not only here but in every country where fishing is an industry of consequence. The secretary only recently received from the fisheries authorities of Holland a request for our complete plans. These were very gladly forwarded as there is every desire to give other countries any benefit they may derive from our experience and initiative.

While a national 'boost-fish campaign' is in the minds of everyone in the industry, it is interesting to observe what other countries are thinking and doing along similar lines.

A conference of salt fish interests with Secretary Hoover and other officials of Washington, was held recently at the McAlpin Hotel, New York at which it was definitely decided to launch a campaign, to be financed by the Government, to rejuvenate the salt fish business in the United States. In former years there was a big local market, but in recent years the trade has been waning at such a rapid rate that some such action as that decided upon was necessary to insure the prosperity of New England centres where the salt fish trade was a principle industry.

France celebrated recently its 'Fish Week,' which is similar in purpose to our National Fish Day but conducted on a much larger scale. "Fish week," was made a holiday at Boulogne, where the opening began with impressive naval displays in the harbor and long addresses by state and city officials. There was also an impressive gathering of the members of the "One Hundred Club," which was formed especially to boost the popularity of fish-eating in France. Boulogne was decked for the occasion, the city having constructed a mammoth arch with three arcades, through which the fish-eaters passed in solemn procession. The archway was built entirely of hogsheads and ornamented with empty barrels, the interiors of which were festooned with all sorts of molluscs and piscatorial accessories. The whole event was designed to focus thought on the fisheries and make fish a more popular food.

Many Countries Astir

Every fishing country in Europe is at present suffering more or less from depression of the fishing industry, except, perhaps, Germany, and many of them have tried, and are trying, to increase the consumption of fish among their own people by carrying on a propaganda to educate them in the value of fish as food. Denmark is trying to popularize the haddock (with which it overwhelms English markets) by tempting the Danish folk with "finnans," about which they knew nothing before. Last year Holland actually consumed at home no less than 57.2 per cent. of all the fresh sea fish dispatched from Yluiden, an unheard-of achievement. Norway, complaining that her people in the eastern parts only ate halibut of the wealth of sea fish she placed at their disposal, embarked on a campaign to teach them better. And Germany, which in the pre-war years sustained a persistent and extent propaganda in the interests of the

sea fisheries, has now entered upon another with even greater zeal and directed by the same brains.

Says the house organ of one of the largest American fish merchandizing firms:

"There is only one logical way to create demand and that is to advise the consuming public of the wide range of variety in food fish, the healthfulness to be derived from a greater use of fish and the resultant economy in the utilization during periods of greatest production of the so-called cheaper varieties.

"Publicity will create demand. Demand will furnish the means to solve many of the industry problems. The producer will receive adequate returns for his labor and investment. The wholesaler and retailer will benefit to the extent of the increased turnover and the consuming public will benefit through the use of seasonable fish at more reasonable prices.

"Other industries that have been confronted with similar economic problems have solved them to a greater or less extent, by means of publicity. The fishing industry might well study and adopt some of the methods used by other successful industries to popularize their products and increase demand."

EELS PUT TOWN IN DARKNESS

How several hundred eels caused a town to remain in darkness for two nights and two granite mills to cease operations for two days, was described on October 6, by A. C. Toy, manager of the St. George, N.B. Pulp and Paper Company. He said that owing to exceptionally low water the pulp plant had been closed for a week, while hardly enough water was available to generate sufficient electricity to supply St. George with lights.

On October 2 the huge water wheel ceased to revolve. An investigation revealed hundreds of eels jammed between the cogs of the wheel. So tightly were the eels packed that it was found impossible to remove them without removing portions of the wheel and although this work was started immediately two days were required in which to remove the unwelcome time St. George was deprived of its street lighting, the visitors from their damaging position. During that residents were obliged to resort to kerosene lamps. Mr. Toy said that each fall hundreds of eels from the lakes in the vicinity of St. George are carried over a dam near the pulp mill into salt water but as the water this year was not high enough to transport the eels over the dam they were imprisoned in fresh water. Unable to get further than the dam the army of eels took passage through a tube leading from the water to the water wheel, which resulted in a second imprisonment and St. George being placed in darkness.

An incident similar to this occurred some thirty-five years ago, Mr. Toy said, but this is the first time in recent years that eels have played such a prominent part in tying up any of the town's works.

Fish Will Not Stand Higher Express Rates

President of C. F. A. makes some striking observations in connection with application for general increase in rates

"The fish trade in the country cannot stand another increase in express rates. In the last four years the industry has been in a life and death struggle for existence and the heavy migration from the fishing villages of the maritime provinces bears witness to the fact that the industry has not come through the struggle unscathed."

So declared J. A. Paulhus, president of the Canadian Fisheries Association, following consideration by members of the executive of the application of the express companies for increased rates.

At the present time, said Mr. Paulhus, there is a standing application before the Board of Railway Commissioners for Canada for cancellation of a twenty percent increase in freight rates which should have been taken off in July, 1922, but which was permitted to remain in order to give western farmers an extra low rate on commodities of their production. Not that the fishing industry has any complaint against the farmer, added Mr. Paulhus, because the fisherman and farmer have much in common, but it is maintained that the interests of the fishing industry should not be sacrificed because it has not the political prestige of other industries.

Newspaper reports would indicate that Mr. McDonnell, on behalf of the express association, submits three alternative methods for increasing express rates, and each one proposes an increase on all fish tariffs. Strange to say, he excepts cream alone in each instance. Why?

"We were under the impression that the express companies realized that the fish traffic was carrying all it could stand and it was a surprise to us therefore when none of the three alternatives mentioned by Mr. McDonnell excluded fish in any way.

"Our protest is not from the industry alone but from the people. They have come to look upon fish as a reasonably-priced food and our prolific resources seemed to offer a permanent guarantee against excessive prices for flesh foods. Steadily mounting transportation charges are carried on to the public and then the question must be answered—why are fish prices going up?

"The time has come," Mr. Paulhus went on, "when some definite fundamental principles should be laid down with reference to transportation methods and the fixing of tariffs. In the first place the express companies are subsidiary to the railway companies and the public is deluded into the belief that the express companies are losing money, while at the same time they are paying a handsome profit to the parent company. Isolated, the express companies may show a loss, but considered in relation to the parent companies, the railways, they most assuredly pay. Otherwise, it is in defiance of all principles of economics and logic for a company to lose money so consistently, as the express people profess they do, and at the same time remain in business at all. If they have discovered some secret to make this possible, I wish they would let us in on it.

"If the companies are the property of the railway, why not have the railways absorb the equipment and operate the service as a part of its regular business, and obviate the confusion caused by subsidiaries and render it less

difficult to befuddle the public, which has not the training, the time nor the heart, to delve into myriads of meaningless figures.

"Then as regards tariffs. On what basis are express rates established? Is it on volume or is it on the value of the commodity? At present it appears to be a mixture of each with the option on the side of the express companies to select that basis which yields the most to them. If the basis is value, why should it cost as much to bring haddock from the Atlantic Coast as the original value of the fish, and sometimes more? If on volume, why are the rates of lobsters moving through the Maritime Provinces almost prohibitive and out of all proportion to the rates on other fresh fish?

"In order to give the public some definite basis on which to investigate the claims of the express companies, should we not know what percentage of the total traffic handled by the express companies, is fish, both in volume and in value of returns? Should we not know which commodities are saying the express companies and which are not? Should we not know what sections of the country are paying and which are not? For illustration, is the traffic in the zone between Toronto and Winnipeg, or is it not? Should we not know which commodities move in full ears and which in partly filled ears? These facts and facts of a similar nature would enable the public to ascertain if a certain commodity is paying a profit to the express companies or not.

"It is our contention that the fish traffic is paying the express companies and we maintain that we should not be assessed to make up for losses in other classes of traffic. That is not a square deal to the industry and it is not fair to the public. If the facts suggested above were forthcoming, we feel it would be found that the railway commission would be justified in making a downward revision of transportation charges.

"It happens that just at this time our association is organizing a national advertising campaign to increase the demand for fish in Canada and we are hoping to have it inaugurated in the near future. Is it not discouraging to the industry which is conscientiously striving to develop our great natural resources, to find our efforts being aborted? If each step in our progress is to be followed by an increased toll from our transportation companies, then the industry will be strangled and, at least insofar as our industry is concerned, stagnation stares us.

"I am afraid the public is not sufficiently interested in this matter of transportation. But the public pays the bill ultimately and it is a matter of shortsightedness to sit idly by. This transportation problem has got to be solved, but it will not be solved as long as the people do not demand its solution."

New Brunswick fishery regulations have been altered to permit angling for salmon from May 24 to September 30, both days inclusive, with the exception of the Restigouche river and its tributaries where the season shall extend from April 1 to August 15, both days inclusive.

Mix-up in International Race

To race or not to race!

Early in September there seemed to be grave doubt that the international fishermen's race would materialize this year. Later an understanding had been reached and the United States planned its elimination contest for October 12, with the hope of making ready for the first heat of the international on the 20th. Then plans went bluey. Of the three American contestants, only one was in port by October 8 and it was doubtful that she would be in readiness by the 12th. Barring some unexpected eventuality it seemed, at the time of writing, that the races would take place but at a later date than originally planned.

The trouble lies in the fact that Nova Scotia vessels are built under one plan and the New England fleet under another. Nova Scotia craft are built with a squatty rig with carrying capacity for salt bank fishing in summer and freighting in winter. The American vessels are combining capacity and sail carrying with the sail aloft as the accepted and best idea, for making quick runs to and from the banks with fresh fish cargoes, summer and winter. The lofty

spars lend an adaptability to light winds and the short booms make the rig safer for the men. The low rig of the Nova Scotians creates a hazard in the long booms but the gaffs are longer. The comparative sail area of the tow types of the same size schooner are practically the same.

The last additions of the rules of the Deed of Gift made on November 9, 1922, shortly after the last International races are the ones that Americans believed practically disqualify every desirable American schooner. One has too much freeboard, another has too much sail and another's spars do not measure within the limitations and restrictions.

An understanding was eventually arrived at between the American and Canadian committees that the Columbia would be eligible. The Henry Ford and the Elizabeth Howard would also be admitted but in event of their qualifying for the international race they must conform to the rules of previous events.

The Dennis trophy is now in the possession of the Bluenose of Lunenburg. There is little doubt that she will defend it this year and that the races will be held off Lunenburg.

Italy Has Fishery Aspirations

Canadian fish exporters who have done considerable trade in past years with Italy and other Mediterranean countries will be interested in the new Italian government policy to stimulate activity in the fishing industry on the part of the native population. While ostensibly the purpose is to make Italy self-supporting in the matter of fish, it is not at all improbable, experts aver, that the government at Rome sees in the prosecution of the fishing industry, the building up of a valuable naval reserve force. The vigorous policy pursued by France since 1917 or 1918, but which now lacks its original ardor, was undoubtedly instigated with the same motive in view. It has been recognized that British naval power found its beginning in the virile citizens who prosecuted her fisheries and aspiring nations look for patterns by which to cut their cloth.

Some time ago it was announced that a company was in course of formation in Italy to carry on fishing in the North Sea. This company was to take over from the Italian government a number of German trawlers received in payment of reparations under the peace settlement. These trawlers were to be purchased by the company by instalments, extending over 30 years, a moderate rate of interest, stated to be 2 per cent., being charged by the Italian government upon the money so advanced to the company.

Further particulars available show that the concern is, in effect, a company supported by the State. "La Pêche Maritime" says that the Italian government is seeking to free the Italian market from "economic dependence on foreign countries" in the matter of fish. That economic dependence is represented at present by annual importations of fish, amounting in value to

two hundred million of lire (at present rates of exchange about £2,000,000.) Most of these fish imports are received from France, Great Britain, Canada and Newfoundland, Iceland, and Norway and consist almost entirely of dried and salted fish.

The new company is intended to carry on fishing in waters "where the Italian flag has hitherto been unknown." According to a previous statement on the subject, the plan is to fish from a German port, where the fish caught at Iceland and other northern areas would be cured for transportation to Italy.

There is an Italian fishing law of March, 1922, under which Italian firms are exempt from import dues on preserved fish, and, further, what are called "national fishing enterprises" are exempted for 10 years from payment of the taxes on moveable property and all other state taxes falling upon industrial establishments.

According to its constitution, the company is formed for carrying on fishing in general, in seas, rivers, and lakes, with the necessary vessels for the purpose, and for the transportation and selling of fishery products, and the preserving and the industrial utilisation of such products.

Various banks are participators in the company, as well as the chief Italian shipping lines, while the list is headed by two members of the Royal family.

The capital is fixed at 12,000,000 lire (at the present rates about £120,000), divided into 60,000 shares of 200 lire each.

The chairman of the company is H. R. H. the Prince of Udine; the vice-chairman is the Marquis of Cambiano. The title of the company is the Societa Italiana Industria Pesca, and its office is at 37 Via St. Basile, Rome.

Retail Fish Business Through Blue Glasses

(Very Blue)

By T. W. C. B.

Here we are again within striking distance of Canada's National Fish Day.

The President of the Canadian Fisheries Association writes; "Hoping that your health is good and that you intend boosting again the National Fish Day." The Secretary of the Canadian Fisheries Association also writes: "Now we need your co-operation locally to put the thing across. We know that we can rely on your support."

These well meant suggestions are very good, but do not fit in with the treatment we have been receiving lately. Just to mention a few of the items which have interested us lately.

"Owing to storms and washouts your Monday order stalled at New Glasgow and not expected to reach Truro before Wednesday night or Thursday morning. Shall we let shipmet come forward? Wire quickly."

In sheer desperation we wired "Let her come." And the goods arrived Friday night.

"The Canadian National main line (B. C.) was blocked by a big slide this morning and we accordingly, etc."

"Your wire of the 27th, at hand to-day only (Sept. 30). I only returned from the island to-day being stormbound and my fish as a consequence in poor condition."

"Car halibut delayed broken wheel will only arrive Friday morning."

These goods were promised for Wednesday.

"Were unable ship flounders order shipment to-day prospects none for tomorrow."

"Account washout Canadian National no trains moving this week expect line clear Saturday but not wise take any chances."

"Unable fill order to-day will forward to-morrow."

"Owing to conditions railway agent Mulgrave will not accept shipment West."

Then again a shipper wires:

"Offer fancy shore haddock."

We placed an order and had to dump 47 pounds on arrival on account of being totally unfit to use.

Another shipper wires:—

"Just arrived fancy live smelts."

Order was placed immediately but shipment only arrived following day.

Some Shipments Skid By

Again when shipments are made there is no certainty that the fish reaches its proper destination. Twice recently one of the express companies had carried part of a shipment through to Toronto and on returning it to us a day or two later they have tried to collect charges for the round trip. Last week only, a box of flounders shipped with other fish was absolutely lost by the express company. In case of missing and delayed shipments it is almost impossible to get any satisfactory information. Every case above cited has been an experience within a period of not more than ten days.

And with all these troubles we are calmly requested to "boost Fish." We have been striving in this locality for the past twelve years to encourage a greater consumption of fish and according to our statistics there has been a gradual increase in the sales of fish and we were perfectly satisfied that the demand was much heavier than formerly.

In 1917 the country was officially informed that "Canadians consumed" 29 lbs. of fish per head of population in a year. Yet in June of this year, 1923, a statement was made that Canadians eat 26 lbs. of fish per capita in a year.

As a matter of fact I absolutely challenge the correctness of this statement and feel that the Canadian Fisheries Association should take steps to have such statements verified.

Then, as if to insert a "joker" in the little game, we as retail fish dealers are paying from 1 to 3 cents more per pound for some varieties of fresh and smoked fish than we were called upon to pay at a corresponding date last year.

Still the reports from the Atlantic Coast are that record catches in record time are being made and that the U. S. tariff is killing the industry.

However, I suppose, as usual, we will have to get busy and boost "National Fish Day" but it seems to us that conditions are not ideal.

When we can depend on receiving fish when we expect and require them, and when we can receive fish in as reasonable condition of freshness as we are entitled to receive them, and when express rates shall be put on an equitable basis, then there will be no excuse for any of us failing to do our very best to permanently increase the demand for fish.

But by all means if the consumption is really increasing (as we are absolutely certain it is) let the retailer have the correct facts, and he will then "plug along without being disheartened."

1922 PRODUCTION BY PROVINCES

By provinces the value of Canada's fisheries in 1922 was as follows:— Prince Edward Island, \$1,612,599; Nova Scotia, \$10,209,258; New Brunswick, \$4,685,660; Quebec, \$2,174,105; Ontario, \$2,858,122; Manitoba, \$908,816; Saskatchewan, \$245,337; Alberta, \$331,239; British Columbia, \$18,872,833; and the Yukon Territory, \$10,107. The relative positions of first and second in the industry are still held by British Columbia and Nova Scotia. The only provinces to show a reduction in valuation were Ontario, Manitoba, Alberta and the Yukon. The increase in the case of British Columbia amounted to \$4,919,163.

Salmon and Lobster Lead

First among the commercial fishes of Canada was salmon, accounting for a value of \$13,619,632, followed by lobster with a value of \$5,956,450, and, occupying third place, the cod with \$5,378,540. Halibut was worth \$4,342,526; herring \$2,067,277; mackerel \$1,500,357; whitefish, \$1,493,407; haddock, \$951,073; smelts \$939,427; trout \$776,020; pickerel \$743,535; sardines \$708,381; and hake and eusk \$376,953.

There is a total of \$44,696,208 invested in the fishing industry of Canada. Of this, \$25,565,208 is in primary operations, represented in vessels, boats, nets, traps, wharves, etc., in the primary operations of catching and landing the fish. In this section there were last year 56,716 men employed. In fish canning and curing establishments the investment was \$19,141,205 and the number of persons employed 15,684.

Boutilier Conceives Big Fishery Project

Would float \$20,000,000 company to organize production, processing and marketing of fish on systematic basis-- British capital available

Following is the text of an address delivered before the members of the Maritime Board of Trade at Halifax on September 11 by Arthur Boutilier, National Fish Co.

A man was speaking, quietly and thoughtfully, in the dim chamber that was the home of the Nova Scotia Assembly. The man was Joseph Howe. The words were prophetic: "I know that the Nova Scotia fisheries properly developed, will make her the fish pier of the world." More than fifty years have passed since the aforementioned statement was made, and one is naturally curious to see if the prophecy has been fulfilled. Certainly, the natural fishing resources of his province lent justification for Howe's claim. They surround her on all her coasts, they exceed by far the resources of England and Germany, the greatest fishing banks in the world lie but little to the east of her. But it is in the exploitation, rather than in the possession of natural resources that the greatness of a country lies, and it is here that Nova Scotia has signally failed to live up to Howe's prediction. Statistics show that the Maritime Provinces are only fourth in the list of fish production—indeed that the value of the output of British Columbia exceeds that of Nova Scotia.

Must Specialize

Statistics are all very interesting, but figures have a cause and if they are to be improved, this cause must be diligently sought out and removed. It therefore becomes necessary to examine more closely the condition of our fisheries, and endeavour to ascertain the fundamental trouble. With us, a fisherman does not exist pure fisherman. He is a curer and a dealer. He not only catches his fish, but he cures them, and then endeavors to market them. Now the fisherman may be expert in all of these, though it is submitted that such is seldom the case. The trouble, however, is deeper ever than this. His time is split between three pursuits, when it should be directed exclusively to one, and only one. The condition becomes more impressive, if we consider what the possession of the steel industry would be if the same man mined the iron, forged it into steel, and then sold it. Such a state of affairs is at once termed impossible, yet it is this very thing that today is going on in the fisheries of our province.

It may be asked, are there no plants scattered in various places to attend to the fisherman's hauls and relieve him of his burden. The answer is in the affirmative, but with a qualification which almost destroys the proposition. A few such plants do exist, a very few, and the people engaged in operating these plants deal only with certain branches of the industry. There are no general plants where all the various forms of treating fish are practised. Furthermore, such plants are run, in many cases, on credit and faith, rather than on capital and knowledge, and the natural consequence is a diminution of their efficiency.

The second reason back of the figures flows in the course of events, from the first. The fishing folk are leaving the country. The opportunity for them in their native pursuit is at present limited. They see the hard, overworked and underpaid lives of their fathers. The

United States calls them with its promises of fortune, and they go. This last year several thousand of the people needed most, if the fisheries are ever to attain to their proper place in the scheme of things, left Nova Scotia. In particular the small villages of Jeddore and Ship Harbor lost three hundred and fifty of their population during the past four months. This loss is irreparable and cannot be compensated by immigration.

"A bold peasantry, their country's pride, when once destroyed can never be supplied."

Such then is the condition of the Nova Scotia Fisheries today. If something is not done, they may hold on, they may retrograde but slightly, advance they certainly will not.

Proposed Organization

We have said that back of figures lies a cause, and we have sought to show this cause. The question now arises—how can this cause be removed?—To suggest an answer to this question is our purpose in the present paper. In the first place, it is proposed that plants complete for the handling of fish—fresh, frozen, smoked, pickled, salted, dried, and canned—and also to deal with the reclamation of fish refuse and oil, in a word to handle fish in all ramifications—be established at many points along the shore, to take care of the fishermen's hauls as soon as landed, for it is a well known fact, and one that needs no emphasis before this body, that fish cared for immediately when caught are superior to fish receiving a treatment later. The size of these plants would vary with the volume of fish that their district produced, and which they would therefore be compelled to handle, while their number and location should be a matter for the determination of a board of investigation. Such a system of plants would enable the fishermen to devote their attention exclusively to fishing, thereby tremendously increasing the production, and would, at the same time, provide employment for their families.

Secondly, in conjunction with these plants, fast fish carriers should be employed. Boats of the type suggested are being used at present in England as connecting links between the sea going trawlers and the home port. Our use for them would be to carry the output of the plants to the distributing centre, or direct to the market. The speed of such deliveries would ensure three things:

- (a) The marketing of the fish in better condition.
- (b) Enable advantage to be taken of high prices by rushing a supply to the market.
- (c) Decrease in cost of transportation.

Finally, the establishment of a College of Fisheries, on a basis and principle similar to that of the Agricultural College at present in existence at Truro, where instruction should be given in the various branches of the fisheries, where research work should be prosecuted, and where a department should exist, whose sole business would be to keep its finger on the pulse of the various markets of the world, and report their observations to the trade. By this, it is submitted, more education would be brought into play in the fisheries, and as a consequence the standard raised. From this college should issue authoritative information as to the best method of

fish treatment, and its expert opinions should serve as a guide to legislation relating to the fisheries. Such is the scheme. It obviously entails the expenditure of large sums of money, and no such scheme should ever be put forward without a justification. Our next step then is to attempt such a justification.

With the carrying out of this scheme the great proportion of the fish so secured would be handled in one of two forms,—salt or fresh. The consumption of such fish in Canada can, by close supervision of the retail establishments now in existence, and to come into existence, and by a system of intelligent advertising be at a conservative estimate, trebled. So much for home markets. But a market far greater lies in the United States, for the tariff walls lately erected may be overcome by the decreased cost of transportation of the fish carriers mentioned above, over the present inefficient method of transportation. As things are now, freight rates are high, connections are not always made, and as a result losses are sustained by the shipper. The transportation companies show no inclination whatever to remedy these troubles. Though this has particular reference to Boston and New York, via Yarmouth, it is true of conditions generally. With the advent of the carriers all this would be avoided. Less handling of fish would be needed, and shipments would go direct to the fish piers at American ports, with a saving of both time and money.

Old Country Markets

The final great market open to us is that of England and other European countries. From observation and conservation during my recent visit there, I am convinced that we can secure a goodly share of this market, and one that would be very profitable also, because fish, such as small haddock, skate and catfish, which over here are discarded as worthless, find a ready market in the Mother Country. Such, together with the better grades of Canadian fish, can by the use of fast carriers, be delivered on the English market in as good condition as the home port, and sold at profitable prices. To give a concrete example, while I was in London the market for skate was at twelve to twenty cents per pound. Such fish can be produced here in quantities; it could be shipped to England for not over a cent and a half per pound, in the proposed carriers and landed in good condition. The profit possible in such transactions is obvious.

And now, as to the other varieties of fish: The dried fish markets are already established well over the world, but there is no doubt that they can be wonderfully improved by judicious exploitation, and by raising the quality of the product.

The canning of fish is a phase of the industry that has, in Nova Scotia, received little or no attention, relatively, except as to lobsters. That this industry can be made, and has been made in other countries a source of large profit is notorious. If one visits a shop and asks for a can of kippered herring, one finds that they are packed in Norway. Under the suggested scheme this would not hold true, for our product could be marketed at a lower price, with no falling off in quality.

Lastly, as to waste. On the continent the careless throwing away of fish refuse is unknown. Plants are provided from which this refuse is transformed into fish meal and other products, such as glue and fertilizer. There too, the oil is refined to the highest possible point and realizes a much higher price than our crude production. In Nova Scotia little or no effort has been made to do this. A valuable source of revenue is every day allowed to go to waste, and a comfortable sum of money lost to

the fish industry. It is estimated that by a proper use of this waste, at least a million dollars a year could be realized. Thus do we justify our scheme, which, ambitious though it may appear at first sight, and as it undoubtedly is would seem to be a sound commercial enterprise.

Financing of Project

How is this scheme to be financed? Is it to be a creature of the government, or shall it be fathered by private enterprise? It is the latter alternative which seems the better. For two reasons militate against the former. Firstly, an industry that cannot pay its own way without government assistance is useless. It can never hope to stand in the forefront of its kind. To realize the hopes of Howe, the fisheries of Nova Scotia must stand on their own feet, must pay their own way. The spur of commercial success must not be removed by a government check. One phase of the scheme must be excepted from this—the College of Fisheries, which, as has been suggested before, should be run on similar lines to the Agricultural College. What must be done then is this. A committee must be formed to enlist the active support and co-operation of all the business men and financiers of the provinces in this scheme. They must be shown the necessity, the vital need for this step to be taken. Once this is done, the bulk of the capital can be raised in England, for of late Lombard street has shown an increasing desire to compete with American capital in financing schemes for the development and aggrandizement of the British Colonial Empire. Since 1914 American capital has been poured into Canada. England, engaged in a life and death struggle with Germany, could not compete. It is estimated that eight hundred and fifty millions of American dollars are invested in Canada, as against two hundred and eighty-five millions of British capital, and about two-thirds of this former sum has been invested since 1914. But now the British budget is showing a balance on the right side once more, and thus the American dollar may expect to find keener competition from the pound sterling in the field of Canadian finance.

Such is our proposal. That it is ambitious is true, but the object in furtherance of which it was conceived is also ambitious. Of its necessity there can be no doubt. If the Nova Scotia of nineteen thirty-three is to be the same backward Province in fisheries as it is now, there is no place for such a plan. But if it is to be a prosperous community, holding its native population, calling those who have left it to return, and share in its wealth—for it is estimated that the fisheries revenue with the plant and equipment as above described would increase in ten years from ten to fifty million dollars—then there is need of our plan. A gigantic development of the fisheries will entail the stimulation of other industries, to supply it with the requirements of its prosecution. Boxes and other receptacles will be needed, boats will have to be built, gear will have to be obtained. Industries to supply these things exist today in Nova Scotia, and it is inconceivable that as the demand increases, these industries will not grow in response to it.

Someone has said, and truly, that when a people lose vision they perish. And the time has come in Nova Scotia when vision is badly needed—and the courage to carry through the vision. Our people have never in the past failed to respond when the necessity arose. They have always faced their difficulties and overcome them, and it is with this firm belief in the destiny and ability of Nova Scotia that we submit this, our scheme for the future of the fisheries.

Here, There and Everywhere

Dr. Smith to Advise Siamese

The interesting announcement is made that Dr Hugh M. Smith, who recently retired from the post of Commissioner of fisheries at Washington, has accepted the post of fisheries adviser for the Kingdom of Siam.

Bras d'Or Oyster Beds

The oyster beds in the Bras d'Or lakes in Cape Breton, are now so far developed as to attract attention both at home and abroad. A sample shipment of five barrels was recently made to Liverpool in response to an inquiry as to the quality and quantity these beds can supply to the English market. These oysters have been going to Montreal markets in bulk, but the Liverpool lot goes in the shell. The annual output is about 1,000 barrels, with good prospects for further increasing in the near future.

Fishways In St. Croix

At the international joint commission session at Ottawa, October 3, the commission made certain amendments to its order of 1921, in connection with the measurement of water in the St. Mary and Milk Rivers in Alberta and Montana, in accordance with the requests from the reclamation branches of both the United States and Canadian Governments. The commission also passed an order approving the construction of fishways in certain dams of the St. Croix River, between New Brunswick and Maine. C. A. Magrath, the chairman, presided at the meeting, which also disposed of several items of a routine nature.

Nature Serves Fried Fish

It is said that there is a volcanic peak in the Andes that throws out from time to time dainty morsels in the form of fish already fried. This peak is called the Tunguragua. Underneath the mouth of the volcano is a subterranean lake.

During an eruption the suction draws up quantities of water, carrying along the fish, which are cooked by the inferno through which they pass. That is the scientific explanation of the phenomenon. But the natives hold that when an eruption occurs, ruining their crops the mystic spirit of the Tunguragua provides the fish so that they shall not want.

Radio in North Sea

American fishermen off the Grand Banks and the Atlantic coast may find it profitable to emulate the example of their brother fishermen in England, who have equipped their vessels with radio. The purpose is to enable them to communicate with the shore or with sister trawlers whenever they discover a shoal of fish too large for the capacity. At a time when a remarkable shortage of fish is reported from the North Sea, some thirty steam trawlers have been fitted with wireless apparatus.

Danes Run Fish Farms

Interesting new details regarding the age to which plaice live have been discovered recently. Owing to

the increased demand for this fish, British trawlers are extending the field of their operations, and Iceland and the White Sea are being visited to find fresh supplies. Of every 10,000 fish caught, at least 2,000 are more than thirty years of age. The oldest was fifty-two. The age of the plaice is told by the otoliths, or ear stones, and a bones of the gill cover. Plaice farming is being practiced on a large scale by the Danes, who are learning how many fish per acre can be put out to get the best results, just as the flock-master farms his sheep.

Share \$396

The largest single stock ever made in the fresh halibut fishery on the New England coast as far as records go, was realized by sch. Harmony, recently Capt. Iver Carlson, who was on the trip landed at Boston this week, realized \$14,691, the share being \$396 to a man.

Fish Exhibits

Simpson, Roberts & Company, Halifax, have taken space at the British Empire Exhibition to display canned lobsters particularly H. R. Silver Ltd, Halifax is also contemplating taking space.

Yarmouth Cold Storage Project

Good progress seems to be being made in connection with the project to erect a large cold storage plant at Yarmouth. Recently the promoters of the scheme had at Yarmouth Calvin Austin, president of the Boston and Yarmouth Steamship Co., and Galin F. Stone of the banking firm of Stone & Hayden of Boston and explained their plans fully. Subsequently S. C. Baker, chairman of the cold storage committee, was advised that the Boston & Yarmouth Steamship Co., would subscribe \$20,000 providing the balance of the required \$75,000 was raised in Yarmouth. Local subscriptions to date amount in the vicinity of \$28,000, so it would appear that the promoters are over the bump.

Comes to Canadian Waters

Manned by a Grimsby skipper and crew of twenty-one hands, the trawler "Good Hope," sold by the Great Central Co-operative Engineering Company to the Canadian Fishing Company, sailed from Grimsby for its new home in Canada on Wednesday, Jeart (Jack) Myhre, managing director for the new owners, taking the journey on board.

Mr. Myhre, who has had considerable experience with Grimsby trawlers, went out to Canada about ten years ago, and has since bought several trawlers from the Humber port for Canadian fishing, and his latest purchase is a fine vessel of most modern design and equipment, which includes wireless.

The Atlantic voyage is being made under the direction of Skipper Warrenden, a well-known Grimsby skipper, and it is the intention of the owners to transfer some of the crew of twenty-one to other of their ships on reaching Canadian waters. — Fish Trades Gazette, London, Sept. 1.

Sardine-herring Fishermen Hard Hit

The sardine-herring fishery in the Bay of Fundy has not been a success this year. According to official statistics the sardine production during August amounted to 20,827 barrels, valued at \$69,288, while in the corresponding month of last year production amounted to 62,900 barrels, valued at \$969,271. The total production this year, up to the end of August was 44,132 barrels, valued at \$125,219, while last year during a similar period there were caught 92,834 barrels with a value of \$150,249.

About this period last year there was a general demand for an export tax to keep the price of sardines above a minimum of \$10 per hogshead, which, fishermen maintained, was the smallest return upon which they could make a living profit. This year these has been little or no talk of an export tax. The shortage of the supply has righted matters. Prices

generally, it is reported, have been good, and in certain instances about Grand Manan, they has soared above the \$40 mark. Quite a pleasant reminder of the boom period during the latter years of the war.

A correspondent at St. John writes:

"Downshore, at Mae's Bay, one weir is reported to have taken in \$10,000 worth of sardines, while another weir is said to have made \$5,000, but in general there has been little business, despite that \$40 quotation referred to recently.

"In St. John, the price has been about \$12 and the total catch for the season, in the St. John sardine fishing area, would not exceed \$3,600. The fishermen have easily dropped in labor and material, at least \$20,000. Two storms considerably affected the majority of the weirs which were put up."

Fillet Trade Develops Rapidly

It is hard to account for the fact that direct-to-the-consumer business in fresh and smoked fillets of haddock has not engaged the attention of Canadian producers on the Atlantic coast. In the United States several of the large eastern concerns are pushing this end of the business and, from reports, appear to be meeting with tolerable success, while the prospect is extremely encouraging. At least two eastern American concerns guarantee delivery in perfect condition in any part of the United States throughout the year.

The haddock fillet, both fresh and smoked, has grown wonderfully in popularity during recent years. In fact filleted fish just now has the popular O. K. The tendency seems to be for consumers to look for fish that requires the least preparatory attention in the kitchen and provides the greatest amount of food. Knowledge of this fact should encourage producers to eliminate the non-edible portions of fish before shipment from the coast. This principle has a two-fold advantage. It enables producers to clean and fillet on a wholesale basis and consequently at much lesser cost than retailers may do the same work. Furthermore, transportation charges are a serious item and it seems folly to ship to market a bulk, thirty-five percent of which is waste. It would appear wise policy to give the railway and express companies as near as possible to the net marketable weight.

As regards the new business springing up in the United States of supplying consumers direct, it promises to open a new avenue of trade. No doubt retailers will protest that it enters upon their field of business. That is but one side. The other side is that the principle of direct sales enables producers to supply fish to places inaccessible through the present system of distribution. Except in large centres it is difficult to get fresh sea fish and no reasonable objection should be made to efforts to supply people not resident in and about large urban districts. Looking at the matter broadly, the effort of the combined industry should be to sell more fish, and there

are only three ways of doing this; first, by making fish available to a greater number of people; second, by encouraging more people to make fish a regular item in their diet; and, third, by encouraging casual eaters of fish, to eat it more regularly and more frequently.

The fillets being supplied the consumer direct in the United States are made from fresh landed haddock of uniform size and quality. The fillets are cured according to the recipe of the particular firm and then neatly wrapped separately in vegetable parchment cooking paper. The fillets are then packed in cylindrical metal boxes, holding twenty-five or thirty pounds, which are in turn placed in wooden boxes. The space between the two is packed with ice. Special methods of insulation used in the containers are a development of much scientific study.

The idea of individually wrapping in parchment is a splendid one. It enables retail merchants who hitherto have not found it convenient to handle fish, to offer it for sale the same as any other commodity. It has no odor and requires no handling, and may be kept in a preserved state much easier than ice cream and quite as easily as bread or cake.

The parchment wrapper has an added advantage from the consumer's viewpoint. Vegetable parchment is the proper cookery paper for boiling either fish or meat. When using it in this way the parchment is soaked in hot or cold water and then tied about the fillet with a string much the same as when using cheese cloth.

BLUENOSE HAS 2,700 QUINTALS

The champion schooner Bluenose, Captain Angus Walters, arrived at Lunenburg on September 14 with twenty-seven hundred quintals of codfish. She was greeted by many shots from small cannon on the wharf of Zwiiker and Co., Limited. The schooner left the Banks four days ago with a number of bins and a deckload of unsalted fish, and came sooner than expected on account of the scarcity of salt.

A Suggestion About the Fish Bounty

Editor "Canadian Fisherman".

Without discussing causes, it should be preached from the house-tops that the Maritime fisheries, taken all round, are at an alarmingly low ebb. Papers that, knowing the actual situation, keep silence about it, or gloss it over with thin veneering, are guilty of journalistic malpractice, and should be brought to the bar of public justice.

But I do not intend to dilate on that charge right here. Neither will I go into a general summing up of neglect and delinquencies which have brought the once prosperous provincial strand to such an unhappy pass that the native inhabitants are leaving their homes by many thousands. I just want to allude to the ailment, and then point out a palliative, if not a permanent cure.

In the settlement of the American fishing indemnity, paid to Canada by the United States in the last months of 1877, originated the fishing bounty allotted to the Maritime Provinces, arising from the interest on the above award, namely on the sum of \$4,500,000, which was Canada's share for the rental of the inshore grounds to the New England fleet for twelve years. These facts are too well known to need rehearsing. But most people have forgotten that more than four years elapsed before the amount was funded by act of parliament for the express purpose of encouraging the domestic fisheries by annually handling out a small individual dole to boatmen and vessels' crews of the provinces. That is to say, the payment of the said bounty began in 1882. Consequently the four years of arrearage was not reckoned in. By equity and right it is still due. Acting on this conviction, both Nova Scotia and Prince Edward Island took a firm stand three years ago in demanding that the federal government recognize the claim and provide for its payment. Both legislatures endorsed the request without a dissenting voice. But the demand died into an echo and finally became inaudible.

The dire straits of the industry now force the question to the front. No one has yet devised means looking to recuperation. I am going to put forward a bold but reasonable proposition for a change in the distribution of the bounty, which will accrue to the general benefit. Each man's quota of the bounty is so small that it would not half pay for a pair of shoes for his wife. It would not meet the cost of running a gasoline engine in a shore boat for one day. Therefore that all round application of it is a drop in the bucket. Now I say oil engines can be operated for one-eighth the cost, and will last longer. The back bounty (reckoning only the four years' interest) would amount to \$640,000. Let that be appropriated as a reserve fund to assist, at a certain percentage cost, in the purchasing of the oil engines, which would not be many at the outset. Then the recipient of this little gratuity would waive his claim to the annual bounty pittance forever. But the total stipulated amount is to remain the same. Then every non-participant in the new scheme would have his yearly share increased to a figure that would help him out in his daily needs. The greater the number of the oil engines thus pro-

cured, the better both for those who operate them, and for those who cannot afford to launch out thus, or who do not need auxiliary power for their smaller boats.

The above project is not open to criticism at a single point. The government, on former occasions, has assisted the farmers to tractor plows. It is the fishermen's turn now. All classes and grades of them would be helped by this progressive movement.

M. H. NICKERSON.

LOBSTERS TO NEW ENGLAND

The shipment of live lobsters from Maritime points to the market of the New England States is effecting a radical change in the lobster industry during the season, according to Prof. A. P. Knight, who has been investigating conditions in the Maritime Provinces, as a representative of the Biological Board of Canada.

The late season is from August 16 to October 16 in the western half of the Northumberland Strait.

Buyers from the Boston market are securing Maritime lobsters, which are shipped in refrigerator cars.

The indications are that the industry will not go back to the old conditions, because the lobster supply in the New England States has fallen off very markedly during the last three years, said Prof. Knight. An agent of a large American company is looking forward with absolute certainty to holding this market for years.

Lobsters over nine inches long are shipped alive while those below that standard are supplied to the canners. The fishermen get from six to eight cents per pound for the small variety, while for those above nine inches in length the price is from twenty to twenty-five cents per pound.

LOBSTER BREEDING

After many years of experiment the efforts of the lobster breeding institute at Flodevik, near Arendal (Norway), have been crowned with success.

Twenty thousand young lobsters have now been set out in the fjord in a specially constructed apparatus, and in the near future the activities of the institute will be materially increased.

The success now attained will, no doubt, play a very important part in the development of this important industry, which has for long claimed the attention of fishery experts in many countries.

The young lobsters, after being hatched out, are placed in large tanks through which sea water is in constant circulation, and there reared to maturity. Their food consists of small crabs, mussels, and other small fish and crustacea, and it is of the utmost importance that they receive sufficient food, otherwise they eat one another.

Among the young lobsters, hatched out this year is a Siamese twin, with two heads and two tails, four claws and three eyes.

St. John's Welcomes Marine Investigators

The Canadian Government steamer *Arleux*, having on board a group of scientists engaged in research work under the direction of the international committee on the exploration of deep sea fisheries, visited St. John's, Newfoundland, the middle of September. The distinguished gentlemen, at the head of whom is Dr. A. G. Huntsman, of the Biological Board of Canada, visited the colony at the invitation of the Government of Newfoundland, and they had a royal reception. The St. John's Board of Trade assisted in extending a welcome.

Referring to the visit, the St. John's Trade Review says:

Professor Huntsman, secretary of the International Committee assigned to Fishery Research, is the chief representative of Canada, in the expedition, and on Tuesday, Sept. 18, this gentleman gave a most interesting lecture on the scientific investigation of the fisheries and fish life, at the Seamen's Institute. A large gathering greeted the learned lecturer, and His Excellency Sir W. Alardyce, presided, while Mr. L. Ontonbridge, President of the Board of Trade, introduced the speaker.

As leader in the community His Excellency welcomed Prof. Huntsman amongst us, as well as his colleague, Mr. Gardner, and was glad to note that we were taking the proper means of securing accurate information in regard to fish and the fisheries, which are the greatest asset of Newfoundland.

The professor, in his opening remarks, referred to the kindness and hospitality of the people of Newfoundland and Labrador, and launching out into his subject, told how two ships had been sent out from the New Brunswick station for fish and bait, and to secure data as to currents, a matter of utmost importance to Newfoundland. Drift bottles had been dropped from the *S. S. Digby* off St. John's and from the *S. S. Kyle* on our S. W. coast, the former being found in St. Mary's Bay, but the only other bottles that were found on the coast had drifted from Iceland, which shows that the current does not flow westward of St. Pierre. One of the bottles dropped on the S. W. Coast went through the Straits to Flower's Cove.

Difference In Temperature

The researches prosecuted during the summer demonstrated what a great difference there was in the temperatures of the waters on either side of the straits, and there were indications of a circulation of the water north and south through the straits. A summary of the investigations would show that at flood tide the movements in the straits were north, while at ebb tide they show much stronger in the south, running six miles in the former case and nine in the latter, while the fog was 50 per cent. more dense on the north than on the south. There was a marked contrast in the temperature of the water and the climatic conditions as between the north and the south side, both being higher on the latter side.

The professor exhibited several bottles containing the animalculae found in these currents. Much of absorbing interest was gleaned by those who had the

good fortune of attending the lecture, which showed how necessary it was for us to understand the life and habits of the fishes found in our waters as well as the temperature of the latter. The work in which these gentlemen are engaged is considered to be of paramount importance in Canada, and if so how much more should we in Newfoundland be interested, as the principal factor in our commerce is, and more than likely will be for years to come—fish.

FISHERIES EXHIBIT

An exhibit of live fish was shown at the St. John Exhibition this year and attracted considerable attention. The following specimens were shown: One tank of female Atlantic salmon, harbor caught; one tank of male Atlantic salmon, harbor caught; one tank of two-year-old brown trout, one of one-year-old brown trout; a tank of one-year rainbow trout; a tank of one-year speckled trout, and a tank of last spring's salmon fry.

The salmon were taken from the Little River hatchery and the trout from the Silver Falls hatchery, both conducted by the federal government.

Another interesting exhibit was a mounted specimen of a Mola, Sun Fish, Moon Fish, Head Fish, etc., which was caught in Courtenay Bay, some years ago. It is one of the world's most remarkable fishes. While it is always rare, it has been found in the seas of every part of the world, usually lazily basking in the sun on the surface of the ocean. The scientific name of this freak fish describes it accurately, *Mola Rotunda*, meaning a rounded out millstone. Imagine the millstone with a long fin stuck on the top, another on the bottom, a misshapen little mouth at one end, and an ingrowing tail at the other, and you have the Mola. It grows to a great size, sometimes weighing nearly 1,000 pounds.

This was loaned by the National History Museum of St. John.

OYSTERS TO ENGLAND

What was probably the first shipment of oysters from Nova Scotia to England was made by William Monbourquette, manager of the Queen Hotel, Halifax, the middle of September when he sent forward to Liverpool, England, a sample lot of five barrels of oysters from his beds in Richmond County. Mr. Monbourquette has been one of the foremost cultivators of oysters in Nova Scotia for several years past, and recently received inquiries from England as to the quality and quantity he could supply that market. In reply to information which he gave Mr. Monbourquette was in receipt of cable from Liverpool importers that they desired an immediate shipment of five barrels as a sample lot. Mr. Monbourquette has been shipping oysters in bulk to the Montreal market, being probably the only oyster cultivator in the Maritime Provinces shipping oysters in that manner. The shells Mr. Monbourquette has returned to the beds for the oysters to spawn and the seed oysters to grow. In this present shipment the oysters are going forward in shell.

Fish Versus Meat

In a memoir published by the French Scientific Bureau of Fisheries, Mons. G. Hinard makes some interesting remarks upon the food value of fish.

He says that as regards the nutritive aspect, including its nitrogenous and mineral content, fish flesh is equal to meat. The co-efficients of digestibility of the nitrogenous and of the fatty matter in fish are of the same kind as those of the principal animal foods; the lean fish are more easily digested than meat.

The inferiority of fish in relation to meat in connection with its nutritive and calorific power is due to its lesser content of fatty matter. The fatter fishes approach in character, in this matter, to veal and lean meat. The leaner fishes require the addition of a certain amount of fat or hydrocarbons to make up the normal food balance.

"At the risk of being suspected of partiality," says the writer, as summarised in the "Pêche Maritime," "I do not hesitate to say that comparisons based on the calorific element for purposes of individual or collective nutriment involve an error in principle. It is exceedingly seldom that a customer asks a butcher, or a waiter, as the case may be, for a good fat piece of beef. Rather the contrary; for any excess of fat is reckoned as waste. We eat fat because it accompanies the nitrogenous elements, but in the ordinary case we do not ask for it specially.

"No one would say that the fat which is consumed more or less voluntarily is useless. Every properly balanced ration must contain a fairly high proportion of it. But everyone knows that the pieces of butcher meat which are most in demand and dearest in price are tissue with a very little interstitial fat, and consequently of a calorific value, which is only moderate."

The writer then proceeds to compare France with Great Britain as regards fish consumption. He says that with a population of approximately the same bulk, the consumption of fish in Great Britain is more than six times what it is in France. A recent calculation shows that the Londoner eats forty times as much meat as the Parisian, and in both countries it is in towns best served by railways that the fish consumption is greatest.

According to Desgrez, lean fish is easier to digest than meat, and is accordingly suitable for persons with intestinal trouble. Fat fish is suitable to diabetic and tuberculous patients. Medical opinion is at the same time strongly against an excess of meat food, as represented especially in its most rapidly cooked forms, such as steaks and cutlets. Fish food avoids the objection to the latter. As regards nitrogenous content, as said, it finds a place between vegetables and meat, or alongside of the whiter forms of meat. Similarly, as regards fatty content, its place is between the two.

BOOTH PROFITS THIS YEAR

After having suffered a deficit of \$2,239,044.66 in 1921 and a deficit of \$977,090.21 in 1922, the Booth Fisheries Co. reports a profit of \$86,545.89 for the first four months of this year. Figures to this effect are given in the report of the president of the company, K. L. Ames. "It is a wonderful sensation after the three calendar years of 1920, 1921, 1922 have shown heavy deficits to start in with the first four months of 1923 and make a profit," says the president.

FISHER FOLK IN HARD WAY

A particularly pitiable state of affairs was discovered recently at Terrance Bay, N.S., when the County inspector raided two houses, one that of Isadore Cowan and the other that of Mrs. Fannie Slaughenwhite. At Mrs. Slaughenwhite's about twenty gallons of home-made hop beer was found. The County Inspector found Mrs. Slaughenwhite, who is a widow, and her seven children ill-clad and in an almost starving condition. They had had nothing to eat since Monday and had no fuel while their clothes were scanty indeed. He found that this is a state of affairs that prevails in cases at the present time in Terrance Bay, West Dover and other small fishing villages owing to the scarcity of fish.

The people at Terrance Bay have been unable to open a school this year as people are too poor to board a teacher and to pay their school taxes. It was stated that only a very small quantity of fish had been taken at Terrance Bay during the past week owing to the fact that swarms of dog-fish have been cutting the nets. It is stated that the condition of all these fishing people is indeed distressing, while it is also said that in one village all the men have gone to the United States to look for work. — Halifax Chronicle.

SPECKLED TROUT FOR EASTERN STREAMS

A determined effort is to be made this year by the fisheries department, Ottawa, to stock certain rivers and streams in the maritime provinces with speckled trout. A great many rivers which years ago were admirable retreats for salmon are no longer a resort for this species, due to a number of reasons most of which come from natural causes. The change in conditions has been felt severely by sport fishermen and it is largely to produce a substitute sport fish for the angler that the department is undertaking the enterprise.

In past years the government has taken eggs from speckled trout and used them for stocking streams, but the work has not been carried on in a sufficiently extensive way to produce the desired results. There are to be many more fish taken this year. The eggs will be artificially developed and then planted in great numbers where anglers may reap the benefit.

The undertaking of the government in this particular will be good news to sport fishermen of the maritime provinces. The operations this year are under the direction of Alex Finlayson, inspector of fish hatcheries, who has been in personal charge since the latter part of September.

SHARK MEAT SOLD AS "WHITE BASS"

It is understood that considerable quantities of shark meat, said to be mostly the flesh of the cat or leopard shark, *Triakis semifasciatus*, are being sold in the San Francisco markets under the name of "White Bass." While shark meat is wholesale and quite palatable when properly prepared, it is regrettable that it is not sold under its own name. Such practices may appear to offer an immediate and unusual profit, but ultimately inure to the injury of the fish trade. The exploitation of this meat is desirable but it should be done without misrepresentation and at a reasonable price. The prevailing price in San Francisco is said to be 15 cents per pound. Successful experiments in salting and smoking shark meat have been conducted on the Atlantic coast.

RECORD FALL-RUN OF MACKEREL

An unprecedented run of fall mackerel struck along the New England coast during the latter half of September. Dealers were swamped and crews were kept busy night and day to look after the landings. During the week of September 15 fish literally went begging for a buyer. One day 600,000 pounds were landed, but the week following all previous records went to the wall, when approximately 1,000,000 pounds were dumped on the docks at Boston and more than a million pounds at Gloucester.

A report from Gloucester on September 25 says "The catch of fresh mackerel to date is now way ahead of any year in a five-year period and totals 76,848 barrels as compared with 74,843 barrels, the catch of 1920 and the largest in five years up to now. The receipts last week alone were 21,510 barrels of fresh and 637 barrels of salt mackerel. The corresponding week of last year the mackerel fleet landed 1,200 barrels mostly tack and blink mackerel that were caught in the vicinity of Portland.

The catch of the fleet by barrels:

1923—76,848 fresh and 1249 salted.
 1922—30,632 fresh and 2344 salted.
 1921—35,003 fresh and 3143 salted.
 1920—74,843 fresh and 4894 salted.
 1919—46,833 fresh and 6794 salted.

Imports of mackerel at Boston have been as follows:

1923—16,190 fresh and 1194 salted.
 1922—32,372 fresh and 1622 salted.
 1921—19,738 fresh and 282 salted.
 1920—7,614 fresh and 3452 salted.
 1919—15,230 fresh and 3791 salted.

The unusual run is likely to play havoc with the salt and frozen mackerel trade from our east coast. Those who have been speculating on a strong market in the United States will have little consolation in the records established as to landings at New England ports.

BETTER EXPRESS RATES FROM S. SHORE

An appreciable reduction in express charges on the shipment of fresh fish via the Dominion Express Company's route from Yarmouth to the Quebec and Ontario markets is soon to become effective. The question of freight and express charges on shipments of fresh and smoked fish to the Upper Canadian markets was one of the first that demanded the attention of the Nova Scotia Sea Fisheries Association and that organization took the matter up with the officials of the Dominion Express and Canadian Express officials showing them the great cost on the transportation of such goods from Yarmouth as compared with other points in the Maritime Provinces, consequently placing this section of the province at a great disadvantage in competing for the Upper Canadian trade. The representations made by the association were so strong that the Canadian National Company sent representatives from Moncton and Halifax to meet with the organization at Barrington Passage. Owing, however, to the fact that the traffic manager, W. H. Burr, of the Dominion Express Company, resided in Toronto, he was unable to be at that meeting, but the matter was, by correspondence, taken up with him direct. Subsequently a wire was received from Mr. Burr, as follows:

"Referring to previous letters in regard to rates on fresh and smoked fish from Yarmouth, N. S., to Canadian points, we have about finished a tentative revision of the rates from Nova Scotia points, and I think we will be

able to publish the tariff in the course of a couple of weeks.

"We propose to make the rates from Yarmouth at fifty cents over the rates from St. John, N. B., which barely covers the cost of handling between St. John and Yarmouth. These rates will be substantial reductions from present rates in effect from Yarmouth. We will name rates to all principal points in the provinces of Quebec and Ontario, and I trust they will enable the fish dealers to greatly increase their business."

FORMER HEAD OF FISHERIES

Lieut.-Col. Franeois Gourdeau, former deputy minister of marine and fisheries, 1896-1908, and a public servant for 45 years, died at Ottawa, Oct. 1. He was in his 79th year. He had been ill at his home since last spring. He leaves a wife who was Mlle Clara Poston, of Quebec, and one daughter, Mrs. Eva Bance, of Ottawa. He was born in Quebec in 1846, and educated at Quebec Seminary. In 1872 he was appointed private secretary to Hon. Peter Mitchell, the first minister of the Department of Marine and Fisheries. Previous to that he was connected with the Trinity House at Quebec. After serving as private secretary for some time he was appointed to a position in the accountancy department. In 1896 he was appointed deputy minister, succeeding the late William Smith, the first deputy. He was appointed an officer of the Legion of Honor of France in 1905 and a Dominion commissioner to the Paris Exhibition in 1905. He was a keen horseman and an honorary colonel of the Princess Louise Dragoon Guards, which he formerly commanded.

HEAVY RUN ON LESSER SLAVE

Edmonton, Alberta.—Four fish companies operated on the Lesser Slave during the past season. The operators were allotted, as their season's catch, one million and a half pounds of whitefish. A very heavy run has been reported and so large was the take that the fisheries officer in charge decided that over production would result and as a consequence, closed the lake from July 21 to August 6.

SEASON EXTENDED

Winnipeg, Manitoba. — Approximately 3,000,000 pounds of dressed fish were taken from the Winnipeg Lake, this year according to advices received here. Fishing was not good this year, and as it appeared unlikely that the summer catch would exceed 2,000,000 pounds, it was found advisable to extend the season to help relieve the position of the fishermen.

INCREASED STURGEON CATCH

The special fishery regulations for the province of Manitoba have been amended so that 65,000 pounds of dressed sturgeon, may be taken this year from Cumberland and Namew lakes and other lake expansions of the Big Saskatchewan river. Heretofore the take was limited to 50,000, but this year the water has been exceptionally high and fishermen have been impeded in their operations. Furthermore, sturgeon have been more plentiful and the fishery inspector believed it safe to permit an additional catch of 15,000 pounds.

Toronto Courteous To Erie Delegation

The delegation from the Lake Erie Fishermen's Association which went to Toronto recently to interview the Government on certain grievances, were highly pleased at the reception accorded them. In the words of one of the members; 'In the last seven years that I have been with delegations to Toronto I never saw so much interest displayed and time afforded as in this instance.'

Among the matters taken up was the recent seizure of what the captain of the patrol boat stated was illegal twine, being under the three-inch mesh. The twine belonged to C. W. Barwell at Port Dover, and others. Both Premier Ferguson and Hon. C. McCrae, minister of game and fisheries, listened attentively to the evidence and took pains to subject the mesh to accurate measure without trusting to any third party who may have been tempted to stretch the twine a bit.

The question of a commission to study problems of Lake Erie was also taken up, but received scant attention because of the pressing matters at hand. It was made clear, however, that the Lake Erie fishermen had not relinquished their request for a commission

of investigation, and action is anticipated on the part of the Government to accede to the modest demand.

There was a question of certain appointments in the supervision of fishery administrative work, in connection with which strong recommendations were made. It appeared that the minister of fisheries felt disposed to defer to the wishes of the delegation.

Regardless of what action the Government eventually takes on the respective issues, in one respect it won a signal victory. It has established itself in a warm place in the hearts of fishermen on Lake Erie. Heretofore, Governments and politicians have felt that the friendship of humble fishermen was unworthy of their attention, but from one who has had ample opportunity to study the psychology of the fishermen, and who, at the same time, as a journalist, has a tolerable acquaintance with politics, let those interested take the advice that a Government that interests itself in fishery matters and shows an honest effort to improve conditions and assist these hard-working, poorly-remunerated citizens in the prosecution of the industry, will not labor in vain.

Annual Regatta on Lake Erie

The annual regatta of the Lake Erie Fishermen's Association was held on July second, at Kingsville-On-The-Lake. The celebration proved one of the most interesting events of the summer season. A refreshing south breeze and a cheery July sun helped greatly toward making the day a success.

The programme opened with a review of tugs and pond boats and water craft of all kinds, led by the Steamer Pelee, gaily decorated with British and American flags. The "Gordon Brown" carried off the honors for being best decorated, receiving a pair of marine glasses worth twenty-five dollars. Standing on the bridge of the "Gordon Brown" amidst the fluttering flags was little Captain Walter Fox, three year old son of Wm. Fox, playing the role of captain and mascot of his father's boat, his costume being a white sailor suit with a much-too-large captain's cap. The "Florence J. Graham" won a fine Canadian flag as second prize; and a box of good cigars, the third prize, was given the "Alva W."

The second episode was the pond net boat race for the St. Thomas Journal Silver Cup. This is a second contest for this cup and must be won three times before claiming ownership. The course was a triangular five miles. The "Flossie C" owned by Jas. Grubb, Point Pelee, was victorious; the "Nellie B" owned by Mr. Mooney of Pt. Pelee came in second and the "Obstinate" owned by Metcalfe Bros. of Leamington third. The "Flossie C's" victory was especially creditable as she was handicapped by a difference in power by 6 minutes, winning by 2 min. and 30 sec.

A twine-seaming contest was billed for 1.30 P. M. but no entries were made.

At 2 P. M. the "Florence J. Graham" owned by A. S. Brown, the "Alva W" owned by the Northern Fish Com-

pany, and the "Gordon Brown" owned by William Fox lined up for the tug race. The three attractively decorated tugs setting forth a very pretty picture against the background of blue sky and bluer waters of Lake Erie. The "Florence J. Graham" completed the 18 and 2-5 miles course in 1 hour and 23 minutes and carried off the London Free Press \$250 silver cup. This is the second contest for this cup and must be won three times to own. Had it not been that the "Gordon Brown" developed a hot journal five minutes from the finish, she, doubtless, would have won second place. Prizes were also given the "Alva W" coming in second and the "Gordon Brown" third. The owners of the Graham are willing to defend the cup at any time they receive a bona fide challenge.

At 3 o'clock the swimming races started. Captain Jean Bedelle of Chicago was awarded a prize as best plunge diver; Arthur Murphy of London second and Walter Laidlaw of Detroit, third. Mr. Laidlaw took first prize for the swan dive, with Mr. Murphy second and Clarence Beacom third. Laidlaw, Murphy and Beacom came in the same order in the Straight Dive competition.

The skippers of the various tugs were as follows:— Capt. Ed. McLean—the "Florence J. Graham;" Capt. Ed. McCormick—the "Alva W.;" and Capt. Walter Fox—the "Gordon Brown."

Fishermen from Pelee Island, Point Pelee, Leamington, Wheatley and Colchester were present.

The committee in charge of the regatta consisted of Capt. C. P. Robinson, commodore of federal fishery Patrol; Capt. C. McDonald, Capt. of Patrol Tug Lavoileth; Capt. Nelson Sheats, Capt. of Steamer Pelee. The success of the occasion was due largely to the enthusiasm and untiring efforts of A. S. Brown, president of the Lake Erie Fishermen's Association.

How Fish Specimens are Made for Museum

By J. R. DYMOND

The fish collection is a special feature of the Royal Ontario Museum of Zoology, Toronto.

Preserved specimens of fish do not make very attractive exhibits to the average museum visitor. Even to sportsmen and fishermen, ordinary museum specimens bear slight resemblance to the bright coloured, wriggling creatures they know as fish. In fact preserved specimens of fish are of comparatively little interest except to the systematic zoologist. Up-to-date museums, however, aim to interest and instruct the general public as well as the scientist. To attract the attention of the ordinary sight-seeing museum visitor, it was first necessary, in the case of fish, to devise a method of reproducing them as life-like in form and colouration as possible. The staff of the Royal Ontario Museum of Zoology has had wonderful success in this work. In fact, competent authorities claim that some of the specimens already turned out surpass anything of the kind accomplished elsewhere. This is not the result of any new method of treatment for the specimens are simply painted plaster of Paris casts. The excellence of the Museum's collection consists in the finished technique of the work of making the cast and of the skill in reproducing the colour and lustre of the live fish.

In making a cast for exhibition in the museum, great care is taken to select a specimen typical in size, proportions and colouration for the species. The museum's artist makes a colour sketch of the fish as soon as it is taken from the water. In many cases the specimen is also photographed so that an exact record of minute structures and markings will be available for reference. As fish change colour rapidly when taken from the water, the colour sketch must be made as quickly as possible consistent with accuracy.

The next step is to make a mould. This is done as soon as the colour sketch is finished and within a short time after the fish is dead. Preserved specimens or those that have been dead some time are unsatisfactory for casting because they shrink or change in shape or proportion so that a cast of them would not be correct for the species in question.

Process of Casting

After removing the mucous from the surface by means of alum, formalin or alcohol the specimen is placed on a greased board and the fins and tail expanded and held in natural position by blocks of wood or pieces of clay. A mixture of plaster of Paris and water is poured over the fish until it is completely covered. When the plaster begins to cool the specimen is removed from the inside of the mould which is set aside until it is thoroughly dry.

In making a cast, the inside of the mould is first covered with shellac and then greased and the plaster poured in. When the plaster has hardened the mould is chipped away, leaving a perfect reproduction in plaster of the original specimen. The cast is next coloured from the artist's sketch of the live fish.

The museum's collection is not yet extensive for it was commenced only three years ago, and work of this kind is necessarily slow. On account of the permanence of the exhibits, it is the policy of the mu-

seum to have every specimen as perfect as it can be made before it goes on exhibition. However, there is a sufficient number of species represented to make it well worth while for anyone interested in the subject to make a special trip to the museum to inspect them.

Some of the earliest work was done on our marine fishes. The species exhibited include the common codfish, Greenland Cod, Halibut, Mackerel, Dogfish, Sealpin and Sea Raven.

At present special attention is being given to our fresh water fishes. A party from the museum spent several weeks at Point Pelee, Lake Erie, a year ago, making moulds and colour sketches of some of the more important commercial species. Specimens have also been secured from Lake Ontario, Lake Nipigon, Muskoka and elsewhere.

Some of Specimens

An exhibit that has attracted much attention is a series of brook or speckled trout illustrating the effect of the character of the water on their colouration. Specimens from clear, cold spring water are very highly coloured, those from dark, peat-stained, water are darker while those that have been in salt water for a time are more silvery.

Another series illustrates the life history of the Atlantic salmon. It includes the eggs, parr, smolt grilse and adult salmon.

Of the strictly fresh water fishes, the following are among the most important now on exhibition; whitefish, lake herrings or eiseoes, Great Lake trout, speckled trout, yellow pickerel or pike perch, lake sturgeon. Five species of cat fish including the common bullhead, yellow catfish, channel cat, stone cat and Great Lakes catfish, common and northern suckers, red horse pike, black bass, common sunfish, blue sunfish, rock bass, calico bass, yellow perch, sheepshead, mooneye, white bass, gar pike and several others.

One of the largest specimens in the collection is that of an inconnu, a large salmonoid fish of the Great Slave Lake and Mackenzie River region. On account of its size and the remoteness of the locality in which it is found, this species is rare in museum collections.

FISHERMEN ARE LOST

Practically every gasoline boat on the Bruce Peninsula scoured the waters of Georgian Bay for trace of Capt. William Corson and Rob. Parker, who mysteriously disappeared on September 24, while setting nets at Lion's Head Point. Captain Corson is a man of 40, with a wife and several children at Lion's Head. Parker is 17, and is a son of Mrs. James Parker, of the same village.

MR. FOUND ON SICK LEAVE

Everyone in the industry will be sorry to learn that W. A. Found, assistant deputy minister of fisheries, Ottawa, has been compelled by his doctor to take a complete rest for six months. He is now on the Pacific coast of Canada and will spend some months in California. In his absence J. J. Cowie is in charge.

Birdmen Patrol B. C. Fisheries

People have grown accustomed to hearing of the use of aeroplanes in survey work, forest protection, and other land work but the successful carrying out of air patrols of the fishing areas of northern British Columbia by the Royal Canadian Air Force during the past season has opened up a new field for aircraft with many unique features. So successful were the experimental patrols instituted in July by the Department of Marine and Fisheries in British Columbia that it was decided to continue the patrol until the end of September. The introduction of the seaplane patrol resulted in greatly increased efficiency in the work of detecting breaches of the fisheries regulations and much better observance of the laws.

The seaplane and its crew engaged in the work were stationed at Prince Rupert and trips were made north, south, and inland of that point. The work of the patrol included the detection of irregularities in the use of gill-nets; a sharp lookout during the closed period between 6 p.m. Friday and 6 p.m. Sunday; a constant watch to see that fishermen keep outside the boundaries off the mouths of rivers, and inspection of the exposed parts of the coast which are inaccessible to the patrol boats.

Eagle Eye of the Patrol

As a result of information supplied by the patrol several fishermen were prosecuted for adding what is known as "handy billies" to their gill-nets. The regulations allow the use of gill-nets, 200 fathoms long. However certain fishermen added small nets or "handy billies" 50 to 75 fathoms long, with little fear of detection owing to the inability of the patrol boats to keep close watch on all the nets. From a height of 3,000 to 4,000 feet in the air, the seaplane observer can count the corks, set three feet apart, and note any excessive length. During the closed periods from Friday to Sunday, the seaplane can do the work of twenty patrol boats it is estimated, while the checking up delinquent fishermen who fish within 400 yards of the mouths of streams and rivers, the speed with which the seaplane arrives on the scene after it comes in sight prevents the offender from raising his nets and concealing what he has been doing.

Advantages of Seaplane

Exposed portions of the British Columbia coast which cannot be inspected by the patrol boats owing to the waters being uncharted were visited by the seaplane. The area covered by the patrol extended from Cape Caution, on the north end of Vancouver Island to the Alaskan boundary, while periodical visits were made to operations on the Naas and Skeena rivers, Douglas channels, Gardner Canal, Dean and Burke channels, and the Portland canal. Distances were covered in a few hours by the seaplane that would have taken a number of patrol boats days to accomplish, and as a result of the great expanse patrolled it was found possible to reduce the number of boats by four.

The only handicaps encountered in the use of the seaplane were its inability to tow recalcitrant fishing boats back to port and to operate in fog, rain, and darkness. However the former difficulty was overcome by dropping one of the seaplane's crew on board the offender while the pilot flew to the nearest patrol boat for assistance.

In view of the success of this experiment this year it is likely that more extensive plans for the use of seaplanes will be made for next season by the Department of Marine and Fisheries. The carrying of fisheries inspectors to the spawning grounds, the photographing of chains of lakes, river obstructions, and seining and spawning areas will be included in the programme for 1924 and it is expected that time and money will be saved and greater efficiency secured by the wider use of aircraft in the work of the Department.

TRAINING OF LOBSTER CANNERS

At a recent meeting of the canned fish section, Maritime division of the Canadian Manufacturers' Association which was attended also by Ward Fisher, chief inspector of fisheries in the east, and Dr. A. P. Knight, chairman of the Biological Board of Canada, a resolution was adopted requesting the Department of Fisheries to endeavor to secure the assistance of trained officers of the Agricultural Department in an effort to inaugurate a scheme of training for operatives in lobster canneries.



Protecting Fisheries by seaplane—Scene on the British Columbia coast showing one of the seaplanes used in the fisheries' patrol amongst a fleet of motor fishing boats. One of the salmon canneries is seen in the background.

Kamchatka Pack Bought Up?

Generally speaking salmon production on the west coast this year has been satisfactory. There has been little to complain about from a production viewpoint, but there is much to be desired when it comes to disposing of the canned product. The local market absorbs but a small proportion of our canned salmon, not because it is incapable of absorbing any more but because it has been more or less neglected as a potential outlet. The Fordney-McCumber tariff plays the devil with the United States market — one of our natural outlets — while the Japanese combination plants a stone barrier to the British mart. So far so bad.

'Tis an ill wind though that does not blow good for some. The Japanese holocaust appalled the world. Especially keen was the horror on the west coast where a commercial intimacy has been developed with the sunny republic. The wide world is endeavoring to assist financially to rebuild the destroyed areas and compensate in some small measure for the sufferings of the stricken people. The Tokio government is spending millions of yen in relief and reconstructive work. In connection with the former it is rumored that Tokio has purchased the entire Kamchatka pack of salmon, which, at a rough estimate, would run between 300,000 and 400,000 cases.

Now that's good news if it is true. While we deplore sincerely the necessity for public relief measures on the part of the Tokio government, it would be a tremendous relief to our western canners to learn that the Kamchatka pack was being withdrawn from competition in foreign markets and reserved for domestic consumption.

Ever since the Japs have instituted their policy of intensifying salmon canning, they have been a menace to our trade. Their production costs are said to be much lower than ours and, which is all-important, they have learned to make practical application of the principle of co-operative marketing. Only in our last issue attention was drawn to the condition of the British market and how the Japanese canners merchandizing their goods through a common agency were holding out for their price while our packers operating through various individual merchandizing agencies were unable to hold out. Our packers non-co-operating were playing a losing game with the Japs working in co-operation.

If the report concerning the sale of the whole Kamchatka pack be true, we have much to be thankful for. We receive the report from most reliable sources on the coast and have every reason to accept it as truth. On the other hand should it prove unfounded, it suggests that moneys sent to Japan for relief purposes from Canada or Great Britain might have a string attached that they be applied in just such a way — to kill two birds with the one stone.

SMALLER PACK IN No. 2

Prince Rupert, Sept. 22. — The salmon pack for District No. 2, is estimated at 670,000 cases this season by the Dominion Fisheries office. This will not come up to last year's total of 900,000 cases although some particular records such as the sockeye pack on the Skeena will be high.

On September 30 all salmon fishing on the mainland in this district will come to a close when further net fishing will be prohibited. The fishing will probably continue on the Queen Charlotte Islands until October 15. Cohoes and chums are now being packed.

Ten canneries are still operating in this district putting up the fall varieties of salmon. They are: Somerville on the Naas; Goose Bay at Rivers Inlet; Lagoon Bay and Lockport on the Queen Charlotte Islands; Balmoral, Sunnyside and Inverness on the Skeena River; Butedale, Bella Bella and Namu in the central division.

The Dominion Fisheries office estimates the total pack for the district to date as follows:

	Cases
Sockeyes	267,154
Springs	3,744
Steelheads	721
Cohoes	32,147
Pinks	310,190
Chums	63,809

Latest reports at the local Dominion Fisheries office from the Skeena River salmon spawning areas are to the effect that they have been well seeded this year. To date the number of pinks noticed on the grounds exceeds the averages of past years.

PLENTY OF SALMON EGGS

A splendid run of sockeye salmon has reached the spawning grounds of Lakelse Lake and its tributaries on the Skeena River watershed. Up to September 1, 8,000,000 sockeye eggs were collected and placed in the Lakelse hatchery, and in addition a large number of parent fish were permitted to ascend the principal spawning creeks to seed such grounds in the natural way.

All of the natural spawning grounds have been well seeded, and there is every prospect of increasing the season's collection for hatchery purposes to 10,000,000. A portion of this collection will be utilized for seeding other sections of the Skeena watershed in which spawning salmon are not so plentiful.

CREDITORS BUY GORTON-PEW

Federal Judge George W. Anderson of Boston, Mass., on Sept. 15 confirmed auction sale of the Gorton-Pew Fisheries Company property to A. A. Stanley, North of 70 Federal Street, for \$500,000. Mr. North bought the property in behalf of the creditors' committee, who will turn it over to a new company to be known as the Gorton-Pew Fisheries Company, Limited.

Sockeye Desert Upper Fraser

Victoria, B. C. — John P. Babeock, assistant commissioner of fisheries for the province, returned to Victoria yesterday from a trip of inspection of the salmon spawning area of the upper Fraser River basin. In his preliminary report he says:

"I could find no spawning sockeye in any section of the upper Fraser. No sockeye have been seen by any resident at Quesnel Dam or on the Horsefly River, the principal spawning tributary of Quesnel Lake. Less than a dozen sockeye were reported as having reached the Bowron Lake section back of Barkerville. The Chilcotin Indians reported that very few sockeye had entered that river this year. The Indians were permitted to fish with dip-nets this season, but their catch was confined almost exclusively to spring salmon. Not to exceed fifty sockeye were taken at any one of their three fishing stations. No sockeye have been seen at Seton Lake this year.

"The only bright spot in the whole watershed is the Birkenhead River at the head of the Harrison-Lillooet lakes section, where the Dominion Government operates a hatchery. The run to that section so far this year compares favorably with that of recent years. There is every prospect of filling the hatchery to its capacity of 30,000,000 eggs. In recent years more than fifty per cent of all the sockeye eggs collected for the hatcheries of the Fraser have been taken from the Birkenhead. The maintenance of the sockeye run to that section is certainly a tribute to the able manner in which the hatchery there is managed by T. W. Graham, the superintendent.

"The number of sockeye that appeared at Hell's Gate canyon this year is reported to have been much less than in any former year. The number of spring salmon that reached there this year compares favorably with any recent year. The Indians fishing with dip-nets at Hell's Gate caught spring salmon; not to exceed 100 sockeye were taken there by Indians this year.

"It is much too early to judge of the sockeye run to Harrison, Cultus and Pitt Lakes.

"The catch of sockeye on the Fraser in B. C. waters this year will not exceed 30,000 cases, and the catch in American waters is reported to have been but little more. With so small a catch on the fishing grounds it is not surprising that so few sockeye were reported on the spawning beds."

Lots of Game

According to Mr. Babeock there are a good many big game hunters in the Bowron Lake section this year, and moose are plentiful. "There were four parties of American big game hunters in the Bowron Lake section this season at the time of my visit. They did not come in until the 15th as the season for killing moose, as originally set by the Game Board was not to open until that date. A few days before the 1st of September the board amended the order and opened the season on the 1st instant, with the result that few of the non-resident moose hunters reached the field until the 15th. The game wardens at Quesnel stated that other hunting parties were coming in later and that every recognized guide in that section was engaged. Moose were in evidence along all the many small lakes in the Barkerville section. "I saw fourteen

moose in Sandy Lake and four of them were big bulls with fine heads. Willow grouse were plentiful in all sections this year and many blue grouse were seen in the Chilcotin section. Only local ducks were seen. The northern migration of ducks and geese had not made its appearance when I left."

"Owing to abundant summer rains there was a big hay crop and the cattle were in the best possible shape. However, the price paid the ranchers is so low that it is doubtful if a cattleman in the Cariboo-Chilcotin country will break even on expenses this year."

SHIPMENT OF SKINS FROM PRIBILOF ISLANDS

The U. S. S. *Gold Star*, on its recent arrival at Seattle from Alaska, brought a shipment of fur-seal and fox skins from the Pribilof Islands. The fox skins, numbering 684 from St. George Island and 233 from St. Paul Island, were forwarded by express July 26, and the seal-skins, numbering 272 from St. George Island and 1,028 from St. Paul Island, were shipped July 27 by freight via Northern Pacific, all to the Fouke Fur Co., St. Louis, Mo. The fox skins were taken in the winter of 1922-23, and the sealskins, with the exception of 404 in the shipment from St. Paul Island, were the take in the fall of 1922. These sealskins were not blubbered. The shipment of sealskins was received at St. Louis on August 9, and was reported to be in good condition.

On August 11, 6,071, fur-seal skins were shipped on the S. S. *Buford* from St. Paul Island via Nome and East Cape to Seattle, Wash. Arrangements have been made to bring out another lot of skins this fall on the Coast Guard cutter *Bess*.

400 YARD LIMIT IS ABOLISHED

Time seems to have proved that many features of the Duff commission's report, while apparently sound in theory, were weak in practice. Only a couple of months ago it became necessary to restore the weekly close season for salmon that prevailed in 1922, and on August 27 an order-in-council was adopted doing away with the 400 yards limitation on purse net and drag net fishing at the mouths of streams and rivers.

Prior to this year the nearness these fishermen might approach the mouths of streams and rivers in pursuit of salmon was regulated by the local fishery officer. It usually varied in different sections, depending upon changing natural conditions from year to year. The Duff commission fixed a boundary at 400 yards within which netters were prohibited. At the time, fishermen maintained that it would be impossible to adhere to any hard and fast policy and experience during the early part of the season seemed to bear out that contention. The department found it necessary to again leave the matter to the discretion of local fishery officers.

MILD CURED PACK

Due to a good spring run, the pack of mild cured salmon in the northern B. C. district has been very satisfactory this year amounting to 936 tierces. The most of it has already been exported.

The Balmoral Cannery put up 836 tierces and the Canadian Fishing Co. at Butedale, 100 tierces.

Keep Japs Out of Departure Bay

The use of drag seines and purse seines in the herring fishery of Departure Bay, B. C. has been a matter of controversy and a mix-up for some years. Away back in the year 1910 an order-in-council establishing prohibited areas, permitted the use of drag seines, but not purse seines, during daylight hours. In 1913 an order-in-council was passed legalizing the use of the purse seine in British Columbia and it was subsequently announced that the purse seine was legal for herring fishing in any part of the province, the authorities apparently having lost sight of the specific restriction in Departure Bay. Since that time both drag nets and purse seines had been in use until the Duff commission recommended that both types of equipment be prohibited. This year the recommendation has been effective and Departure Bay has been closed.

Now there is an agitation, stimulated by the Japanese, to have Departure Bay opened once more. Few but the Japs fished in this area. There is little argument, it would appear, for keeping the area closed but it would seem wise policy, should the government decide to throw it open again, to limit the privilege of fishing there to white fishermen, as has been done on the west coast, on Barclay Sound. In fact, some go to the extent of declaring that Japs should be taken off herring seines altogether. The result of a similar policy in the salmon fishery

has been that Japs employed white crews and gave a good deal of employment to our own people. The same thing would likely happen in Departure Bay, were it restricted to whites. The Japs would operate salteries, as in Barclay Sound, but white men would do the fishing.

There is a word of caution against throwing open Departure Bay to the Japs. It would be a retrograde step. It would be repudiation of the policy to rid the industry of the Japanese and may readily lead in a short time to a return of the Japs to salmon seining.

SEPTEMBER HALIBUT DOWN

Principally because of the very unfavorable weather that has prevailed, since the first of the month on the northern halibut banks and between Prince Rupert and them, the total of halibut arrivals for the month of September was not as high as usual. This will make the past month the lowest of the year in quantity of arrivals with the exception of January and February.

It is coming around to the time of the year when fishing in the southern straits ceases and the boats will have to go to the Far North banks for their catches. This naturally eliminates many of the smaller schooners, several of which will soon be tying up in port to commence the work of winter overhaul.

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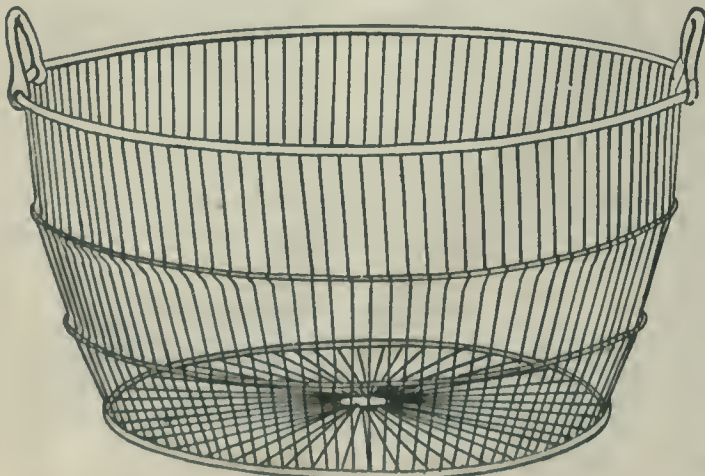
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B. C. News Items

LOWER RATE ON CRABS REFUSED

The railway commission has rejected the application of a Vancouver fish merchant for an express commodity rate on crabs as far east as Toronto. Under existing rates fresh crabs in ice are carried by the express companies as far east as Winnipeg on a special commodity rate of \$4.30 per 100 lbs. The corresponding rate to Toronto for which the applicant asked would be \$6.70, while the rate now applicable on crab shipments is \$15.95. The railway commission decided that there was no discrimination in the existing rates, and that a proper basis had not been established for the setting up of a commodity rate.

PRIBILOF HERDS GROWING

The protection given seals in the Pribilof Islands by the United States, Canada and other nations has reached a point where their killing for commercial purposes is now practicable and advisable within certain limitations, according to the view expressed recently by Representative Lindley H. Hadley, at Bellingham, Wash., who has returned from a 9,500 mile tour in Alaska with Sir W. L. Jones and Henry O'Malley, United States commissioner of fisheries.

Referring to the salmon fisheries Hadley said that the great variety of physical conditions, the nature of feasible fishing gear and the varying degrees of depletion of the course of supply in the fishing districts of Alaska made legislation subjects in detail wholly impracticable.

MAY INSTAL DEISELS

The Canadian Fish & Cold Storage Co., has about decided to equip its entire gas fleet with deisel engines. One of the halibut boats, Summer, has already had a 90 h.p. deisel installed instead of the old gas engine. If this boat gives satisfactory results, deisel engines will be installed in the Sitka, Zibassa, Lord, Starrett, Phippen, Fredelia and Legaie.

NEW PATROL BOAT

A new gasoline boat is being built at C. H. Cates & Sons' shipyard, North Vancouver, to replace the old Kayex in the Dominion Fisheries patrol service out of Prince Rupert. The new boat will be about 45 feet in length over all and the engine from the Kayex will be put in it. The craft will be ready for service next year.

RECORD HALIBUT LANDINGS

A record for quantity of halibut arrivals at Prince Rupert was set up during the month of August, the total for the month being 3,306,400 pounds. The total for August last year was 2,800,000 pounds and for July this year 3,060,800 pounds.

Weather and general conditions were very favorable and good prices, generally speaking, prevailed. The highest bid was 16.2c and 11.5c paid on August 21 for the 15,000 pound catch of the American schooner Anna J. On two occasions the price went down to 10c and 8c, the lowest level. The price average was higher during this August than in August last year or last July.

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T. H. Johnson on Halibut Situation

"Things are brighter. People are buying quite heavily in frozen fish and they are ordering earlier than usual, which is an extremely good sign." Such is the optimistic message of T. H. Johnson, of the Canadian Fisheries & Gold Storage Ltd., Prince Rupert, B. C. who has been east on a business trip during the month. "Personally," he added, "I am well satisfied with business conditions."

Mr. Johnson stated that all old frozen halibut on the west coast had been completely cleared out. There was not a pound carried over. This meant that this season's frozen offerings were new and of good quality.

As regards the halibut treaty Mr. Johnson was convinced there would be no closed season this winter. Although the authorities at Ottawa were endeavoring to come to some tentative understanding with Washington pending formal ratification, he personally felt that the United States could do nothing until congress met. It

would be about the first of the year before the U. S. house would get around to the treaty and it would be too late then to make it effective this year. Furthermore, he was under the impression that Secretary Hoover, when on the Pacific coast some months ago, stated definitely that no machinery existed to make the provisions of the treaty tentatively effected until congress had met and taken action.

Mr. Johnson stated that the run of salmon in the northern district of British Columbia was very good this year. His own pack had been completely disposed of, but he was not in a position to make a statement regarding the entire pack. The Fordney tariff has made it almost impossible to reach the American market, which is one of our natural outlets and the Japs are proving a serious competitor in Great Britain. Cannery this year put up a large number of pinks and chums.

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Official Organ of the Canadian Fisheries Association
A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada,
and Technical Education of those engaged in the Industry.

VOL. X

Gardenvale, P. Q., November, 1923

No. 11

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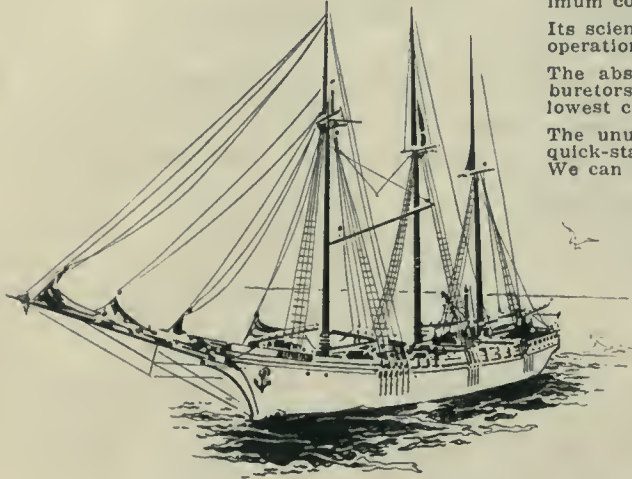
Published on the 17th of each month. Changes of advertisements must be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication, these will be paid for at our regular rate.

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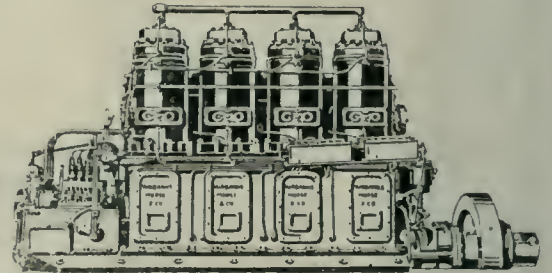


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:-: EDITORIAL :-:

Official Organ of Canadian Fisheries Association

JAS. H. CONLON, Editor.

WALTERS' FAUX PAS

The beginning of the 1923 series of international fishing schooner races gave promise that the shortcomings of previous events would be lived down. All went well the first race. It was perhaps the finest since the inception of the contest. The second race was equally thrilling and not the remotest excuse existed for criticism up to that time. It developed, however, that the Bluenose skipper had made a blunder in the latter race for which, it was ruled, he should forfeit his victory. The Lunenburg skipper, in high dudgeon, forthwith departed from Halifax, without the trophy, without any share of the prize money, without the approval of the vessel owners, without the sympathy of the people of Halifax and against the earnest advice of Premier Armstrong, Hon. J. J. McKinley, Lunenburg's representative in the provincial cabinet, and the better judgment of all whose opinions warranted consideration. Upon more sober reflection, no doubt, the Lunenburger regretted his impetuosity but the time for wise reflection was when the Bluenose was docked at Halifax. Walters crossed the Rubicon a bit hastily.

It is regrettable that such a splendid exhibition should fall so flat by the error in judgment of one or a few individuals. Had the position of the Bluenose skipper been one affecting himself alone his course of action was his own concern. Such was not the case. He was selected to represent the fishing fleets of Nova Scotia. More than that he was a representative of Canada and Canadians and as such his stand was extremely reprehensible. What would our Canadian people think, what would the world think, of our team of athletes to the Olympic meet should they be withdrawn from the international events in protest of a judge's decision? If a participant in a race is to defy the ruling of a judge, he immediately puts himself in the position of an appeal judge. Is that logical? Is it cricket? If one should defy a court of law in similar manner and be permitted to get away with it, there would soon be no courts and no law. And if defiance of the rules of sports is tolerated there will soon be no such thing as sport. There must be a judge and his word must be accepted. If his integrity is doubted the time for protest is before the event.

However, the thing is done now. The trophy is in the hands of the trustees. There is no champion for 1923. Captain Pine of the Columbia may with propriety have gone over the course alone to complete the series and claim the trophy, but with admirable and praiseworthy taste he declined to do this as such a victory would be without glory. That spirit is as commendable as Walters' is blameable. Next year, we hear, participants in the race will be obliged to sign an agreement to accept the verdict of the race committee. It is just as reasonable to ask litigants in a case to sign papers that they will accept a court's decision. What is the judge put there for? It is a sign of poor instinct if a husband is compelled by the court to pledge himself to support his family. If the proper spirit is there he will support it without compulsion.

AND GASPESIANS STILL SUFFER

Negotiations were carried on during the past month between directors of the Canadian National Railways and the management of the two railways operating on the Gaspé coast and feeding the main line of the C. N. R. at Metapedia, with the idea of having the government owned railways take over the Gaspé mileage. In principle Sir Henry Thornton was sympathetic but he differed in the matter of price. The British shareholders interested in the Gaspé lines are reported to be losing money hand over fist but at the same time they say they do not feel disposed to part with the lines without fair compensation. In the meantime Gaspé is without proper railway service. The owners cannot be depended upon to give the service the district requires and while the nagging over price goes on the lines will, we expect, deteriorate until Gaspé backs into mediaeval times.

We are reminded of the story of two street urchins who had picked up a stray mongrel dog. They each had a rope to its collar and divided proprietary control until it came time to depart for their respective homes. In the dispute as to who was going to take the dog home for supper and a bed the poor animal was strangled and when the argument was settled there was no dog requiring feeding and bedding down.

It is unnecessary to explain that in this instance the neglected people of Gaspé are the poor dog, the only difference being that the two proprietors are fighting to see which won't do the feeding and bedding down.

CANNED SALMON PREFERENCE

After a long period of darkness a ray of light sheds itself upon the British Columbia salmon canning industry. For the last few years competition from the Japanese and Alaskan packs in the British market has proved an almost overwhelming handicap due to cheaper production and, which must not be minimized, methods of co-operative marketing adopted by our competitors as against expensive individual marketing on our part. The new economic policy being framed by Premier Baldwin of Great Britain, promises to give protection to Empire products which do not come into serious competition with domestic production. It happens that canned salmon falls in such a category. The Old Country is not a producer, but it is a big consumer. On the other hand, Canada is a big producer and the retention of the British market is rendered difficult by foreigners. It is stated in the press that London proposes to raise a tariff of ten shillings a hundred pounds against canned salmon of foreign production, allowing a hundred percent preference on canned salmon produced within the Empire, which means that Canadian producers would have a straight handicap of \$2.30 a case, normal exchange, to overcome certain other advantages of competitors. Of course there is a big question involved in revolutionizing Great Britain's fiscal policy, but for the sake of empire cohesion and to make the great commonwealth of nations sufficient within itself it is to be hoped that the principle of according preference in the British markets to the products of the dominions will be sustained.

The salmon canners have very wisely selected to exhibit at the British Empire Exhibition and they should be advised to tackle the job with the utmost earnestness. They should avail themselves of every means to re-conquer the market and drive home the advantage which tariff preference will afford. They have been seeking legislation in the parliament of Great Britain to require marking on all tinned salmon so that British consumers may be given an opportunity to choose between empire and foreign goods. While that may yet be desirable it would seem that the appeal of lower cost would be much more impressive. A certain proportion of the population may trouble itself to choose between empire and foreign salmon quoted on an equal basis. With Canadian salmon quoted lower the choice is inevitable.

While speaking of the British market for canned salmon it is apropos to remark upon the opportunity for other lines of fish. Judging by reports from the Old Country there is need of imported fish. The North

Sea is not yielding its erstwhile volume and the nation's appetite has been whetted for fish. The British Empire Exhibition, from April to October of 1924, affords an excellent opportunity to introduce our commodities and houses interested in the development of foreign business would do well to investigate.

DYBHAVN HONORED

John Dybhavn of Prince Rupert has been appointed by the government to the Biological Board of Canada. The board was recently reconstituted so as to include two practical men from the industry. Mr. Dybhavn has been selected to represent the interests of the Pacific coast and someone is yet to be named for the east. The choice on the west coast is a wise one and indicates that the government has no intention of straining the meaning of 'practical fish man'. Mr. Dybhavn is that. It is our hope that the appointment in the east will harmonize with the one in the west.

Mr. Dybhavn is a Norwegian by birth and his success in this country is marked. His progress is worthy of the attention of new-comers to Canada and intending emigrants, as well. It shows what opportunity exists here and his appointment demonstrates that honors are not restricted to the native-born.

QUEBEC'S FISHERIES PROGRAMME

The Quebec fisheries department, according to the press, is proceeding with the formation of co-operative organizations among the fishermen of the Gaspé coast. Under the legislation adopted last session, sponsored by Hon. J. E. Perrault, these organizations are authorized to purchase rigging, boats and all articles necessary or useful to fishermen, the buying or selling, or both, the catching, inspecting, preparing, conserving, transforming, transporting and placing on the Canadian and other markets of all kinds of fish, and the building of cold storage plants and other buildings necessary for the fishing industry. Another line of activity for the co-operatives is that of establishing canneries.

Under the same act, provision was made for the establishment of a maritime fisheries branch in the department, which will look after the co-operatives in a supervisory capacity and cold storage plants subsidized by the government, and will generally encourage the development of the maritime fisheries of the province.

A few days later the press carried a statement to the effect that a contract had been awarded the Linde Canadian Refrigerator Co. of Montreal for equipment for the cold storage plant at Quebec and that the plans call for three separate buildings, one the cold storage plant proper, the power plant and "the fish buildings which are to be located nearby."

Credit must be given the minister of fisheries at

Quebec for his energy in extending help to the fishermen, but, as we pointed out some months ago with quite prolific and definite argument, we fear his efforts are being misdirected. On that occasion we commented upon the disastrous results of Ontario's experiment of launching into the fish business in competition with private investment.

From an issue of the Montreal Gazette, about the time announcements were made about the development of fishermen's co-operatives, we take the following extract upon which further observation is unnecessary:

"Announcement is made that the United Farmers' Co-operative Company, which is the marketing organization of the United Farmers of Ontario, has resolved to go out of the retail merchandising business, and that with the end of the present month the last of the thirty-five stores it once maintained will be closed. The activity of the United Farmers in question was the most extensive venture in co-operative merchandising made in Canada; and it was made under conditions more favorable than usual in some ways. There was a large and earnest organization behind the project, whereas generally in Canada co-operative store ventures have suffered from lack of backers."

LOBSTER BAIT SHORTAGE

If reports reaching our office be true there is trouble ahead in the east as regards lobster bait for the next season unless there is an unlooked-for run of herring during the current month. It is learned that fishermen interested have been advised of the situation and have been urged to take advantage of any opportunity afforded to lay in a supply. It is estimated that next season the Maritime Provinces will require about 150,000 barrels of lobster bait, while at present there are only 50,000 barrels in sight. In the Grand Manan area which usually provides about 50,000 barrels, only 10,000 barrels have been so far laid away. This will be hardly sufficient for local use and the shores of Nova Scotia which have previously looked in that direction for their bait may be up against it.

According to those in close touch with the lobster industry extreme care is not needed in putting up lobster bait. Herrings may be simply packed in barrels and put aside. Decomposition, it is said, instead of destroying the bait, seems to make it more enticing to the crustacean.

With the present supply of bait two-thirds of the industry must go without and the balance will have to pay so much for it that their catch will cost them dearly.

Changes in Lobster Fishing Seasons

The poor lobster fishing results in the counties of Nova Scotia from Halifax to Digby during the last two seasons have been the cause of grave fears for the perpetuation of the fishery as a remunerative means of employment. Some have attributed these results to overfishing especially for small lobsters while others have held that the great shortage in 1922 and 1923 was due to abnormally severe weather conditions, and that the present short fishing season is sufficient to insure the continuation of the fishery.

In order, therefore, that the Minister of Marine and Fisheries might have independent first hand knowledge directly from the fishermen and others engaged in the industry to guide him in reaching a decision as to proposed changes in fishing seasons, etc., J. J. Cowie of the department was charged with the duty of investigating the situation during the past summer.

Meetings were held at several places in each of the counties affected, at which the fishermen especially gave free expression to their views. These views, as might be expected, were varied and somewhat conflicting.

Mr. Cowie's report has now been submitted, and in accordance with the recommendations contained therein which seem to embody the idea of the great bulk of the fishermen and others concerned in the industry, it has been decided that the season and the matter of a size limit be left as they are at present, excepting in the two following cases:

1.—The season on the Bay of Fundy side of Digby Neck has been made the same as that on the St. Mary's Bay side, viz., from March 1st to May 31st, without any limit as to the size of the lobsters to be taken.

2.—The season in that section of Halifax County from Cole Harbour westward to the county line will now be from December 1st to December 31st, during which time no lobsters under nine inches in length can be taken. Then in the spring the season will run from March 1st to May 15th, but during the spring season there will be no limit as to size. Two weeks have been taken from the present spring season to offset the month's fishing at the end of the year.

SHORT COURSES IN FISHERIES

Short course in fisheries and fish culture offered by the College of Fisheries, University of Washington, during the period from January 3 to March 1, include lectures on: the fisheries of the Pacific, canning of fishery products; curing of fishery products, Scotch and other methods of curing herrings, Classification, habits, etc., of Pacific economic aquatic species, fundamentals of canning, fish culture, pond culture, freshwater plants, bacteriology of foods, food laws, elements of navigation, short courses in gas and oil engines for fishermen, emergencies, first aid to the injured. The college also offers four and five year courses leading to the degree of B.S. and M.S. in fisheries, data upon which may be obtained by inquiry.

Stimulation of Fish Demand

National Fish Day was tremendously successful this year. Reports from all sources indicate a remarkable stimulation of trade throughout the country, giving proof of the efficacy of advertising and propaganda. It is the aim of the national advertising campaign organized by the Canadian Fisheries Association and backed by government assistance, to make three hundred and sixty-five fish days in a year, and anyone who sees the advantage of a single National Fish Day cannot fail to be impressed with the possibilities of a continuous "eat more fish" campaign.

In Montreal, Toronto, Vancouver and other centres special effort was exerted by the local trade to boost the day, with, as has been said, most satisfactory results. Through the co-operation of the federal department of fisheries the press of the country was provided with specially prepared articles fitting to the occasion, the thirty-four radio broadcasting stations were induced to send out a special National Fish Day message on the eve of the event. Furthermore, fishery officers throughout the country were instructed to co-operate actively by personally interviewing hotel and café proprietors to feature the day with fish meals. They were also requested to furnish reports on their efforts in the matter and these will be published with the object of collecting ideas for guidance on future occasions. The support from the Ottawa department was all that could be desired. Every suggestion from the association was responded to and in some cases exceeded. The co-operation in this and other issues of recent date between the industry and fishery authorities is a flattering tribute to all concerned and it is hoped as time goes on that adequate proof will be given of the advantage of harmony on all matters of common concern. Close contact between fishery administrators and the personnel of the industry is the first essential of progress and a lot may be expected of that sympathetic policy.

Window Dressing Contest

In the city of Montreal hotels and restaurants were induced to serve special fish meals and the local branch conducted newspaper advertising calling attention to this fact. Delivery vans bore streamers and displays. A window dressing contest was held with splendid results. It was proved that nothing so stimulates the interest of the retail trade as a competition of this kind. In the near future it is hoped to put across the idea in a national way with the object of encouraging retail dealers — those who come in contact with the actual consumer — to improve his methods and put

the business of fish merchandizing on a higher level than it is today.

The judges of the contest were Jas. H. Conlon, secretary of the association, and C. P. Kuhn of A. McKim Ltd, which firm has been awarded the account for national publicity. The first prize, \$20 donated by J. A. Paulhus, was won by Harry Woolmer, 1272 Wellington street; second prize, \$15 donated by Leonard Fisheries Ltd., H. Mitchell, 1914 Masson Street; third prize, \$10 donated by J. T. O'Connor, by Walters Delicatessen, corner of Bleury and St. Catherine street. There was no choice between two stores as to fourth, so the contributor, Maritime Fish Corporation Ltd., gave \$5 to Harry Gilbert, 616 Wellington St., Pt. St. Charles and O. Tremblay, 2908 St. Catherine St., East.

TO TRAIN CANADIANS FOR RESEARCH WORK

Ottawa. — Forty-five persons have begun work yesterday in the graduate schools of the various Canadian Universities under Fellowship, studentships and bursaries awarded by the Research Council of Canada. Twelve Fellowships, having a value of \$1,200 each, eight studentships, with a value of \$1,000 each and 25 bursaries, having a value of \$700 each have been granted by the Research Council for the present year, and these awards are being held in nine departments of science at nine universities.

During the six years ended March 31, 1923, the Research Council awarded 27 Fellowships, 65 studentships and 54 bursaries. These 146 awards were held by 96 persons and 15 universities in 12 departments of science.

Of the 96 grantees, 21 have had their awards renewed for the year 1923-24. The Research Council has, therefore, during the past six years contributed to the stream of Canadian investigators 75 persons who have received post-graduate training in some branch of science and in research.

NORTH SEA ALMOST FISHED OUT?

There has been such an extraordinary famine of fish, particularly whitefish and haddock, in the North Sea recently that many fishermen temporarily abandoned fishing for potato harvesting. Prices went up enormously. Although this extreme scarcity is probably due to temporary causes, it has been recognized for some time that the North Sea is almost fished out. British trawlers have been forced to go farther afield, a circumstance which has led recently to trouble between the trawlers and Russian gunboats in the White Sea. It is predicted that in a few years these conditions may foster a profitable trade in Canadian fish brought to the English market in chilled space. Canada's Atlantic fishing grounds are not much farther from England than the White Sea.

Races Thrill Till Beans Spill

Tests between Bluenose and Columbia demonstrate former's superiority but international event is left unfinished

The international fisherman's race this year was a fizzle. Up to a certain point where it suddenly terminated, it was the most successful thus far. The contest was brimful of interest and excitement until a lamentable faux pas anticlimaxed the whole affair. There is no difficulty in placing responsibility in the matter. The public has already done that and we must be charitable. The experience of the race committee this year and in previous years should enable it to avoid such regrettable incidents in the future. Next year means must be found to curb the impetuosity of fishing skippers, who, let it be conceded, are constantly at high nervous tension.

As a commentary on the finale this suffices. As for the two races that were pulled off, the Bluenose, the Canadian Defender, showed undoubted superiority in sailing qualities over the American Columbia, and for this reason the attitude of the Lunenburg skipper in refusing to accept the decision of the race committee awarding the second race to the Columbia on a foul though the Bluenose was first over the finish line, is difficult to understand. As for the management of the racers, observers concede the honors to Captain Ben Pine, the Columbia's skipper.

The Bluenose won the first of the series on October 29, the course being off Halifax harbor. Despite the fact that Captain Angus Walters lost time through mistakes the Bluenose lead over the finish line quite handily. In the second of the series the Bluenose also came through but a protest was immediately entered by Captain Pine that the Bluenose had violated a special rule of the contest made as a result of experience in the first race. The rule provided that "any buoy indicating shoal water shall be passed on the seaward side." Walters did not deny that he had violated the rule. The race committee in consequence adjudged a foul and awarded the race to the American vessel. It was patent that the violation made no material difference in the outcome of the race but the technicality was there. The ruling sent the Lunenburg skipper up in the air and he sailed for home positively declining to complete the series, though his action in so going was emphatically repudiated by the managing owner of the fisherman. All the persuasive efforts of Premier Armstrong of Nova Scotia, Hon. J. J. Kinley, Mayor Murphy of Halifax and other officials could not move Walters from his decision. Pine would not go over the course alone to claim the trophy and prize money as he felt there would be little glory in such a victory. He was awarded \$2,500 to cover his expenses, however, and the trophy remains in the hands of the trustees.

There was no winner for 1923.

The First Race

Prior to the first race Walters demanded that the Columbia be hauled out for measurement, a precedent for which had already been established. It was subsequently arranged that the contender would be

pulled out at the first opportunity but that this should not interfere with the progress of the races.

The official measurements of the Columbia so far taken were made by R. J. Milgate, of the Nova Scotia Technical College, and show the following: Load water-line, 110 feet; overall length, 140 feet; sail area, 9,159 square feet, or 420 feet less than allowed; displacement, 269.6 long tons; mainmast, (deck to topmast head), 110 feet 6 inches (116 feet allowed).

The course for the first race was six miles straight out Halifax harbor and about 34 miles of a triangular course, chosen to give at least one leg of windward work under the wind prevailing at the start of the race. The time limit was six hours.

The Bluenose defeated the Columbia, of Gloucester, in perhaps the most spectacular race in the history of the contest to date, by one minute and twenty seconds, over the forty-mile course.

The wind blowing at six knots at the start, increasing to seventeen knots and veering from due west to southwest, provided the challenger with weather conceded to be to her liking but the burdensome Bluenose considerably lightened in ballast over her trim of last year, surprised her friends with her light weather sailing qualities and demonstrated she had the edge on the challenger on all points of sailing under the conditions obtaining today.

Apart from the question of boats, however, Captain Ben Pine, it was freely admitted, had it all over his Nova Scotia rival Captain Angus Walters. Walters drew first blood at the start, beating the Gloucesterman out by thirty seconds, which he might have increased to upwards of a minute had he not proved himself gun-shy by running down the line to leeward of his opponent.

Then having established a lead of two minutes seventeen seconds, as a result of the two reaches to the second mark, and having the race well in hand for the third to windward he threw his advantage overboard by overstanding the third mark and disregarding the fundamental law of racing—to keep yourself between the mark and your opponent. Canny Ben Pine followed the Lunenburger about, with the result that when the mark was reached the official timers decided it was a dead heat as between the two boats.

Then came a fight for the weather berth, limited only by the jagged rocks of Chebuco Head, jutting out to weather of the competing schooners. Wit everything filling and racing neck-and-neck, Pine kept edging Walters up to weather. Try as he might the Lunenburger could not shake his Gloucester rival. The schooners tore along, Bluenose not more than a biscuit's throw from the Three Sisters, one of the most dreaded shoals on the coast.

They neared Bell Rock buoy, marking another shoal. But Pine was obdurate. He all but scraped the whiskers off the buoy, forcing Walters through the green water inside the mark. Then, according to the Cana-

dian skipper, the pilot aboard the *Bluenose* shouted to the helmsman, Captain Albert Himmelman, to bear away and we strike him," Albert yelled back. "Strike him or strike the rocks," the pilot retorted. *Bluenose* bore away, with Pine still trying to luff, Walters doused his staysail and swung his foresail wing and wing. He blanketed the Gloucesterman. Next his main boom touched the main shrouds of *Columbia*. Still Pine tried to luff. The Canadian's main boom swept the forestays of the American, doubling up the sheerrod. Finally it caught in the drown haul of *Columbia's* jib and for upwards of a minute defender towed the challenger. Then the Lunenburgler cleared and, opening up a gap, raced for the finish line with the result never in doubt.

The race summary:

	Start.	1st mark	2nd mark
<i>Bluenose</i>	9.01.20	9.35.30	10.06.43
	12.03.30	1.12.44	1.43.42
	Start.	1st mark	2nd mark
<i>Columbia</i>	9.01.50	9.36.46	10.09.00
	3rd mark	4th mark	Finish
	12.03.30	1.13.46	1.45.02

The Second Race

The second race on November 1, was also a real one from start to finish and until the schooners had turned the outer mark and settled down for the long thurst to the finish line the issue was in doubt. *Columbia* did not fulfill the expectations of her supporters in the matter of windward work, but she gave the defender all she wanted all the way. The challenger was markedly quicker in stays than her rival. Moreover, she caught a favorable slant of wind near the finish line, which saved her a hitch over the *Bluenose*, but the fact that she lost only 1 minute 27 seconds on the 17-mile beat to windward from Sambro Gas Buoy to the finish line speaks eloquently of her capabilities in a muzzler, the real test of schooner racing.

The defender at the start and was never headed. At the first mark she had established a lead of 1 minute 49 seconds. She did this as the result of a broad reach of six miles in comparatively smooth water. *Bluenose* lost twenty seconds of the second leg a close reach of six miles in a moderate sea, and lost nine seconds on the third leg, a run down the wind of nine miles in the same weather. She hettered this lead of 1 minute 20 seconds by 1 minute 27 seconds in the 30-knot whole-sail breeze and head sea to the finish.

Both skippers sailed consistently good races. They got away to a start that might very well be envied by experienced yachtsmen and showed good judgment in clewing up their fore-topsails against the risk of losing a stick in the weather of the day. *Bluenose* seemed to make better weather on the whole than *Columbia* show-make better weather on the whole than *Columbia* but against this is the impressive showing made by the challenger on the beat home.

Summary:

	Start	1st mark	2nd mark
<i>Bluenose</i>	9.00.27	9.44.21	10.16.10
	3rd mark	4th mark	Finish
	11.15.03	not taken	2.36.03
<i>Columbia</i>	Start	1st mark	2nd mark
	9.00.40	9.46.10	10.17.20
	3rd mark	4th mark	Finish
	11.16.23	not taken	2.38.48

Protest Upheld

Shortly after the race Captain Pine lodged his protest and he was upheld by the sailing committee which issued the following statement in the evening:

"In the matter of the protest of the Schooner *Columbia* vs. the Schooner *Bluenose*, this is a protest by Captain Ben Pine, of the schooner *Columbia* against the schooner *Bluenose* for an infringement of No. 11 of the special rules governing the international fishing vessel championship races, 1923, by passing Lighthouse Bank buoy on its landward side instead of on its seaward side in the race sailed this day. At the hearing held this evening Captain Walters, of the schooner *Bluenose*, admitted that his vessel did not pass the buoy in question on its seaward side, stated that he did not see it in time to pass it on that side, and that if he had so seen it he would have passed the buoy on its seaward side. As such action of the schooner *Bluenose* was in contradiction of the special rule in question the committee finds that the schooner *Bluenose* did not complete the course in accordance with the regulations and must, therefore, be disqualified in such race and the race awarded to the schooner *Columbia*.

"In view of the foregoing finding a third race is necessary to decide the series. On account of Captain Walters' statement that in today's race the schooner *Bluenose* had sprung her topmast the committee decides that the third race shall take place on Saturday, November 3, 1923, at nine a.m.

(Signed) "R. T. McIlreith,
"John S. Raymond,
"J. A. MacKinnon,
"A. W. Cogswell,
"H. G. DeWolfe."

The international committee met subsequently and received the report of the sailing committee, and concurred in its decision.

It had been intended that Captain Walters would be presented with the international trophy at the farewell banquet given to the visitors. Instead, however, the chairman of the international committee, H. R. Silver, and the speakers, Hon. W. W. Lufkin, Collector of the Port of Boston, and representative at the races, of U. S. President Coolidge, Hon. E. H. Armstrong, Premier of Nova Scotia, and Commander Sayles, of the submarine division, United States Navy stressed the point that there must be an umpire for even so friendly an event as an international schooner race, that the decision of this umpire must be respected no matter whose bows were stove, and in the matter in question the international sailing committee was the umpire.

The Anti-Climax

Believing that their vessel fairly won the two races required to secure the fishermen's trophy, the crew of the Lunenburg *Bluenose* refused to heed the pleas of Premier E. H. Armstrong of Nova Scotia, Hon. J. J. Kinley, Mayor John Murphy of Halifax, and others, that they sail a third and deciding race, and the following afternoon disappeared off the headlands of Halifax harbor on their way home. Captain Ben Pine of the American challenger *Columbia* did not wish to sail over the course alone and win the trophy and prize money through the refusal of the *Bluenose* crew to recognize their technical disqualification and the *Columbia* left for Gloucester.

Bluenose by her refusal went home without the international trophy which was considered as good as hers as the result of the wonderful sailing qualities which the vessel showed in the two races in light winds and fishermen's gales, and also went home without either the long end of the prize money, \$3,000, or the short end, \$2,000. Columbia will go home with \$2,500, awarded her by the international committee as expense money. The international trophy will remain in the hands of its trustees until it is won in next year's races off Gloucester.

Arthur H. Zwiiker, managing owner of the Bluenose, issued the following statement:

"I was prepared to send the Bluenose to the line for tomorrow morning's race against the Columbia and was making preparations for providing substitutes for any members of the crew who did not want to sail. Before my arrangements were completed I was informed that Captain Angus Walters had left the wharf, engaged a tug, and was under way for Lunenburg. Captain Walters' action in this respect was done entirely upon his own responsibility, and without the knowledge or consent of myself or associates as our intention was to abide by the decision of the

sailing committee and have the Bluenose go to the line for the third race with the Columbia. (Signed) Arthur H. Zwiiker, Manager owner of Bluenose."

Outside of regrets at the ending of the series and excepting the immediate parties to the controversy the 1923 international races broke up with unusual good feeling predominant. Hon. W. W. Lufkin, member of the international race committee and personal representative of the President Coolidge of the United States, in a statement said in part:

"The owners of the Columbia and Captain Ben Pine all desire to register our feeling that the Nova Scotia officials have moved every stone possible to avoid this unfortunate ending.

"It has been a wonderful contest between two of the finest fishing vessels in the entire world, the most wonderful in the history of this great international sport. We hope to see you all at Gloucester next year and shall endeavor not only to partially repay the people of this splendid city for their wonderful hospitality during the past week, but also to provide an international fishermen's race, over the result of which there can be absolutely no doubt at the conclusion of the contest."

Progressive Selling Methods Bring Results

"SELLING THE UNSELLABLE"

Harry Botsford has an interesting article in the October number of "Advertising and Selling" under the caption—"Selling Stunts that Sold the Unsellable," in the course of which he states:

Selling fish is, I suppose, one of the most ancient and honorable of commercial transactions. Strangely enough this business of selling fresh fish has been conducted on about the lines which were in vogue when C. Columbus sailed away.

The business of selling fresh fish has three basic handicaps that have held true through long centuries. First, there has been the perishability of the product; coupled with this we have the handicaps imposed by an uneven and uncertain supply and uneven consumer demand.

Looking on the matter pro and con it is very evident that at least one of these handicaps must be eliminated. The first two named are, of course, constant and unchangeable. Fish will always be perishable—that is an immutable law and an undeniable fact. Disciples of the late I. Walton, whether they fish for fish in bulk or in small lots can bring strong testimony to bear on the fact that there is an uneven and uncertain supply of fish. This being the case the seller of fish has only one basic handicap that he can eliminate and that is the handicap imposed by uneven consumer demand.

Two wholesale fish markets in Boston have solved the problem to their own satisfaction and profit and in working out their solution they have gladdened the hearts and tickled the palates of the hungry citizens of inland cities as far west as Denver.

The Boston sellers of fish pickled haddock for their experiment for various reasons. Haddock fillet is firm and

sweet and properly cooked is a delight to the appetite. The question of shipping whole fish was eliminated when express rates were considered.

Butcher shops and grocery stores will not, as a rule, handle fresh fish for the very good reason that the odor of the fish will contaminate other meats and foods and will give their places of business a very unsavory odor even if kept in a separate refrigerator. To eliminate this hazard and to widen the distribution the haddock fillets were snugly wrapped in parchment paper that made an odor impossible. Wrapped in this manner the haddocks could be placed side by side with other perishable goods and no contamination would result.

The sellers of fish now found that they had a more or less uniform package which they could guarantee with no qualifications as to quality.

All this happened in the winter. Distribution was found with some difficulty as grocers and meat markets were somewhat skeptical as to their ability to sell the fish. After the first few orders the doubt was removed and it was found that the citizens of the inland cities enjoyed the flavor of the haddock fillets and called for more and more. Consumer demand kept pace with dealer acceptance and a happy balance of demand that is fairly level has been found.

With the coming of spring and warm weather the sellers of fish solved the warm weather shipping problem by shipping their fillets in five gallon tin containers packed with ice. Result—fish reaches the dealer and consumer in a firm and fresh condition.

The methods adopted by these shrewd Boston fish-mongers is going to revolutionize the fishing industry in time and eventually lead to its standardization.

Link-Belt Acquires Meese & Gottfried Co.

Charles Piez, president of the Link-Belt Company, Chicago, announces the purchase of the Meese & Gottfried Co., of San Francisco, Los Angeles, Seattle and Portland.

For the past ten years Link-Belt Company has been distributing its products on the west coast through its subsidiaries, the Link-Belt Northwest Company, of Seattle, and the Link-Belt Pacific Company, of San Francisco. The improvement in distributing facilities effected by the consolidation, and the additional manufacturing facilities acquired, should give the rapidly-growing industries of the Pacific Coast highly economical and efficient service.

Meese & Gottfried Co., and its predecessors, have been manufacturers of power transmission machinery and distributors of conveying and transmission machinery on the coast for more than forty years, and were well and favorably known from the Canadian to the Mexican border. It is the intention of the new owners, to add to the facilities, and enlarge present stocks, so that prompt service to its customers will be insured.

The new organization will be known as Link-Belt Meese & Gottfried Co., with headquarters at San Francisco. The officials will be: Charles Piez, chairman of the board; B. A. Gayman, president; Harold H. Clark, vice-president and sales manager; Leslie W. Shirley, treasurer; Richard W. Yerkes, Secretary.

Mr. Yerkes came to Chicago from the Link-Belt Philadelphia plant, as the newly-elected treasurer and secretary of the Link-Belt Company, to succeed Mr. Gayman. All officers, with the exception of Mr. Piez and Mr. Yerkes, are located at the company's headquarters, San Francisco.

In Seattle, the Link-Belt northwest offices, warehouse and shop will house the new organization, while at San Francisco, Portland and Los Angeles, the former Meese & Gottfried plants and offices will be used. The offices, plants and warehouses are now as follows:

Link-Belt Meese & Gottfried Co.,

San Francisco	19th and Harrison Streets
Los Angeles	400 East Third Street
Seattle	820 First Avenue, So.
Portland	67 Front Street

Link-Belt Company has in its policy of expansion, placed its manufacturing plants and warehouses near its markets, so that users of materials—handling and power transmission equipment may be provided with prompt service at low freight rates.

Link-Belt organization now includes the following manufacturing plants:—

CHICAGO

1. Chicago plant and office, 300 West Pershing Road. Manufacturing general elevating, conveying and power transmission machinery; locomotive cranes; crawler cranes; coal tippie and coal washing equipment; sand and gravel washery equipment; coal and ashes handling machinery.

2. Caldwell plant and office, H. W. Caldwell & Son Co., 1700 S. Western Ave. This plant specializes in the manufacture of helicoid and screw conveyors; machine molded gears; elevator buckets and casings, and general power transmission machinery.

PHILADELPHIA

3. Philadelphia plant and office, 2045 Hunting Park Avenue, Nicetown Station. Manufacturing elevating and conveying machinery; portable loaders, portable belt conveyors, electric hoists, vibrating screens, sewage screens, coal and ashes handling equipment.

4. Olney Foundry Co., 180 West Duncannon Avenue, Olney Station, Gray iron castings.

5. Dodge Steel Co., State Road, Tacony Station—Electric steel castings.

INDIANAPOLIS

6. Dodge Plant and Office, 515 N. Holmes Ave., is devoted to the manufacture of Link-Belt silent chain drives; Link-Belt roller chain drives; automobile front end drives.

7. Ewart Plant and office, 202 So. Belmont Avenue; making all classes of malleable iron and heavy steel sprocket chains.



CHARLES PIEZ, President

8. Belmont Foundry, 202 So. Belmont Avenue; Malleable iron chains, buckets, and miscellaneous castings.

SAN FRANCISCO

9. Link-Belt Meese & Gottfried Co., with plant, warehouse and office at 19th and Harrison Streets, manufactures general elevating, conveying and power transmission machinery.

SEATTLE

10. Link-Belt Meese & Gottfried Co., with plant, warehouse and office at 820 First Avenue, So., manufactures elevating, conveying and power transmission machinery.

TORONTO, ONT., CANADA

11. Link-Belt Limited, with plant, warehouse and office at Wellington and Peter Sts.

Link-Belt Limited, Branch Sales Office., Montreal, Que., Canada—10 Gauvin Lane.

What Great Lakes Fisher Folk are Doing

Delegation to Toronto asks for smaller mesh in Lake Ontario--Booth property destroyed by fire at Wiarton

(Special Correspondence)

Damage to the amount of \$20,000 was wrought to the big plant of the Booth Fisheries at Wiarton, Ont., on Oct. 27 and it was only by the strenuous efforts of the fire department that any portion of the plant was saved. The building is located at the extreme north end of the harbor and the firemen had barely sufficient hose to reach the blaze. Had it not been that the wind was from the south at the time there is no doubt that the whole plant would have been destroyed. They were able to save the large new part of the establishment, which includes the storage and office. The ice house and the freezing department were completely consumed, as was the company's tug, *Sailor Queen*, which was tied to the dock. A large quantity of fish in storage was also destroyed. The Peninsula Tug and Towing Company also suffered considerable loss, as the flames swept across the roadway and destroyed several piles of lumber and ties. The Canadian National Railways had three large express cars standing on the siding ready for taking on Sunday's shipment of fish coming off the company's tug *Pedwell*, but these cars were saved. This is the harvest season in the fish business and the company will be considerably inconvenienced by the loss of the freezing plant. It is receiving now about 100 tons a week and the bulk of this will have to be shipped to its other freezing plants until such time as the local plant is rebuilt. Reconstruction operations are already under way.

An abundance of red salmon in eastern waters is looked for by the Dominion Fisheries Department in view of the success already achieved in transferring spawn of the spring salmon of the Pacific Coast to Lake Ontario. Not only is the commercial fisherman interested in this departure, but the angler as well. The spring salmon readily takes to spoon and makes excellent sport. For the past five years the department has distributed spring salmon "fingerlings" in points on Lake Ontario, principally in the Port Credit River and in Parks Creek, as well as at Wilnot's Creek. Specimens of the salmon have now been taken at the Bay of Quinte ranging from a few months old to the fully matured fish weighing over 20 pounds. During the experimental years the salmon have had no special protection and despite this it was reported last fall that there were fully a thousand spring salmon, some of them full sized, in the pools of the Port Credit River. The homing instinct of the fish is very marked, and it has been observed that they return for spawning to the streams in which they were released as fry at a few weeks old. Tags used by the department for identification have shown a growth of from 7 lbs. between the month of October and the following June. During the coming fall it is the intention of the department to keep the Port Credit run under observation and if the fish

appear in the same large numbers, to take the eggs for re-stocking Lake Ontario points, instead of bringing further spawn from British Columbia.

Another big piscatorial event was staged at Puslinch Lake, near Hespeler, Ont., in October, when a five and three-quarter pound large-mouth black bass, measuring 22 inches, came out winner. The successful anglers were Fred. J. Menhennick, superintendent of the Jacques Furniture Company, Limited, Kitchener, Ont., and his brother-in-law, Frank Edge, saw manufacturer of Grand Rapids, Mich. These men are both expert anglers and have landed a number of large fish on artificial lures during the season. This last record bass has been mounted and placed permanently in the rotunda of the Puslinch Lake Hotel.

To Cut Down Large Catches

At a recent meeting of the Peterboro Fish and Game Protective Association in Peterboro, Ont., a discussion took place as to the advisability of stopping fishing from motor boats. It was suggested that the limit of four lunge to a person be changed to four lunge to a boat. The association intends to try and get many of its members to raise pheasants and prairie fowl so as to stock them up in different parts of the county. A committee was appointed to look over several ponds suitable for brook trout, so that these may be stocked with brook trout, and used by the members of the association for fishing.

It is reported from Amherstburg that fish during the latter part of October were running in large shoals in the lower Detroit River and in such numbers that literally thousands were caught daily by fishermen who were there from all parts of Essex county, as well as from Michigan. Bass weighing from one or two pounds were taken out with the ordinary line-and-sinker method along the west bank of the "spoils" pile in Livingstone Channel. The fish came up the channel from Lake Erie to the head of Bois Blanc Island, the feeding grounds. Pike weighing as much as 14 pounds were taken out during the run.

News of salmon in the Credit River recently, along with the probability that sockeye fishing in the Frazer River may be stopped for twenty-five years, has stirred the memories and the emotions of a number of fishermen. One of these, a man who has fished in many waters in different parts of Canada, and has the true spirit of the out-of-doors sportsman, is C.W. Young of Cornwall, who recalls with interest early salmon fishing in the same river when he was a boy up near the head waters of the Credit. Mr. Young says that owing to the clearing of the woods that beautiful stream is now only a shadow of its former self as he remembers it in the sixties. The Credit used to be a favorite salmon river and Mr. Young's father, who was one of the first settlers in Georgetown, Ont., used to say that the big fish were so plentiful in the

Credit, where they came to spawn, that if they hadn't moved, one could walk on their backs dry shod. Mr. Young recalls as a boy catching grilse in Spring Creek, a tributary of the Credit near what is now the Georgetown golf course. How it managed to pass all the dams between Port Credit and Georgetown always seemed a mystery. Mr. Young, speaking of a visit to Newcastle, Ont., in 1874, says: "There had been at that time for a good many years a salmon hatchery, the first in Canada, conducted by the late Samuel Wilmot, who was the pioneer in that line. At that time the hatchery had been filled with salmon spawn, and some 30 or 40 salmon, some of large size, were in a pond adjoining and were soon to be driven into the lake, as it was not safe to leave them in the creek, to be killed by the farmers, who had no sympathy with Mr. Wilmot's experiments. I believe 1874 was about the last year that the salmon came up Wilmot's creek; the hatchery there-after was devoted to other kinds of fish. Mr. Wilmot used to mark the salmon when they had been spawned, and the marked fish were frequently caught in nets in the Gulf of St. Lawrence. It was not unusual for them to be taken in Lake Ontario. Old residents in Halton and Peel have told me that they remember seeing salmon spawning in all the creeks flowing into Lake Ontario."

J. A. McAuley, manager, and J. W. McEwen, sales manager of John Leckie, Limited, Wellington Street, Toronto, fishing supplies, have returned from a successful business trip through the Canadian west. They report prospects for business in the western country as good in so far as they affect the fishing industry and supplies.

Want Smaller Mesh Continued

A deputation of Lake Ontario fishermen from the vicinity of Bronte, near Toronto, visited Hon. Charles McCrear, Minister of Game and Fisheries, on Nov. 1, with a view to securing an extension of their privilege to use nets with a two and one half inch mesh in place of the three inch mesh which is statutory. The members of the delegation, who were introduced by R. Hillmer, M. P. P., for Halton, set forth their arguments and maintained particularly that the fish which they caught by means of a two and a half inch mesh were sufficiently mature to justify their being taken from the water. The minister stated that the attitude of the department had been that the portion of the lake in which a two and half inch mesh had been permitted should be re-stocked, and that the larger mesh should be required until the fish reached maturity. In view of the arguments presented by the delegation regarding the maturity of the fish they caught, however, he stated that the matter would again be taken under advisement.

According to word from Parry Sound, the salmon trout fishing this year which closed on Nov. 1, has been the best in several years. The close season designed to protect the fish while spawning, is the month of November, but in Georgian Bay the salmon trout generally begin spawning about Oct. 20 and finish before the close season begins. This year the run was almost like the old time salmon runs up the British Columbia rivers and thousands of fishermen on thousands of shoals had great catches. Representatives of the big American fishing clubs that have islands in the Parry Sound district were mingled with Indians, half-breeds and cottagers, and some catches as large

as 300 pounds in one day by two men were reported.

BLACK BASS AND CRAPPIE

The Department of Marine and Fisheries announces the successful distribution of 975 bass and 400 crappie fingerlings from two to five inches in length in White Bear or Carlyle Lake, near Carlyle, and Katepwa Lake, near Fort Qu'Appelle, Saskatchewan. These fish were rescued by the United States Federal Government from the overflowed lands adjacent to the Mississippi River, and were secured from the North Dakota Game and Fish Commission in exchange for pickerel eggs collected last spring in the Lake of the Woods region, Ontario. Black bass and crappie are not indigenous to the waters of the prairie provinces, and the distributions in Carlyle and Katepwa Lakes will be watched with great interest by the anglers of those provinces. If the distribution proves successful, and the fish become acclimatized, it is proposed to stock other suitable lakes in the prairies from the waters above mentioned.

FISH SEIZURE PROTESTED

Faced with loss of payment for part of the catch of a poor season, fishermen at Drum Head, near Goldboro, N.S., gathered together on October 28 and refused to allow the loading for shipment to Halifax of the fish in the storehouse of the recently assigned firm of Neville's Canneries, Limited. Upon assignment of the firm the Canadian Bank of Commerce labelled their stock. The fishermen state that a large part of the stock at Drum Head had not been paid for. Deputy Sheriff Horton, acting under special instructions, went to Drum Head from Guysboro, but he was unable to cope with the situation. The situation was quiet, the fishermen merely refusing to allow the stock to be taken away, but interest centred in the expected arrival of a body of men to load the fish.

"FISH COOKERY" REVIEWED

In the September issue of the Bookman of New York appears the following very appreciative review by Maurice Francis Egan of "Fish Cookery", of which John N. Cobb, Director of the College of Fisheries of the University of Washington, is joint author with Mrs. Evelene Spence:

"When one picks up 'Fish Cookery' one feels like Balboa when he discovered the Pacific. He did not know that there was a delicious kind of sole beneath those rolling waves; but we know it now. For us in the East, however, there are the small flounders which ought to be served with lemon juice only. This is one of the discoveries which the world owes to that misunderstood member of the Orleans family, Philippe Egalité.

"The authors of 'Fish Cookery' show us what can be done with shark, and there are lyrical pages on the treatment of the Octopus and squib. The recipe for bouillabaisse is peerless. Our countrymen, as a rule, are not accustomed to really fresh fish and in the matter of fish sauces they seemed to be invincibly ignorant. The year 1923 has not been remarkable for any really great book, and while we do not call 'Fish Cookery' a great book yet so far it is one of the most important volumes for the use of Americans printed during this century. The paragraphs on the rehabilitation of the sturgeon and the uses of prawns and shrimps should be memorized by every housewife!"

Review of Conditions in Maritimes

Detailed Report on fisheries in various sections

(Special Correspondence)

Following is a detailed report on fishing conditions and results in various sections of the maritime provinces during the month of September.

Inverness County, N.S.

From Pleasant Bay to Broad Cove Marsh — Fishing operations were not satisfactory, both fish and bait being very scarce, and owing to the low prices offered many of the fishermen did not operate. Salmon were very plentiful in the Margaree River. Fly fishing was very good, about 150 salmon being taken with the fly and 627 taken in the parent net.

From Broad Cove Marsh to Port Hawkesbury — Cove shows a decrease of 3,335 cwts. The catch of haddock shows an increase of 4,711 cwts; halibut an increase of 260 cwts. Practically all the halibut were taken by trawlers, very few having been caught by the shore fishermen. The mackerel catch shows an increase of 545 cwts.

Richmond County, N.S.

From Isle Madame to St. Peters — The catch of cod shows a decrease of 4,881 cwts., due to the fact that the most of the fishermen devoted their attention to sword fishing. The swordfish fishery shows an increase of 1,836 cwts., in the catch and \$12,763 in value. Haddock and herring, as well as pollock show decreases.

From St. Peters to White Point — Due to fine weather and an abundance of squid for bait, the cod fishery shows an increase of 40 cwts. 100 cwts., more swordfish were taken than for the same month last year.

Cape Breton County, N. S.

Cod, haddock, halibut and mackerel fisheries all show increases over the same period for last year. Swordfish have been very plentiful, and an increase of 2,751 cwts., is shown in the catch.

From Glace Bay to Point Aconi — Decreases were shown in the catches of cod, haddock and swordfish. Salmon ascended the Sydney river much earlier this year, owing to the river being high since the first of the month.

Victoria County, N. S.

The cod fishery shows an increase of 25 cwts. Trout fishing was good, especially in the head-waters of the north branch of the Baddeck river, the Indian River, and Middle River. Salmon ascended the Middle and Baddeck rivers much earlier than usual owing to the rivers being exceptionally high.

Halifax County, N. S.

Fishing has been poor throughout the county, small catches having been made in practically all lines. Mackerel and swordfish have been very scarce. The weather throughout the month has been poor for fishing owing to heavy rains and high winds. The fishermen throughout the county have had a very slack time since the close of the lobster fishing season.

Guysboro-West, N. S.

Although haddock fishing was very poor early in the month it improved towards the last, fishermen receiving 90c per cwt. for their catches. Very few halibut were taken owing to the scarcity of bait.

Guysboro-East, N. S.

During the first half of the month, 500,000 lbs. of cod, haddock and pollock were landed, of which 425,000 lbs. were cod. About two-thirds of this amount was landed by steam trawlers, and the remainder by shore fishermen. The swordfish fishery during the first part of the month was a failure, but latterly the swordfish appeared to be very plentiful. The mackerel fishermen fared very poorly and small catches were made owing to the scarcity of the fish. Bait was very scarce.

Antigonish County, N. S.

Cod and haddock fishing was only fair. As the market was poor the fishermen eared most of their catches for home consumption. Herring were very plentiful off Cribbens Head and Ballantyne's Cove, and at other points they were taken in fair quantities. About 6 cwt. of bass was taken by angling at Lakevale, Cribbens Head, Ballantyne's Cove and Livingstone's Cove. The fish were quite plentiful and averaged about three pounds each. The mackerel catch was very small. No salmon have made their appearance at the mouths of rivers, but it is expected they will ascend earlier this year on account of there being so much rain and the rivers being higher than in previous years.

Pictou County, N. S.

Very little fishing was carried on in the eastern part of the county. Grey fish were so numerous that nets could not be left in the waters. In the western part a few herring were taken during the month at Pictou Island. Greyfish also interfered with the fishing operations in this section of the county.

At the opening of the oyster season the beds at Caribou River were being fished successfully, the fishermen securing \$1.00 per bus. at the boat's side.

Colchester County, N. S.

As very little work was done by the lessees of private beds, consequently the catch was very poor.

In Overseer Hollis' district the lobster catch throughout the month was very poor, and latterly a very great number of fishermen landed their gear.

Colchester and Hants, N. S. (Bay of Fundy)

No fishing carried on with the exception of some bass angling.

District No. 3, N. S.

Bait was very scarce throughout the district and very little fishing was carried on. A few mackerel were taken in the traps in the St. Margaret's Bay district. Most of the Lunenburg fleet arrived at Lunenburg and landed their catches, the total being 83,000 qtls. of cod; 155 qtls. of haddock; 120 qtls. of hake and

ensk and 60 qtls. of pollock. The vessels show an average of 1,800 qtls. forth season, which is particularly the same average as was shown last year. Ninety-two vessels operated during the 1922 season, while only seventy-three operated this year.

District No. 2, N. B. Lobsters

The lobster fishery shows a decrease and some gear was taken ashore during the month as the fishermen did not find it profitable to operate. Some of the canneries also closed. In some sections a considerable number of soft-shelled lobsters were taken in excess of the number taken in previous years.

Salmon

There appeared to be a considerable number of salmon in the rivers, but they were having difficulty in reaching the spawning grounds, due to the low water conditions. The net fishing operations carried on for the salmon hatchery in the North Esk were suspended on the 29th, although the amount of salmon required had not been secured. Operations were suspended owing to the low water in the pond, and the fact that the brook which supplied the pond was nearly dry. Some 2,700 salmon were in the pond at the end of the month, and the hatchery superintendent advised that as they were gasping for oxygen it was found necessary to suspend further fishing operations.

Oysters

The oyster season opened with good fishing, prices to the fishermen varying from \$4.00 to \$4.50 per barrel.

Quahaugs

The quahaug fishery will show an increase, due to the fact that American buyers have been buying considerably in Buctouche and vicinity.

District No. 3, N. B.

The water is reported as being very low throughout the district. Salmon were plentiful in the St. John River, and fairly large numbers were taken on the fly at the Hart's Island pool.

Prince Edward Island

Lobsters in the late season district were scarce during the entire month. Prices for live lobsters kept increasing, and buyers are reported to have paid from 15c to 18c per lb.

Cod were plentiful and fair catches were made. Large quantities were disposed of in the Charlottetown market at 5c and 6c per lb.

Good catches of mackerel were made at Rustico and Tracadie.

Oysters were very plentiful, but small. It was thought that the cool summer prevented the usual growth.

N. B. Weirmen Talk Co-operation

Several fishermen and weir owners in New Brunswick have been endeavoring to interest their fellow fishermen and weir owners in plans tentatively formulated to organize the fishermen and weir owners of the Bay of Fundy district, and along the Northumberland Strait and Bay of Chaleur and Atlantic seaboard districts. The proposed organization would be of a co-operative nature, each of the members signing contracts for three years to sell sea food to none other than the sales depot of the organization, at whatever prices were prevailing. All costs of the sales department would be deducted from the receipts of each shipment.

The plans are to maintain sales offices in Boston, New York, Montreal, Toronto and other cities, and to sell to the retail trade only. At least that is one phase of it. Another phase is that sales be made to both wholesalers and retailers. There is considerable difference of opinion regarding the two phases.

Aaron Sapiro, of California, who has been organizing co-operative groups among farmers, fruit growers, poultry breeders, butter makers, grain growers of the west, may be asked to organize such a body. He is at present in western Canada organizing a wheat pool.

The fishermen and weir owners are dissatisfied with the prices offered by the wholesalers. At least one faction of the fishermen are exhibiting dissatisfaction. Some of this faction endeavored last winter to have a bill passed in the New Brunswick House of Assembly placing an export tax on sardines, when sold in the United States. The proposed tax was ten dollars per hoghead. Although some of the fishermen are willing to become members of such an organization as outlined, they have objected to two of the compulsory clauses in the tentative constitution. The clauses arousing the objection are those forcing

the members to sell only to the organization and compelling signature to a contract for three years.

It is not likely that enough fisherman and weir owners will be found willing to bind themselves for the required three years.

MONSTER PREHISTORIC FISH

A fish head six feet long, which Professor Jesse E. Hyde, head of the Department of Geology at Western Reserve University, estimates must have been part of a fish that attained a length of twenty or thirty feet, has been unearthed near Cleveland, Ohio.

The six-foot head belonged to a type known as the Pipanichthys, or giant fish, of the Arthrobranchia group, Professor Hyde said: The fish lived and died in what geologists call the Devonian period of the earth's geological history, and was the largest animal that ever lived upon the face of the earth up to that time—20,000,000 to 40,000,000 years ago.

"The Pipanichthys failed to survive in the struggle for existence," Professor Hyde said; "and there is nothing living today of which the Pipanichthys can be considered the progenitor, by any stretch of imagination.

SEA RHINOCEROS

A rhinoceros fish has been caught by fishermen at Gran du Roi, says a Paris report. The monster is ten feet long and weighs 900 pounds. Its gills are joined and placed in five rows. The interior of the mouth is checkered, thus preventing the swallowing of large objects. The outstanding feature of the sea monster, however, is a horn similar to that of the rhinoceros, which projects upward from the extremity of the nose. It is naturally wondered if the monstrosity does not represent a pre-historic relationship between sea fish and the horned land creature.

Fisherman Buying Sardines for Bait

At \$12 a hogshead they make fishing expensive—Small sardine pack-- Serious charge of illegal fishing on Miramichi

(Special Correspondence)

Fisheries' Inspector, John F. Calder of Campobello, N. B. advised that fishermen at Grand Manan and Deer Island had received \$14 a hogshead for sardines from Nova Scotia fishermen who bought the sardines for bait. From the East port and Lubie canneries, \$12 was paid for sardines.

The U. S. canneries are reported to have put up only a small pack, on account of the scarcity of sardines.

There was a good demand for ready sardines, and it was understood that the canneries were receiving \$14.50 and upwards per case of 100 cans.

Smoked herring at Grand Manan has been rather a failure because of the scarcity of this grade of fish. Those caught were too small for smoking and were being sold for lobster bait or sardines.

Outside of Grand Manan the weir fishermen were doing better than last year, Mr. Caler said.

All along the coast there had been plenty of hake but the price offered for this class of fish had been so low that the fishermen did not operate to any great extent.

Fisher folk of Deer Island, which is one of a group of small islands lying off the mouth of the St. Croix river, have been kept in a constant state of dread during the last few years by the depredations of a band of thieves, according to recent reports from that section of the country. Weirs have been destroyed, live stock has been killed, houses broken into, the post office at Lord's Cove has been robbed as well as a store at Lambertown—in fact, fishermen and their families have hardly been able to sleep soundly because of these marauders and they have at last taken steps to have these law-breakers apprehended.

Fisheries inspector J. F. Calder, said "There are suspicions, that the persons responsible for these outrages live on one of the small islands of this group. On the other hand, it may be possible that bandits from Eastport have been the cause of these disturbances which have alarmed the law-abiding community. Whoever they are, they should be brought to justice as quickly as possible for the sake of the peace of mind of these fishermen."

Sardine fishing in St. John county this year has been a failure, according to a report by B. B. Brittain, fisheries overseer.

"A total failure," was his comment. The price has been \$12 a hogshead but there were practically no fish available.

Storm damage to the weirs added to the loss of the operators.

Line fishing for cod and hake is not being carried on to any very great extent in St. John county or along the Bay of Fundy because of the poor markets and the low prices which are being offered.

National Fish Day

"National Fish Day passed off in St. John without any marked furor.

To attempt to concentrate on one day is not going to prove of any great benefit, people interested in the fish business are convinced.

Fish should be eaten every day by Canadians and that is the sort of advertising campaign that should be carried on by the Government and by the trade.

On that point, the St. John Globe comments as follows:

Apropos of national fish day, The Financial Post, Toronto, says:

"Canadians will buy more fish when they are convinced that they are getting an attractive food at an attractive price. They will not increase their purchases merely to help the business of the fish dealers."

"It would appear from this that cod and haddock and kippers and salt mackerel and the other delicacies of the sea are neither so attractively presented to the consumer nor so attractively priced as to invite purchasing in competition with the other delicacies on display in the food stores. If the comment of the great financial weekly correctly states the attitude of the inland buying public our fish merchants will have to study more carefully marketing conditions to see whether or not it is possible to present the food of the sea in an attractive manner and at attractive prices. The tremendous growth within recent years of the canning industry has made available for immediate household use so many attractive forms of food that it is hardly surprising to find a decline in the demand for smoked and salted fish. The extent to which it is possible to market our valuable and plentiful sea foods in canned form in competition with canned meats and canned vegetables would determine the answer to The Financial Post's demand for an attractive food at an attractive price."

Busy at Shippegan

Shippegan, N. B., in the northern section of the province, has experienced a busy fishing season.

The Monarch Cold Storage Company conducts an extensive business at Shippegan.

At the extreme end of the Shippegan wharf is built a store room or receiving room where mackerel fish are unloaded from the boats into large vats of running water which sluice them along one at a time to a continuous belt which carries the fish to the cold storage plant where they are placed on pans, (about a dozen mackerel fill a pan) and then piled in tiers into the freezer, where a temperature hovering around zero is continually maintained. Here they are kept until placed in refrigerator cars and sent to the markets of the world. Not a human hand touches them from the time they are taken from the nets until they are packed, their every move being governed by machinery. The conveyor from the wharf to the freezer is over two thousand feet in length and is said to be the longest fish conveyor in the world. Inside the freezer, are piled tier upon tier the finest mackerel, thousands and thousands of them, awaiting the demand of the market.

Serious Charges

Serious allegations concerning poaching of salmon on the Miramichi river were made recently by the Carleton Observer, a newspaper published at Hartland, N. B.

The Observer said:

"That poaching of salmon on the main Miramichi river is not only condoned all through the summer but is participated in by wardens appointed by the Dominion Government is the charge brought to The Observer for public

attention. It is claimed, and the claim is based upon excellent authority, that not only is netting carried on during the alternate fortnights through a certain season, but that seasons are not observed at all and salmon are illegally taken from the river so as to make shipments of several carloads a week.

Chicken-netting of wire, it is asserted, is stretched from shore to shore across the river making it impossible for any salmon to proceed farther upstream. To increase the catch of salmon other devices are said to be used, as for instance, traps so constructed against the chicken-wire barricade that the fish are not able to go either up stream or to return down.

If all that is alleged is true, and the evidence brought forward would indicate that it is, the condition of affairs constitutes an outrage, a most flagrant disregarding of law that is being upheld and participated in by the guardians appointed through political influence to supposedly enforce the law.

The result of thus preventing the salmon from returning to their native haunts for spawning will be the extinction of the fish for which the river is famed, and the utter ruin of fly-fishing on the headwaters.

It has been suggested that Fishery Inspectors should be appointed from this country to patrol the whole Miramichi to see that fish are not by illegal means prevented reaching the headwaters and the spawning beds.

East St. John and Lake Wood

The salmon and trout hatcheries at East St. John and Lake Wood, near St. John, are supplying young fry in large numbers but the demand is always ahead of the supply, and, in consequence, it is planned to enlarge the plant at Lake Wood next spring. At the present time in the ponds at Lake Wood there are 5,870 speckled trout, 460 brown trout and 800 rainbow trout while in East St. John ponds there are 500 salmon. From the 500 salmon it is expected that about 3,000,000 eggs will be secured.

J. D. Nichol, with an assistant and one helper, has charge of the hatcheries and at the present time the three men are kept pretty busy collecting the eggs. Last spring the hatcheries distributed 1,900,000 young salmon and 390,000 speckled trout.

The young fish distributed in all the lakes in St. John county and some go farther afield. In any lake where the general public is permitted to fish, the young fish are supplied from the hatcheries free of charge but for private lakes a charge is made.

The fish get only ground beef liver for food but they get that three times a day and just about to the minute of time. Their chief diversion is a salt bath. Upon occasion a dash of salt is put in the water. As meals must be served punctually so salt must be administered correctly and the percentage of solution is all accurately gauged.

When the young fry are sent out in the spring they are only six weeks old. Fingerlings are of varying ages. They are fry grown older. There are fingerlings of the first, second and third degree and the most elderly of them all, the fingerlings of the third degree, are just five months. Unless they are being kept for breeding fish fingerlings are not kept longer than five months at the hatcheries.

Mr. Nichol explained that the ponds in which the fish were kept had all a slight current of water flowing through, so that there was no fear of freezing over completely in the winter and food could be introduced at the intake from which it would be carried by the stream so that every fish would have its chance to get a square meal.

Fish Factory Burned

A fish factory in Port Elgin was burned to the ground on October 25th. The factory belonged to Harry Ingalls

and contained a lot of fish belonging to Wilson Trenholm. The building was insured for \$1,500.

To Build New Fishway

Fredericton reports that a new fishway will be built in the Marysville dam, across the Nashwaak river.

The new fishway, which has been made necessary through the carrying away of the former one, will be located in the western end of the dam.

The need of fishways for the purpose of allowing fish to proceed up river for spawning, has been clearly demonstrated to the uninitiated in the collection of salmon which have gathered at the foot of the dam unable to proceed farther. Many spectators have recently been attracted by the sight and some poaching was also reported.

EXPORTS OF SALMON AND LOBSTER

Canadian exports of canned salmon for August were a little heavier than for July, and the business for the 12 months showed a very satisfactory increase over the previous similar period. Canned lobster exports, however, registered a considerable falling off, as recorded by the Dominion Bureau of Statistics.

There were 13,777 cwt. of Canadian canned salmon exported last month, with a value of \$220,791, compared with 13,615 cwt. in July, value \$180,726. During the 12 months ending August, the exports totalled 365,901 cwt., compared with 345,950 cwt. in the 12 months ending August, 1922. The United Kingdom was the largest customer for this product last month, taking 5,458 cwt.; France took 2,911 cwt.; Australia, 1,367 cwt. and British South Africa, 1,020 cwt. In smaller quantities, Canadian salmon found its way to 19 other countries. The Fiji Islands bought 777 cwt.

Canned lobster exports for August were 12,186 cwt. value \$869,296, as against 19,865 cwt., value \$1,441,827, in July. For the 12 months ending August the exports totalled 61,602 cwt., compared with 80,799 cwt. during the previous corresponding period. The United Kingdom took half of last month's exports, while the United States was purchaser of over 3,000 cwt. Other important customers for lobsters were France, Switzerland, Sweden, Denmark and Belgium. Germany bought 100 cwt.

The United States took all of Canada's exports of canned clams and practically all of the canned and preserved codfish. Both of these commodities showed a considerable falling off for the month and a lesser decrease for the 12-month period.

FISH FREEZING IN CHINA

(Ice and Cold Storage)

From a Shanghai contemporary we learn that the whole refrigerating industry of China is likely to be reformed as a result of the efforts of a new company which it was decided to form at Shanghai after experiments had been made in the presence of a representative number of citizens of various nationalities, of a refrigerating machine which freezes fish by means of brine solution in place of the existing system of cold air. The company, which will have an initial capitalization of \$500,000, will be floated immediately, the entire capital to be in the hands of Chinese. It is proposed at an early date to open a large freezing works in Shanghai, where a new type of refrigerator, first invented in 1911 and finally brought to its present standard last year, will be installed.

Interesting Auxiliary Installation

An interesting proof of the smoothness and efficiency of Oil Engines for Marine Power was made recently by the new Schooner "I'm Alone," of which we show two photographs.

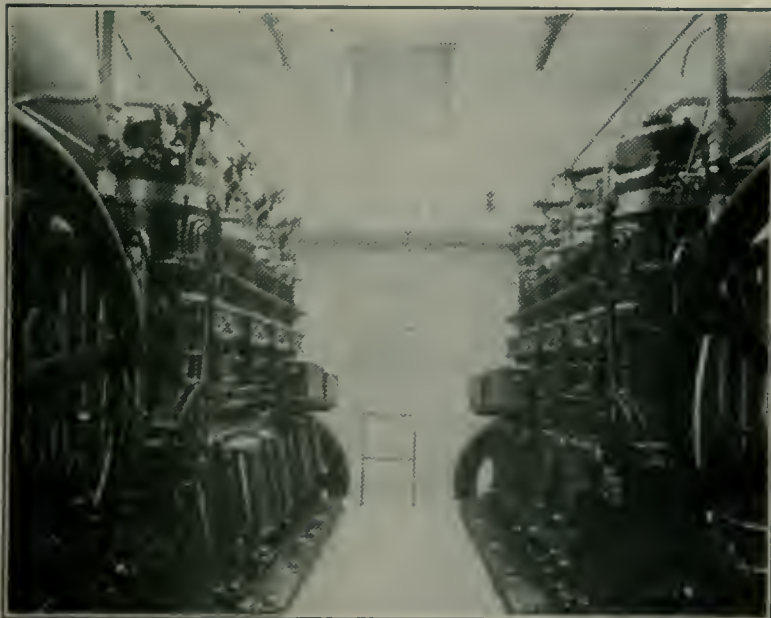
The "I'm Alone", which was launched at Lunenburg, N.S., is a 125 feet schooner with a 27 feet beam, a draught of 10 ft. 6 in., and gross and net tonnage of 181.70 and 90.45 tons respectively. She has been built with careful consideration to all the latest theo-

ries of modern ship-building, and from stem to stern reflects credit on her designers and builders.

Her twin 100 H. P. Fairbanks-Morse, Type C. O. Engines give her a speed of 13 knots, and it is significant that at all speed there is an entire absence of vibration. The engines were installed by Engineer James Young of the Lunenburg Foundry Company, and he is enthusiastic about their smooth running and easy starting, as well as their decided economy in fuel and operation cost compared with steam engines.



"I'm Alone", trim Lunenburg banker recently equipped with Fairbanks-Morse engines



An idea of her splendid auxiliary equipment

When John Paul Jones Visited Canso

Interesting bit of history illustrates value placed upon fisheries of Nova Scotia

BY CECIL BOYD

It may not be generally known, that at the beginning of the American Revolution in 1775 the port of Canso, was a flourishing fishing centre. As a matter of fact, it had been well known as a fertile fishing headquarters from the time of the earliest explorers, but one of sharply contrasting, varying fortunes as would be expected from the disturbed conditions of the times. When Nova Scotia finally became British by the treaty of 1763, the fishery at this port began taking on new life, following one of the lowest ebbs in the tide of its career, until at the breaking out of the New England revolt against the Mother Country, it had again reached a yearly value of £50,000 (note pounds, not dollars).

That momentous struggle naturally played havoc with the industry at the British port. New England privateers, cruising in the vicinity seeking what they might devour, picked up many an innocent fishing craft or raider, as these were engaged in carrying on their peaceful occupations. At least 15 large vessels from Canso, nine of them square-riggers, fell into the hands of the Yankees. Prominent among these raiders was Captain John Paul Jones, the celebrated renegade Scotsman, who bulks large in the naval history of the times, being regarded today by our neighbors to the South as one of the chief founders, if not the chief founder of their navy.

Like many of the early heroes of our own British Navy, judged by the most modern standards, John Paul would be rated at least first cousin to a pirate, for the simple reason that International Sea Law, until the last hundred years or so, was a pretty sickly baby, hardly worth the while of an adventurous sea-dog paying much attention to. Had these latter gentlemen been at all finicky or fussy about the methods they used to cripple foreign shipping, they would not likely have travelled far or fast on the road to national sea fame.

Among the captures made by Jones at Canso, it may be of interest to note, were two large schooners belonging to one George Smith, esquire, who had lately removed from Halifax to Canso and built up an extensive fish and trading business there, and who has descendants living today at Canso and other points in Guysboro County. The letter which follows was written by John Paul himself, in the year 1776, off Sable Island, to "The Honorable, the Marine Committee, Philadelphia," describing his adventures at this eastern end of Nova Scotia. The spelling of the manuscript is followed throughout. The place written Narrow Shock is without doubt Arichat, and Peter de Great is of course Petit de Grat, both situated on Isle Madame, across the bay from Canso.

Providence,
Off the Isle of Sable,
3th Sept. 1776

Gentlemen:—

From that time (of despatching the Favorite) I cruised without seeing any vessel. I then spoke the Columbus' prize, the ship Royal Exchange, bound for Boston. By this time my wood and water began to run short, which induced me to run to the Northward, for some part of Nova Scotia or Cape Breton. I had, besides, a prospect

of destroying the English shipping in these parts. The 16th and 17th, I had a very heavy gale from the N. W. which obliged me to dismount all my guns, and stick everything I could into the hole. The 19th, I made the Isle of Sable, and on the 20th, lying between it and the main, I met with an English frigate, with a merchant ship under her convoy. I had hope to, to give my people an opportunity of taking fish, when the frigate came in sight directly to windward, and was so good-natured as to save me the trouble of chasing him, by bearing down the instant he discovered us. When he came within cannon shot, I made sail to try his speed. Quartering and finding that I had the advantage, I shortened sail to give him a wild goose-chase, and tempt him to throw away powder and shot. Accordingly a curious mock engagement was maintained between us for eight hours, until night with her sable curtains put an end to this famous exploit of English knight errantry.

"He excited my contempt so much by his continued firing at more than twice the proper distance, that when he rounded to, to give his broadside, I ordered my marine officer to return the salute with only a single musket. We saw him next morning standing to the westward; and it is not unlikely that he told his friends at Halifax, what a trimming he gave to a "rebel privateer." which he found infesting the coast.

"That night I was off Canso harbour, and sent my boat in to gain information. On the morning of the 22nd, I anchored in the harbour, and before night got off a sufficient supply of wood and water. Here I recruited several men, and finding three English schooners in the harbour, we that night burned one, sunk another, and in the morning carried off the third, which we had loaded with what fish we found in the other two.

"At Canso I received information of nine sail of ships, brigs and schooners, in the harbour of Narrow Shock and Peter de Great, at a small distance from each other in the Island of Madame, on the East side of the Bay of Canso. These I determined to take or destroy; and to do it effectually, having brought a shallop from Canso for the purpose, I despatched her with twenty-five armed men to Narrow Shock, while my boat went well manned and armed to Peter de Great; and I kept off and on with the sloop to keep them in awe at both places. The expedition succeeded to my wish. So effectual was this surprise, and so general the panic, that numbers yielded to a handful without opposition, and never was a bloodless victory more complete. As the shipping that were unloaded were all unrigged, I had recourse to an expedient for despatch. I promised to leave the late proprietors vessels sufficient to carry them home to the Island of Jersey, on condition that they immediately fitted out and rigged such of the rest as might be required. This condition was readily complied with, and they assisted my people with unremitting application till the business was completed. But the evening of the 25th brought with it a violent gale of wind with rain, which obliged me to anchor in the entrance of Narrow Shock, where I rode it out with both anchors and whole cables ahead. Two of our prizes, the ship Alexander and Sea Flower, had come out before the gale began. The ship anchored under a

point and rode it out; but the schooner, after anchoring, drove and ran ashore. She was a valuable prize, but as I could not get her off, I next day ordered her to be set on fire. The schooner Ebenezer taken at Canso was driven on a reef of sunken rocks and there totally lost; the people having with difficulty saved themselves on a raft. Towards noon on the 26th the gale began to abate. The ship Adventure being unrigged and almost empty, I ordered her to be burnt. I put to sea in the afternoon with the brigantine Kingston Packet, and being joined by the Alexander, went off Peter de Great. I had sent an officer round in a shallop to order the vessels in that harbour to meet me in the offing, and he now joined me in the brigantine Success, and informed me that Mr. Gallagher, (the officer who had commanded the party in that harbor), had left it at the beginning of the gale in the brigantine Defence and taken with him my boat and all the people. I am unwilling to believe that this was done with an evil intention. I rather think he concluded the boat and people necessary to assist the vessel getting out, the navigation being difficult, and the wind at that time unfavorable; and when the gale began I know it was impossible for them to return.

"Thus weakened I could not attempt more. With one of our brigs and the sloop, I could have scoured the coast and scoured the destruction of a large fleet that was loading near Louisburg, with the Savage and Dawson brig only to protect them.

"The fishery at Canso and Madame is effectually destroyed. Out of twelve sail which I took there, I only left two small schooners and one small brig to convey a number of unfortunate men, not short of three hundred,

across the Western Ocean. Had I gone further, I should have stood chargeable with inhumanity.

"In my ticklish situation it would have been madness to lose a moment. I therefore hastened to the southward to convey my prize out of harm's way, the Dawson brig having been within fifteen leagues of the scene of action during the whole time.

"On the 27th I saw two sail, which we took for Quebec transports. Unable to resist the temptation, having appointed a three days rendezvous on the S. W. part of the Isle of Sable, I gave chase, but could not come up before they had got into Louisburg, a place where I had reason to expect a far superior force; and therefore returned, and this day I joined my prizes at the rendezvous.

"If my poor endeavors should meet with your approbation, I shall be greatly rewarded in the pleasing reflection of having endeavored to do my duty. I have had so much stormy weather, and been obliged on divers occasions to carry so much sail, that the sloop is in no condition to continue long out of port. I am, besides, very weak handed; and the men I have are scarcely able to stand the deck, for want of clothing, the weather here being so cold. These reasons induce me to bend my thoughts towards the continent. I do not expect to meet with much, if any success on my return, but if fortune should insist upon sending a transport or so in my way, weak as I am, I will endeavor to pilot him safe. It is but justice to add that my officers and men behaved themselves well on the occasion. I have the honor to be, etc., etc.

John P. Jones.

Connors Brothers' Plant Changes Hands

One of the largest business deals recorded in New Brunswick for some time was brought to a successful conclusion on October 30, when a company headed by A. N. McLean, St. John, took over the extensive canning plant of Connors Brothers' Limited, Black's Harbor. The negotiations started several months ago. Mr. McLean has organized a company which is being financed by the Doherty Easson Company, financial brokers, of Toronto. Hon. Manning Doherty, who is the senior partner of the concern, was in St. John in connection with the transfer and left for home at its consummation.

The new company takes over the entire plant, general store, steamers and other equipment owned by the company. The business of Connors Bros., which has been in process of development for several years, is now one of the largest fish packing concerns in the world. The products of this factory are shipped to many countries, among the leading customers of the enterprise being Australia and New Zealand. Some fifteen million tins of sardines are packed by the plant annually and employment is given to a large number of persons.

It will be the policy of the new owners to add still further to the sales of the company and an extensive campaign will be conducted to open up new markets.

P. W. Connors will retain his connection with the company.

The amount of money involved in the transaction was not announced.

POOR RUN OF FALL MACKEREL

During the month of September there was a catch of 1,038,396 cwts. of sea fish taken valued at \$2,470,325 while for the same period last year there were 1,026,553 cwts. taken, valued at \$2,520,047.

The total quantity of cod, haddock, hake and pollock landed was 553,240 cwts. compared with 778,379 cwts. in September 1922. The catch of cod shows a decrease of 170,782 cwts.

The mackerel fishing was poor only 7,296 cwts. being caught compared with 17,129 cwts.

Swordfish appeared more plentiful towards the end of the month and 9,800 cwts. were taken compared with 3,673 cwts.

Of lobsters, 11,594 cwts. were taken during the month compared with 13,519 cwts. in the same month last year. Since the commencement of the present season 367,806 cwts. have been taken of which 77,666 cwts. were shipped in shell and the remainder canned, making 144,107 cases. In the same period last year 346,317 cwts. were taken from which 63,595 cwts. were shipped fresh and 141,338 cases canned.

The oyster season opened on the Atlantic coast during the month and 1,219 barrels were taken. In the same period last year 728 barrels were taken.

On the Pacific coast there was 25,148 cwts. of halibut taken and 308,303 cwts. of salmon during the month. The former is a slight decrease from September of last year while the latter shows an increase of 90,355 cwts.

They Fish Better; We Handle Better

Arthur Boutilier, of the National Fish Company, Halifax, has returned from a trip abroad during which he made interesting observations. The trip, Mr. Boutilier said, was invaluable to him. The fishing methods in the Old Country were superior to those in Nova Scotia, but the methods of handling fish were not equal to those in this country. This was specially noticeable with regard to cold storage and the care of a glut of fish. It often happened in the English markets that large portions of a catch will be sold to the fertilising plants because of lack of cold storage equipment to care for the surplus of one day. The result is that they are so disposed of at a great sacrifice.

Mr. Boutilier was deeply and seriously impressed with conditions he saw in Germany. Quite contrary to stories of conditions existing there which one hears on this side of the Atlantic, and the impression given than Germany is suffering from the post-war treatment. Mr. Boutilier says that Germany is recovering very rapidly, has, in fact, already recovered. Everyone is working; her industries are very busy, her shipyards all engaged, and her commerce rapidly assuming its pre-war position. He cited concrete instances, and the conditions he saw belied entirely the stories which are circulated, evidently to gain the world's sympathy. For instance, he visited a huge fish curing and preserving plant in Hamburg, covering twelve acres of ground, and fifty per cent. of which had been constructed since the war. And yet Hamburg is not even within the fish zone, but the raw material for that plant is brought from as far away as Iceland. One great pier at Hamburg, built since the war, contained twenty electric cranes for handling cargo.

Signs of Prosperity

Everywhere there were evidences of prosperity, and very little evidence of distress of any kind. There were people, of course, who were suffering from the results of the war, but they were principally a class of monied people who had depended upon returns from their investments. There was no idleness, and all were working, and the whole industrial structure of Germany was being rebuilt on the most scientific basis, with the industries being brought up to the highest scientific efficiency. The whole condition of Germany today, Mr. Boutilier felt, was a warning to Britons and Canadians, of the position Germany would attain in a few years by her application of scientific methods to industry, and an example and lesson of what should be done in this country.

Asked as to how they were overcoming the financial, currency and exchange difficulties. Mr. Boutilier said that the German exporter was selling goods in the currency of the country in which they make their sale. They deposit their money in the banks of that country, drawing out only that amount required for labor and overhead expenses, and if they require to make any purchase in that country they simply pay for it from the bank account they hold there.

Mr. Boutilier, after visiting Hamburg, proceeded

to Berlin. He saw no evidences of political unrest; the restaurants, dance halls and theatres were all filled, and life seemed to have resumed its most normal courses.

Mr. Boutilier travelled through the fishing centres of England, going up from London to Grimsby and then on to Aberdeen, also visiting Hull. The fishing industry in Great Britain is not in the same flourishing condition today as it was before the war. Among factors affecting it was transportation, which is not yet restored to the normal conditions pertaining before the conflict.

LESSER SLAVE PRODUCTION

Fifty ears of fish were shipped this season from the waters of the Lesser Slave Lake to various points in Canada and the U. S. A., the majority, however, going to cities in the eastern American states. These shipments were practically all white fish, the coarser varieties being disposed of in the local markets.

RUN OF SALMON TROUT

Parry Sound, Nov. 1.—The salmon trout spawning this year, which closes today, has been greater than in many years. The close season designed to protect the fish while spawning is the month of November, but in Georgian Bay the salmon trout generally begin spawning about October 20 and finish before the close season begins. This year the run was almost like the famous salmon run up the British Columbia rivers and thousands of fishermen on thousands of shoals had great catches. Representatives of the big American fishing clubs that have islands here were mingled with Indians, half-breeds and cottagers and some catches as large as three hundred pounds in one day by two men were reported.

FISH IN COLD STORAGE

Frozen fish stocks in cold storage in Canada in the month of September showed an increase of 14.37 per cent over August, according to the monthly cold storage statement issued by the Bureau of Statistics, Ottawa. Unfrozen stocks showed an increase of 30.16 percent in the same period. The quantity of frozen fish in storage in September was 16,257,437 pounds as compared with 14,214,768 in August; and unfrozen, 3,350,211 pounds in September as compared with 2,573,460 pounds in August.

SYMPATHY FOR LOSS OF SON

We join with many friends in extending to Captain H. F. Robinson and Mrs. Robinson, Canso, N.S., The deepest sympathy in the loss they have suffered by the death of their son, Karl, who died suddenly at Halifax the latter part of October, aged seventeen. The youth showed much promise and his sudden demise has been a severe shock to the family.

Ottawa Urged to Negotiate Frazer Policy

*Hon-William Sloan discusses B. C.'s fishery problems with federal minister--
Advocates exclusion of Japs from Departure Bay*

Questions of importance to the fishery industry of British Columbia were discussed during the visit to Victoria, B. C. of Hon. Ernest Lapointe, federal minister of marine and fisheries, between the minister and Hon. Wm. Sloan, commissioner of fisheries for the province.

The run of salmon to the Fraser River, it was pointed out to the federal minister, no longer is a leading factor in the salmon industry of the province. This year the combined catch of sockeye salmon in British Columbia and State of Washington waters was less than 75,000 cases. In 1913 the run of sockeye gave a combined provincial and American sockeye pack of over 2,500,000 cases.

These figures, Mr. Sloan said, were sufficient to substantiate his assertion that the Fraser River, as far as sockeye are concerned, is fished out and that this year the spawning beds are unseeded. There was no doubt, Mr. Sloan agreed, that the Americans were largely responsible because of their failure to accede to overtures from this side of the line having in view the reaching of an agreement that would have had the effect of protecting the salmon. It was an international crime that the present condition with respect to this great food question should have been permitted to develop and even now, Mr. Sloan declared, nothing should be overlooked in the endeavor to come to an understanding with the American authorities. Restriction of sockeye fishing in American and Canadian western waters even yet, in the course of time, might result in the restoration of the "run," while persistency in the present policy would sound the death knell of the sockeye salmon industry in the very near future.

Harding's View on Similar Situation

At this point Hon. Mr. Sloan directed the attention of the Hon. Mr. Lapointe to a striking statement made by the late President Harding shortly before his death with reference to the salmon fisheries of Alaskan waters. This follows:

"The greatest Alaskan industry stands in an entirely different relation than either gold or copper. I refer to the fisheries which in present wealth-producing potency far exceed the mines. In fact the fisheries product is now in value more than double that of all metals and minerals. It is too great for the good of the territory for if it shall continue without more general and effective regulation than is now imposed it will presently exhaust the fish and leave no basis for the industry.

"The progressive disappearance of salmon along our coasts from California northward is a story whose repetition ought to warn us to protect it in Alaska before it is too late. The salmon pack not only represents nine-tenths of the output of Alaska's commercial fisheries but it is an important contribution to our national food supply.

"It is vastly more easy to declare for protection and conservation of such a resource than to formulate a practicable and equitable program. Fish hatcheries have been established to restock streams but the results are still conjectural and controversial. Argument is

advanced for the abolition of one method of fishing in one spot, the condemnation of another type in another, and so on until there is a confusion of local controversies which no specific and exclusive prohibition will solve.

"Against any kind of prohibition it is urged that the immense investment in Alaska's fisheries and canneries would be greatly injured by such a reduction of the catch. To this it may well be replied that the canneries would better have their catches restricted by government regulation for a time than exterminated in a few years through their own excesses. By the establishment of reserves along sections of the coast we already have accomplished much. More restriction is necessary and urgent. The conservation must be effected. If congress cannot agree upon a program of helpful legislation the reservations and their regulations will be further extended by executive order. There is an obligation to the native Alaskan Indian which conscience demands us to fulfill. Moreover the salvation of the industry is no blow at vested interests; it is a step toward protected investment and promoted public welfare."

With further reference to this issue Hon. Mr. Sloan presented for the consideration of the Hon. Mr. Lapointe a copy of a memorandum which was presented and submitted to the Hon. C. C. Ballantyne, former minister of marine and fisheries, and which fully reviewed past conditions, and late developments of the sockeye salmon industry, and set out the position of the Province of British Columbia at that time. Since then, it was explained, there has been no change in the policy of the provincial department although the condition, as was predicted, has steadily grown worse. Finally the visiting minister was urged to continue efforts to induce the United States and the State of Washington to close the Fraser River for a period sufficient, some twenty to twenty-five years, to give promise of re-establishing the sockeye. It was the contention of the province that, under existing circumstances, nothing but the most drastic action could bring about the desired results.

Departure Bay Fisheries

In regard to the herring fisheries which are of interest particularly to residents in some parts of Vancouver Island Mr. Lapointe was reminded that some agitation was developing for the opening of the waters of Departure Bay to purse seine nets. These waters had been closed as a result of the recommendation of a recent Royal Commission which had come to the province and investigated the matter. If the department of marine & fisheries was disposed to re-consider this decision, Mr. Sloan took the position that a hearing should be permitted the white fishermen of the district affected and the provincial department of fisheries.

Mr. Sloan also directed attention to the catching last year of eight adult Atlantic salmon in the Cowichan River and expressed the view that the Dominion should increase its efforts to establish these great game and food fish in all island streams.

News and Views of The West

The Hon. E. Lapointe, Minister of Marine and Fisheries, accompanied by Alex. Johnston, deputy minister, was a visitor on this coast early in October, and officiated at the opening of the new Ballantyne Pier, the finest pier on the Pacific Coast.

His presence on the coast presented an opportunity for the fishing interests to place before him recommendations deemed desirable to have adopted in the best interests of the fishing industry.

To that end a delegation of leading canners of B. C. met Mr. Lapointe in Vancouver on October 9th, and urged on him the necessity of adopting certain recommendations as being absolutely imperative if the industry is to be continued successfully.

The chief matters presented to Hon. E. Lapointe were:

- 1.—The necessity for stability in regulations.
- 2.—The need of lightening taxation on an overtaxed industry.
- 3.—The urgent need for the government to use its every endeavour and influence with the British Government to obtain the enactment of legislation in U. K. requiring all canned salmon imported into U. K. to be marked with the name of the country of origin, thus enabling the consumer to use discrimination between alien and Empire goods. This is imperative if the Canadian canner is to compete in the British market with the cheaply produced Japanese article.

Mr. Lapointe expressed his appreciation of the difficulties now being experienced by the canners, and promised to cable Ministers Graham and Gouin, now in England, requesting them to familiarize themselves fully with the question, in order that they might urge the matter at the Economic Conference.

MR. FOUND RENEWS ACQUAINTANCE WITH COAST

W. A. Found, asst., deputy minister of fisheries, paid a visit to the Pacific Coast in September, arriving in Vancouver shortly before Hon. E. Lapointe, Minister of Fisheries.

While on the Coast chiefly for a holiday — Mr. Found's health necessitating same — the asst., deputy minister managed to combine business with pleasure, and attended a meeting of the canned salmon section, Canadian Manufacturer Association, in Vancouver on September 27.

One desirable result of Mr. Found's meeting with the canners was the promise of the department to adopt the custom prevalent in the trade of measuring the mesh of gillnets from the middle of one knot to the middle of the next, or from the bottom of one knot to the bottom of the next. Prior to then the department had been measuring the mesh from the inside of one knot to the inside of the next. As the mesh for sockeye must not be less than $5\frac{3}{4}$ ", considerable confusion was likely to occur from the conflicting methods of measuring mesh, a difference of $\frac{1}{8}$ " being deemed sufficient cause for confiscation of nets.

The new ruling of the department will obviate any such misunderstanding.

CANNED FISH ENTITLED TO PREFERENCE IN UNITED KINGDOM

The news that Great Britain had offered Australia a preference on canned fruits and vegetables entering United Kingdom has stimulated the fishing interests here in their efforts to procure a preference on canned salmon in the United Kingdom market, Ministers Graham and Gouin having been instructed by the Canadian Government to introduce the subject at the Economic Conference now in session in England. F. C. Wade, agent general for B. C. in London, will also lend his assistance to that end, and the matter has already received preliminary discussion at the conference.

As B. C. canned salmon is caught with nets made in the United Kingdom and packed in tins made from United Kingdom steel plate, it is contended that B. C. salmon should have a preference over salmon produced outside the Empire. Should such a preference be granted, it would indeed be a consummation devoutly to be wished.

SELLING AGREEMENT TERMINATED

A month or so ago, a feeling that the export business demanded the fixing of a firm price for sockeye halves in the United Kingdom led to a large majority of the packers agreeing among themselves to a \$14 minimum price for that commodity for the United Kingdom market.

The difficulties incident to a strict interpretation of the agreement and the necessities of consignment, early this month, caused a termination of the agreement, but as the smaller packers have been pretty well cleaned up on their sockeye pack, the balance is now in the hands of the larger packers — a condition which will tend to a firmer tone in the sockeye market.

FIBRE BOXES FOR PACKING FISH VS. WOODEN CONTAINERS

A representative of one of largest manufacturers of fibre containers, paid a visit to B. C. last month, his visit causing some discussion of the comparative merits of wooden and fibre cases for canned fish.

The outstanding advantage claimed for the fibre containers is its first cost, fibre containers costing appreciably less than wooden boxes. A considerable saving in freight is also assured.

The chief obstacle to the adoption of this type of container has been in the past the feeling that they would not be strong enough to withstand the strenuous handling incident to export shipping, but the makers of the fibre containers now claim to have manufactured a product able to withstand the most rigorous handling.

Several of the U. S. salmon packers are using this type of container with every evidence of satisfaction but as they have been principally used in shipping in the domestic market only, no real indication has been available as to their suitability for export shipping.

Another objection is the possibility of United Kingdom buyers rejecting the new form of container (custom having decreed for many years that canned fish should arrive in wooden boxes) — and as most of our Canadian salmon shipped to United Kingdom is unlabelled, the cases have to be opened, the cans labelled by the buyers, and then replaced in the cases. The handling thus necessitated might give the United Kingdom buyers grounds for stipulating what type of case should be used.

LONGSHORE STRIKE FAILS TO RETARD FISH SHIPMENTS

The action of the Vancouver local of the International Longshoremen's Association, in calling out its members in an effort to obtain an increase over the 80c and \$1.20 rates now prevailing, has not hindered the shipping of salmon from this port. Since the strike was called early in October, men have been obtained to fill the strikers' places, and notwithstanding the fact that many of the workers were green hands, 110,000 cases of fish have been loaded and shipped from Vancouver. Of this amount, about 55,000 cases, mostly pinks, was destined for France.

PROTEST PRICE OF FUEL OIL

While in Prince Rupert, Hon. E. Lapointe, received various deputations representing the fishing industry. The halibut fishermen's union committee, headed by J. H. Meigher, presented a memorandum asking among other matters, that the difference in cost of fuel oil between here and Ketchikan be adjusted. The fishermen also want an inspector of weights and measures stationed here, as well as provision for a better system of culling fish. Fish buying companies also made suggestions to the minister.

SALMON EXHIBIT AT BRITISH EMPIRE EXHIBITION

The B. C. salmon canners contemplate having an exhibit at the British Empire Exhibition at Wembley Park, England, it being felt every possible effort should be made to combat the competition of Siberian salmon in the United Kingdom market, by bringing to the attention of the consumer the desirability of purchasing B. C. salmon as being the finest salmon procurable and also an article produced within the Empire.

To that end the tentative plans of the canners include the acquiring of 400 sq. ft. in the Canadian Building for a British Columbia canned salmon display, and to ensure the success of the undertaking, it is expected Col. F. H. Cunningham will represent the salmon canners at the Exhibition. Col. Cunningham's previous experience in that line (he having undertaken an advertising campaign in the United Kingdom for the canners a couple of years ago) will be extremely valuable in procuring the desired result. Should arrangements be completed in time, Col. Cunningham will leave early in November.

GRIM REAPER TAKES TOLL

During October three men prominent in the fishing industry passed away, viz:—

James Anderson, for many years manager of the St Mungo Canning and Cold Storage Company in

New Westminster, at the ripe age of 78, succumbed after a lengthy illness.

C. C. Hobson, who with his brother erected and operated the Phoenix Cannery, Steveston, died at the age of 64, his brother pre-deceasing him by two years.

A. W. Carter, for twenty-six years connected with the salmon industry on the Fraser River, and latterly on the Skeena River as manager of the Oceanic cannery for the B. C. Canning Co. Ltd., died suddenly on the 20th of October, at his home in Victoria.

All these men were highly respected by all in the trade and their loss is much regretted.

POSSIBLE EXTENSION OF FISHING SEASON ON FRASER RIVER

At the end of October, a strong agitation was put in progress for the extending of the Fraser River fishing season from the official closing date of November 6th to the 20th of November. The fishermen and community at large of New Westminster strongly favored such a procedure, on the grounds that the extra earnings of the fishermen would amount to many thousand dollars, all of which would be spent locally; and as there appeared to be no objection on the grounds of conservation, representations were made to Major Motherwell, chief inspector of fisheries for British Columbia. Major Motherwell, with Mr. Found, having gone north on an inspection trip, a meeting of Fraser River fishermen with Mr. Found was arranged for November 3rd., when this matter, it was hoped, would receive favorable consideration.

VERY SLIGHT INCREASE IN WHITE FISHERMEN

Though a satisfactory pack was put up in District No. 2 this season, there were 161 fewer fishermen fishing salmon gillnets. In 1922 there were 3,011 gillnet licenses issued and in 1923 only 2,850, including fishermen transferring from other districts. This reduction was chiefly occasioned by the forty percent cut in Oriental licenses recommended by the commission last year — only 641 Jap gillnets being in the water compared with 1,068 last year.

The Skeena River showed a decrease of 257 in Oriental licenses, and to offset this serious reduction, there were only 18 more white licenses issued than in 1922. Had there been no 40 percent reduction in Oriental licenses, an even larger pack would have been put up, as the slight increase in white and Indian fishermen naturally could not make up for the shortage of 257 experienced Japanese fishermen.

This condition would tend to show that there does not exist at the present time a sufficient number of qualified white fishermen to warrant the heavy reduction in Oriental licenses on the Skeena River.

DECREASE IN SIZE OF SOCKEYE

Many of those engaged in the fishing industry in British Columbia are of the opinion that the sockeye are getting smaller every year, and consider that the minimum size of mesh for sockeye (now 5¾") should be reduced.

As the Department of Fisheries does not see eye to eye with this view, it is not anticipated any changes will be made in the regulations covering the size of mesh.

TOURISTS VISIT CANNERY

Three hundred and fifty tourists from the east are now informing their less lucky friends of the manner in which a modern salmon cannery is run — and incidentally giving a boost for salmon as a tasty dish — as a result of the action of the Gosse-Millerd Company of Vancouver.

The tourists were a trainload travelling over the Grand Trunk Pacific line and while at Rupert on July 12, an opportunity was afforded them of inspecting the Sunnyside Cannery through the courtesy of J. F. Strang, manager.

The party of three hundred and fifty spent nearly two hours following with great interest the complete process from the passage of the raw material through the Iron Chink to the labelling of the finished product. The visitors were also presented with a can of sockeye salmon as a gift of Gosse-Millerd, Ltd.

NO LARGE CATCHES IN HALIBUT WATERS

The catch of halibut for the past thirty days has been very light, practically the entire catch being taken for the fresh fish market, and very little being frozen.

The quantity of halibut in storage now is very small — approximately fifty percent of the amount in storage at this time last year. The boats are fishing on various "days" principally "independent."

DUTY ON FRESH HALIBUT INTO UNITED STATES REMOVED

The latest ruling by the American customs department at Prince Rupert is that the two cents a pound duty levied against American fish shipped from that port, applies only on that which has been placed in cold storage and if shipped frozen. American boats are shipping fresh halibut as usual.

HERRING FISHING POOR

The herring fishing, to date, has been very light, very few fish showing up at Barclay Sound, one of the chief sources of supply, Cowichan Gap fishing has been more successful, eight or nine hundred tons having been packed to the end of October.

Departure Bay, one of the most prolific fields for herring in B. C. to date had not been opened, the department carrying out the recommendation of the Duff commission in that respect. Efforts are being made to have the bay opened, but should the department agree to allow herring fishery operations there, it will likely be on condition that only white seiners will be allowed. Japanese fishermen in former years put up a large proportion of the pack from that district.

FRESH FISH MARKET POORLY SUPPLIED

The catch of salmon for the fresh fish market has been very light, there being apparently no quantity of fish caught in any district. Barclay Sound, on the west coast of Vancouver Island, being the only place where any quantity of fish was procured, and this despite the fact that higher prices were paid this season than last. The catch of coho will be less than half that of last season, owing to the fact that the fish simply were not there to be caught. As far as chum or qualla are concerned, despite the fact that the prices

to fishermen were from 25 percent to 50 per cent higher than last year, the total to date is considerably less than at a corresponding date last year.

HATCHERY COLLECTION VERY SUCCESSFUL

The Department of Marine and Fisheries reports collecting nearly 8,500,000 sockeye salmon eggs from the Babine Lake hatchery on the Upper Skeena River, B.C. The collection exceeds those of recent years, it is stated, and in addition to the fish that were stripped for hatchery purposes, a sufficient number ascended the creek, after the fences were removed, to seed abundantly the natural spawning grounds.

RECORD SOCKEYE COLLECTION

The Department of Marine and Fisheries announces a record collection of sockeye salmon eggs in the Pemberton district of the Fraser River, British Columbia. A total of 30,724,000 sockeye eggs was collected, and a sufficient number of fish was left to abundantly seed the spawning grounds of this district in the natural way. About 50 per cent. of the eggs collected will be used for seeding what were at one time important sockeye spawning regions of the Fraser above Hell's Gate, but which are now practically depleted as regards spawning salmon. The areas that will be stocked in this way include the Anderson-Seton Lakes system, the Shuswap Lakes system, the Quesnel Lake system, the Chilko Lake system, and the Stuart Lake system.

RECORD SOCKEYE EGG COLLECTION

A record collection of ten and one-quarter million sockeye salmon eggs has been made in the streams tributary to Lakelse Lake or the Skeena River system, British Columbia. This collection exceeds by two million the largest previous collection, which was made last year. When the first hatchery was established on Lakelse Lake in 1903 it taxed the Lakelse Lake region to supply four million. The run of sockeye to this particular region, however, has not only been maintained, but has steadily increased, and this year in addition to the record collection of ten and one-quarter million eggs, a sufficient number of salmon were allowed to ascend the various streams to abundantly seed the spawning beds.

Nearly eight and one-half million sockeye eggs for the Babine Lake Hatchery have been collected on the upper waters of the Skeena River, British Columbia. This collection exceeds those of recent years and in addition to the fish that were stripped for hatchery purposes a sufficient number ascended the creek after the fences were removed to abundantly seed the natural spawning grounds.

TROUT FINGERLINGS DISTRIBUTED

Over one million salmon and trout fingerlings from the Banff Hatchery were distributed during the past season. The trout included such species as cutthroat, rainbow, steelhead and salmon trout, and a considerable portion of them were from two to three months old when they were distributed. The distribution area included the water of the Banff National Park, Jasper Park, Waterton Lakes Park and various trout streams of the foothills between Edmonton and Macleod.

Salmon Has Well-Regulated Habits

Interesting observations in recent studies into life history of Pacific salmon family

Recent developments in the investigation of the life of the salmon of the Pacific Coast was the subject of an address delivered a few weeks ago before the Natural History Society of Victoria, B. C., by John P. Babcock, assistant commissioner of the provincial fisheries department.

Mr. Babcock said, in part:

"Some of you may recall that the last time I appeared before you, lantern slides were shown of the scales of the salmon and you were told how they grow and the events they record in the life of the fish. The scales of a salmon develop shortly after they become free swimmers. The entire body of the little fish is completely covered with minute scales. The little fellow has as many scales when he is two months old as he will ever possess. As he grows the scales grow by ridge-like additions to the outer edge that under a microscope look like rings. Because he grows faster in the summer than in the winter the scales are therefore made up of broad and narrow bands of ridges. The broad band of summer and the narrow band of winter record a year's growth. After years of study, and following the method first used by Johnson of the Scotch Fishery Board in his study of the Atlantic Salmon—the true salmon,—we have been able to determine many facts in the life history of the Pacific salmon. The growth rings on the scales of Pacific salmon tell a comprehensive story. Those of the sockeye record the length of time spent in fresh water, the period of migration to the sea, the length of time spent in the sea, their length at given periods in their life, and in the Fraser at least, they tell us the name of the lake in which they were hatched. If we could read the brains of a sockeye as clearly as we can the record on their scales we might be able to determine how the young living in a lake of fresh water for a year or more know that there is a sea to migrate to, how to get there and how to get back to their home lake. The sockeye does all these remarkable things. It finds its way from the lake of its origin at a given time to the sea, and then three or more years later it finds its way back to the lake again. And in the return journey it follows without chart, compass, light-house or fog-horn, the exact route which all its ancestors for generations have followed.

Salmon Great Navigator

The sockeye is a past master in navigation. In coming in from the open sea where it has wandered and fed for three years, it follows the route of its ancestors, it approaches the same headlands on similar tides at the same time of the year, hugs the islands' coasts, passes through the same narrow channels—though there are many others apparently similar—and on entering the Fraser channel it journeys up-stream, passes the mouths of all tributary streams until it reaches the mouth of the tributary that flows from the lake from which he migrated years before. The sockeye knows its own town, street and number and how to get there. How do we know this? First by following their migrations and secondly by reading the growth rings on their scales. By examination of many thousands of scales taken from young sockeye as they migrated seaward from their native lake we found that their rate of growth in most lakes differs materially. We were enabled to make a composite scale of the characteristic growth from each important lake trib-

utary of the Fraser. We found that the young from Quesnel Lake could be distinguished from those from Chilco, Shuswap or the Harrison. Then three years later, when the migrants returned, we examined the scales taken from those that entered each lake, and in each case it was found that the nuclear area of their scales was the same as those of the young salmon that migrated from that lake. No Quesnel sockeye entered Chilco Lake and no Chilco sockeye entered Quesnel Lake. That is the most important addition to the life of the sockeye that has made in recent years. It will have an important bearing on the formulation of plans to restock the Fraser.

One more statement on scale reading and we will dismiss the subject. The length of an individual sockeye in any given year of its age can be determined. Some fish at the same age are longer than others of the same school, but those that grow most rapidly in length in their second year grow less rapidly in length in their third year. Those that grow less rapidly in their second year grow more rapidly in their third year, and at maturity the two fish are of equal length. This discovery is of no economic importance, but it is a notable addition to biology—one that has not been shown in the life of any other family.

Atlantic Species Thriving

There has been one other valuable salmon discovery recently in the province and it was not made by the provincial fisheries department. Within the last two years Major Rattray of Duneans has captured no less than seven adult Atlantic salmon from the Cowichan. He forwarded the heads of two of them to the provincial fisheries department. The catching of these fish from the Cowichan is a fact worthy of much attention. It establishes, we think, that our island rivers, if adequately stocked with Atlantic salmon fry, will develop runs of these famous food and game fish—a very valuable addition to our game fishes. Many efforts have been made in the last thirty years to establish these fish in Pacific waters. Plants of Atlantic salmon were made in California waters over thirty years ago. Repeated plants have been made there and in Oregon and Washington, and in no instance have adult specimens been taken from any of their streams. The Cowichan is the first and only one to show results. I had on a former occasion to call your attention to the fact that the Atlantic salmon—the salmon salar—the true salmon—are distinct in structure and in habit from the Pacific salmon—the oncorhynchus.

Now let me reply to a request—"Please tell us how we may distinguish a salmon from a trout and how we can tell a spring salmon from a coho. All five specimens of the Pacific salmon may be distinguished from trout by counting the rays in the anal fin. All Pacific salmon have 13 or more rays in the anal fin, and all the trout never have more than eleven rays in that fin.

The spring salmon may be distinguished from the coho by counting the branchiostegals folds and the rays in the anal fin. The spring salmon has from 15 to 19 branchiostegals and 16 rays in the anal fin. The coho has less of both. There are other ways of course to distinguish these fish. If I here gave a full statement of their structural characteristics you may become confused. Any one wanting to go further into this question who will come to my office will be fully instructed.

News Notes From The B. C. Coast

Dybhavn to Biological Board

John Dybhavn, manager of the Royal Fish Co. Prince Rupert B. C. and vice-president of local branch of the Canadian Fisheries Association, has been notified from Ottawa of his appointment as member of the Biological Board of Canada as representative of the fishing industry of the Pacific Coast.

The appointment has been made following representations submitted to the department by fishing interests that the board as at present constituted was not in close enough touch with the actual industry. Another similar appointment is to be made on the Atlantic coast and the new appointee with Mr. Dybhavn will be added to the present board.

The function of the Biological Board is to study life, habits and breeding conditions of various species of fish and for the purposes of research it controls several biological stations on the Atlantic Coast at St. Andrew's N.B. and one on the Pacific Coast at Departure Bay, Vancouver Island. Meetings of the board take place periodically in Ottawa.

Urges Jap Exclusion

After reading a report of a committee appointed to investigate the herring fisheries at Departure Bay, composed of John Rudd, Mayor Busby and Capt. A. Bradford, the Board of Trade at Nanaimo, B.C. recently endorsed a resolution contained in the report to the effect that as the fisheries department are satisfied that gill-net fishing does not require the exclusive right in these waters in order to carry on the business, the board believed that seine fishing should be permitted to be carried on by white men only.

Fish Hatchery at Nelson

Nelson is to have a government fish hatching station located right in the business section of the city. G. W. Harrison, of Vancouver, Dominion Inspector of Fisheries for British Columbia, announced that accommodation has been secured and steps will be taken immediately to establish a fisheries subsidiary station here which will be the centre for the whole district.

B.C. Salmon Pack

The official figures for the salmon pack of British Columbia show a total of 626,266 cases. The bulk of the pack came from the second district, comprising the Naas River, Skeena River, Rivers Inlet, Bella Coola, Kimsquit, and other points in that vicinity. Of the total catch 290,901 cases were sockeye, and 251,164 case pinks. The balance were classified as springs, blueblacks, steel heads, cohoes and chums.

Pacific Great Herring Producer

The herring hauls of the Pacific coast may yet rival the North sea. According to Gosse-Millerd, there have been some very large catches of herring made off the coast of British Columbia. In fact, the firm says that it has caught as much as 200 tons of herring in one day, which would probably mean 1,500,000 fish. Its total

catch during the last season, which begins about the middle of October and ends about the middle of February, was in the neighborhood of 50,000 tons, about 400,000,000 fish.

Halibut Prices High

Due to unfavorable weather conditions early in October halibut landing at Prince Rupert were very light. The highest price paid for halibut in two years was recorded at the Fish Exchange on October 9, when the Canadian Fish & Cold Storage Co. paid 20.2c and 12c for the 8,000 pound catch of the American schooner Crescent. The big American schooner Alice was in with 15,000 pounds and received 20c and 11c from the Royal Fish Co. and the Atlin Fisheries. This made a total of something over \$8,000 for the catch with a division of about \$300 between the fifteen men. The boat was out for three weeks but the catch was only about half her capacity, bad weather hindering fishing. As a result the individual proceeds are little more than average.

The same day four Canadian boats marketed the following catches to the Canadian Fish & Cold Storage Co. at 17c and 10c. Eagle, 2,500 pounds; Ingrid H. 2,000 pounds; Joe Baker, 1,500 pounds and Lillian M. 5,000 pounds.

High prices again prevailed at the following day, the top bid being 20.2c and 12c for the 8,000 pound catch of the American schooner Yakatat.

Whalers Have Good Season

The whaling fleet which has returned to port, at Victoria, B.C. reports a fairly successful season, 377 whales having been caught. Rose Harbor station accounted for 161 whales; Kuyunquet 116; Naden Harbor 100.

No Close Season for Halibut

Exchange of correspondence took place between fishery authorities at Ottawa and Washington with respect to the application of the close season on Pacific halibut this year as provided in the treaty ratified at Ottawa but still pending at Washington. It was proposed to come to some amicable understanding this year giving tentative effect to the terms of the treaty. It was announced by both governments, however, to those interested "that as the time when the close season provided for in the above named Convention should commence is now quite near, the question of whether or not such a season could be made effective this year formed the subject of a series of notes which passed between the Governments at Ottawa and Washington recently. As a result thereof, and in order to avoid embarrassment to the industry by the continued uncertainty as to how its business would be affected this year by the convention, it was mutually agreed to intimate to those engaged in the industry in both countries that there will be no close time for halibut during the winter season of 1923-1924."

When Duty Applies on American-Caught Fish

The following decision of the U. S. treasury board is of particular interest to the trade on the Pacific coast where a large volume of fish is landed by American vessels and subsequently transported by rail to American markets.

October 10, 1923

To Collectors of Customs and Others Concerned

It has come to the attention of the department that there still exists some misunderstanding relative to the treatment of fish the products of American fisheries, with particular reference to fish caught in the Pacific Ocean, landed at Canadian ports and frozen and boxed, or otherwise preserved, for shipment to the United States. It has been represented to the department that fish caught by American fisherman in the Pacific Ocean are landed at Prince Rupert, British Columbia, and sold to Canadian firms, who freeze and box them and sometimes hold them for several weeks or even longer awaiting a favorable market, when they are shipped to the United States, and free entry is claimed on the ground that they are shipped for the account of an American consignee in the United States and not for the account of the foreign shipper (T. D. 39494).

As stated in T. D. 32138, fish taken by an American vessel may be landed in foreign territory to be stored, frozen, salted, dried, or otherwise preserved for transportation to the United States by the master and crew of the fishing vessel provided no persons other than the officers, master, and crew of the said fishing vessel, or person employed for the purpose have been engaged in storing, freezing, salting, drying or curing such fish on shore, and further provided that the fish have not been subject to any process of manufacture on shore. Therefore, fish taken by an American fishing vessel and stored, frozen, salted, dried, or otherwise preserved in foreign territory are not entitled to free entry unless such storing, freezing, etc., is done by the officers, master or crew of the fishing vessel or by persons employed by them for the purpose, which contemplates that the master or owner of the fishing vessel shall retain the ownership of the fish.

Fish which are sold in foreign ports either to American or foreign interests are not entitled to free entry unless the said fish are immediately shipped to the United States without having been stored, frozen, salted, dried or otherwise preserved, for the reason that by such sale and preservative treatment the fish would become so far mingled with foreign commerce as to deprive them of their status as the product of American fisheries.

In view of the foregoing the last paragraph of T. D. 39494 is hereby amended to read as follows:

AGENTS WANTED for Nets and Twines.—British manufacture, established over 100 years, want responsible, aggressive in British Columbia and Maritime Provinces. Apply giving complete details, to Box 525 Canadian Fisherman, Gardenvale, Que.

Products of American fisheries landed in foreign territory and sold to foreign persons, firms, or corporations by whom they are stored, frozen, salted, dried, or otherwise preserved for shipment to the United States would not under existing law and court decisions be entitled to free entry. (See T. D. 29143). Fish which are stored, frozen, salted, dried or otherwise preserved, in foreign territory before shipment to the United States are not entitled to free entry unless the master or owner of the fishing vessel retains title to the fish, and such storing, freezing, etc., is done by the master or crew of the vessel or under their supervision.

McKenzie Moss,
Assistant Secretary.

Whale Meat Popular

Canned North-Pacific whale steak is making a hit wherever introduced. We are told that the demand for this foodstuff is so great that the pack now being prepared was disposed of long ago. Practically all the British Columbia whale meat is being shipped to England for re-distribution abroad.

Salmon Pack in No. 2

The middle of October the Dominion Fisheries office at Prince Rupert reported the total salmon pack to date in District No. 2 as 778,534 cases exclusive of the Queen Charlotte Islands pack which will be small.

Prince Rupert Halibut to France

As a result of the visit last summer to Prince Rupert of Dr. L. E. Danois, superintendent of fisheries for the Government of France, it is announced by the fisheries officials that the French business men are about to try importing frozen halibut direct from Prince Rupert, and it is hoped this will be the commencement of an important industry.

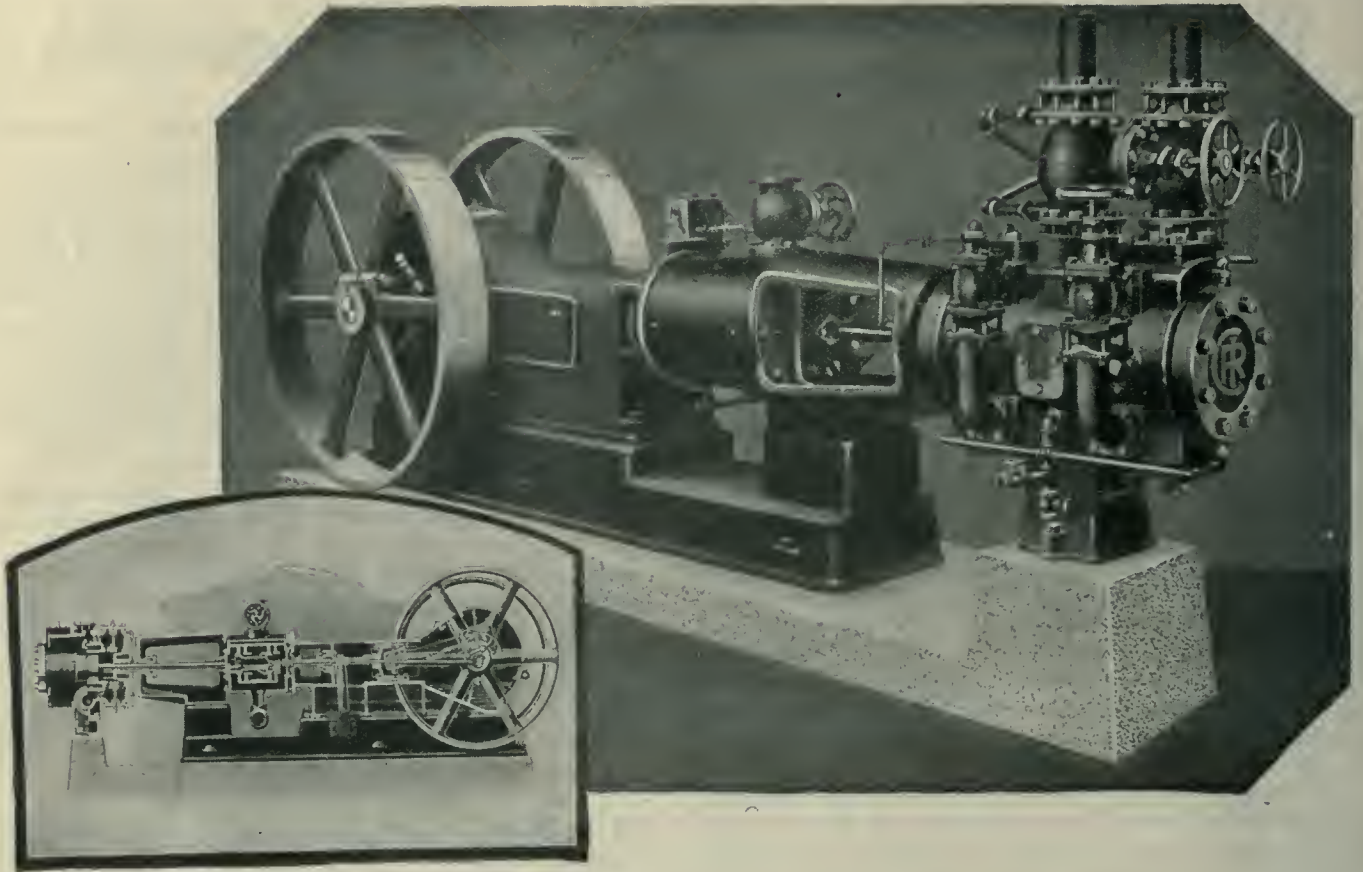
Halibuter Wrecked

The Canadian halibut schooner, D.C.F. No. 1, owned by Capt. Charles Wallace and James McNulty of Prince Rupert sank in 56 fathoms of water about five miles south of Gibson Island in Grenville Channel recently after striking an obstruction. Capt. Wallace and his crew of three men—G. Wicks, W. Babeock and W. Williams—reached port safely being brought in by Jack Allen, a Lewis Island rancher, on his gasoline boat, Aleda. The D.C.F. is believed to be beyond hope of salvage on account of the depth of the water and she has been turned over to the underwriters, having been two-thirds insured. All that was saved was a few skates of gear, the compass and weather glass.

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THE CANADIAN FISHERMAN

Official Organ of the Canadian Fisheries Association
A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada,
and Technical Education of those engaged in the Industry.

VOL. X

GARDENVALE, P. Q., DECEMBER 1923

NO. 12

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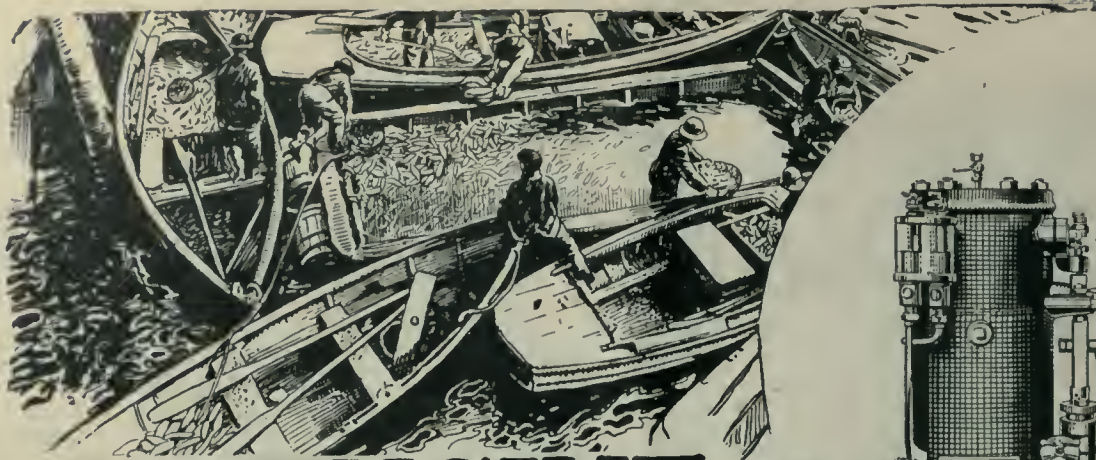
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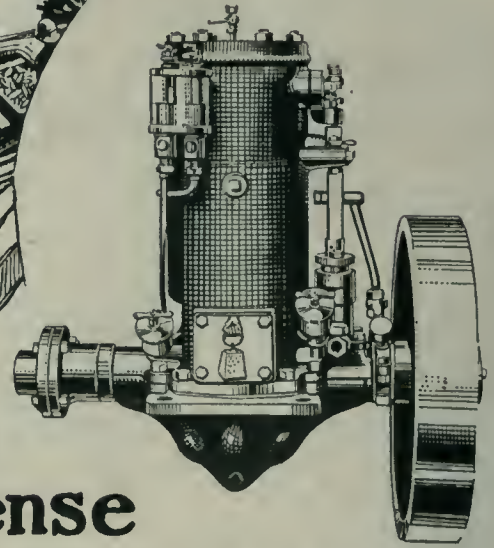
Published on the 17th of each month. Changes of advertisements must be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication, these will be paid for at our regular rate.

The Industrial & Educational Publishing Co. Limited

J. J. Harpell, President and Managing Director
GARDEN CITY PRESS, Gardenvale, Que.
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Eastern Manager, A. S. Christie, Gardenvale, Que.
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During the period of her service in Hudson's Bay, the "NEOPHITE" was commanded by me and gave excellent service, the engine in particular being reliable and efficient, and giving no trouble; we never lost a tide, and the engine to my knowledge never refused duty.

I have no hesitation in recommending this type of engine to anyone requiring economical power for commercial vessels.

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VANCOUVER, B. C.

THE SEASON'S GREETINGS

Official Organ of Canadian Fisheries Association

JAS. H. CONLON, Editor.

A CHRISTMAS GIFT TO INDUSTRY

The two things most essential to the advancement of our fishing industry are, first, a broader outlet for the products of our waters and, second, improvements upon present methods of preparing fish for the more or less refined tastes of the Canadian consumer and to meet foreign competition abroad. The department at Ottawa has grasped the significance of these primary requirements. In the first instance it has co-operated with industrial firms in a comprehensive nation-wide campaign to educate Canadian people to the value of fish and to improve upon marketing methods. In the other essential, Ottawa has taken effective measures with commendable promptness. It would seem that the first good step made the second easier. It has been decided to open a government school of fisheries at Halifax, the department and the Biological Board being agreed as to the efficacy of such an institution. Parliament at its last session made a supplementary vote of \$70,000 for the "conservation and development of the fisheries," and it was understood that the money was ear-marked for the requirements of the Biological Board. Subsequently it was learned that officials from Ottawa were seeking a site for another biological station on the Atlantic coast and the industry had almost reconciled itself to a new station at Canso. Then as a bolt from the blue came the announcement of the change in plans. We were surprised and very agreeably so. We do not gainsay the good intentions of those who favored an extra biological station. We are in the forefront in recognizing the benefits of scientific inquiry and had the industry more money at its command we should urge the widest powers to our scientific fraternity. As such is not the case it would be unwise to sacrifice what appears to be a necessity to further the ends of science. Without inquiring into the ins and outs of the matter, we feel there must have been some happy intervention and we can congratulate ourselves that the members of our Biological Board are not so all-consumed with the theoretical as to fail to appreciate the demands of the practical.

The school will be no new departure. There will be no element of uncertainty about it any more than there is in the co-operative advertising campaign. For both

there are precedents which augur success. The College of Fisheries, fathered by Dr. John N. Cobb at Seattle, has more than fulfilled expectations though it was many years before its indefatigable dean was given the opportunity to prove its practicability. The Halifax institution is to be modelled on the same lines. It is to have a miniature cannery and plants for smoking, pickling and curing. It will have a cooperage, and, of course, a laboratory. Students will be assembled at Halifax for instruction and travelling demonstrators and lecturers will tour districts more or less inaccessible. This, apparently, will be to familiarize fishermen with the work of the school and encourage their attendance. Finally, if the school proves its worth, it will be followed by other schools of a similar character in localities equally central.

The fishery school is a logical companion to our effort to stimulate greater demand for fish. We must improve the quality of our product to retain a full measure of public patronage and we may feel encouraged that whatever our shortcomings may be at the present time this institution will afford the opportunity to study them and effect necessary improvements.

Halifax is wisely selected as the site for more reasons than one and we recognize as of great importance the potential aid of the technical school and Dalhousie University. A cautious selection of staff and a serviceable plant will round out a thoroughly good job.

PORT PRIVILEGES CUT OFF

We had expected the government would accede to the request of the industry and abrogate the *modus vivendi* license. We were not disappointed. After December 31 the license will be no longer available to American fishing vessels on our Atlantic coast and henceforward they may use our ports only for the so-called humanities, viz. wood, water, shelter and repairs.

Our American cousins have enjoyed since 1888 privileges over and above treaty rights which made our ports virtually open to them. Why this has been so is more than anyone can say unless the answer is to be found in that happy official temperament which is disposed to let sleeping dogs lie. Had the United

States permitted matters to continue as they were when the license was first introduced no doubt we should have done likewise. Our neighbors have done everything possible to make it difficult for us to sell fish to her, obviously with the hope of conserving the market for her own fishing fleets. It is not unnatural, therefore, that we should cease to extend a courtesy which facilitates United States fish production. We cannot gratuitously accommodate any longer a competitor whose business practices are so self-centred. We must play the game for ourselves. There is no disposition to be spiteful, but a firm intention to be just to ourselves.

In numerous fishery issues it would seem that Canada and the United States stand precisely where they did a hundred years ago. True, altered conditions have tended to ameliorate the severity of the situation but nevertheless there are matters which should be adjusted without delay. An international commission in 1918 failed to accomplish a settlement of then outstanding questions, but that is no reason why a fresh attempt should not be made. Both countries have adopted new political rulers since then and there is a chance that avenues of compromise may now be found. For our part we want to do business with our neighbors and live on neighborly terms, but if Uncle Sam insists upon keeping the front gate bolted and the back door guarded by a bull there should be no surprise that we crawl into our metaphorical shell.

EXPRESS RATES DOWN OR UP?

While we in Canada are much wrought up over the application of the express companies for an increase in rates we feel intensely relieved that, across the border, the Interstate Commerce Commission has ordered a reduction in express rates on food commodities. When our transportation rates were on the upward course we followed quite religiously the rises across the border. Let us see if we follow the reductions as well.

There would seem to be some shade of truth in the story that the express companies instituted present proceedings to forestall an application on the part of those who use the utility for a substantial reduction. That is an Irish stratagem. Pat says that when he goes home expecting a hair-raising reception, he bursts into the house with blood in his eyes and venom on his tongue. He flabbergasts his spouse and the battle is won. His principle is that the best method of defence is an offensive.

If we do not have a downward revision of express rates on food commodities, we will have a lot of unpleasant thoughts in our mind. We feel certain that no increase will be tolerated. If it is actually proven that the express companies need more revenue, and it is just as easy to prove or disprove that as it is to state whether or not Vesuvius has exhausted its pep, then the burden should fall upon other commodities

than food. People may wear fine hats and fine clothes; they may indulge their fastidious tastes to the limit of their means. But people must eat. And to place food in the hands of the people as cheaply as possible should be a guiding axiom in the fixing of transportation rates.

PISCATORIAL PARAGRAPHS

A. Hanfield Whitman of the firm of Robin, Jones & Whitman, Halifax, has been appointed to the Biological Board of Canada. It will be remembered that the board was recently reorganized to include two practical men from the industry. Mr. Whitman represents the east and John Dybhavn of Prince Rupert, B.C., the west. Both these gentlemen are qualified to render valuable service to the industry and their selection should prove acceptable to all. A meeting of the reconstituted board is to be held at Ottawa shortly to frame a programme.

It is illuminating to compare the landings of trawlers operating on our Atlantic coast with those of British trawlers in the North Sea. Our vessels frequently land in excess of 225,000 pounds on a short trip. The following is typical of British landings: "Thirty-two local trawlers which had been to the North Sea grounds had an aggregate of 218 tons." Figuring on the basis of the long ton this would mean an average per trawler of less than 15,000 pounds.

A delegation from Washington has been to Ottawa recently to negotiate for the co-operation of Canada in an effort to put a stop to the smuggling of liquor into the United States. Should the government see fit to meet the wishes of our neighbor, it should also see fit to exact some concessions in return and we suggest that there are several that might be made in connection with the Atlantic fisheries.

FISH IN COLD STORAGE

Fish in cold storage in Canada on November 1, 1923, according to the Bureau of Statistics. Ottawa, was as follows:

	Fresh Frozen	Other in Cold Storage
Cod	722,965	610,140
Haddock	638,646	536,188
Halibut	4,111,402	32,198
Herring	1,733,782	595,181
Mackerel	1,463,618	27,589
Salmon	4,578,924	455,755
Smelts	79,687	6,397
Trout	166,881	4,653
Whitefish	197,904	5,553
Other	3,655,996	387,090
Total	17,349,805	2,660,744

Fresh frozen stocks show an increase of 5.62 percent over October, while the "other in cold storage" shows a falling off of 16.17 percent.

Free Cuts For Use of The Trade

The national publicity campaign to stimulate fish consumption in Canada is meeting with marked success. The first period of newspaper advertising terminated the middle of December. The second period will begin the first of the New Year and will continue until the last of March. Dealer propaganda has been delayed somewhat by the difficulty encountered in compiling a good mailing list. With the co-operation of the industry, however, it is expected this phase of organization will be finished by the New Year.

Since our newspaper advertising began we have distributed more than ten thousand cook books and we have received hundreds of letters from housewives which indicate that the campaign has hit them just at the psychological moment.

Circulars, posters and streamers have been printed for distribution among retailer dealers. As far as Ontario and Quebec are concerned these have begun to go out. The first circular is one offering free cuts. These are cuts that have been used throughout on newspaper campaigns. They are being used, too, in streamers and display cards and we hope to have dealers use them in their individual advertising.

Following herewith are reproductions of the free cuts available to the trade and anyone who can make use of them is invited to send along his request to the Canadian Co-operative Fish Publicity Fund, 485 Phillips Square, Montreal.

Fish



There's FISH to stuff
and FISH to bakes
There's FISH to broil
just like a steak;
There's FISH for chowder
and to fry;
Or any way you
care to try

EAT MORE FISH

(Also in larger size)



(Also in larger size)

Eat more fish

Bait Shortage Strengthens Sardine Demand

*Reorganized firm takes over Connors Plant at Black's Harbor, N.B.---
New Brunswick fishery news
(Special Correspondence)*

The first shareholders' and directors' meeting of the recently reorganized firm of Connors Bros., Ltd. was held in November at Black's Harbor, N.B., when A. Neil McLean, managing director of Seovil Bros., Ltd. was elected president of the concern. Lewis Connors, one of the partners in the original concern, who with his brother, P. W. Connors, built up the business, retires from the organization because of ill-health and his desire to rest after many years of strenuous business life, but P. W. Connors was elected vice-president of the reorganized firm and will be actively engaged in his former capacity as manager in charge of production.

The occasion was one of considerable interest to the people of Charlotte county and Lieutenant-Governor W. F. Todd motored from St. Stephen to present an address of welcome and good wishes to the newly-elected president and directors of the firm. Besides the directors and those immediately interested in the company, there were present Mayor McGrattan, of St. George, J. W. Seovil, M.P.P., and Randal J. Webber, of St. Stephen, Dr. C. C. Alexander, of St. George, A. M. Peters, of St. John, and others. C. F. Inehes, of the law firm of Inehes, Weyman & Ilazen, was present in his professional capacity, as was also J. M. Robinson, of J. M. Robinson & Son, Ltd.

At the shareholders' meeting the officers of the company were elected as follows: President A. Neil McLean; vice-president, P. W. Connors; secretary, J. M. Seovil; treasurer, Allan McLean. The board of directors was constituted of the following: A. N. McLean, C. H. Eason, B. M. Hill, P. W. Connors, H. P. Robinson, J. M. Seovil and James M. Robinson.

The company is capitalized at \$500,000 and the aim of the directors, as announced after their meeting, is to build up the business by the influx of this new capital so that the three staple products of Connors Bros., Ltd., Brunswick, Glaeier and Jutland brands of sardines, may be marketed by intensive sales efforts not only throughout Canada but in foreign countries. The plant, buildings, general stores, boats and stock in trade of Connors Bros., Ltd. have been taken over. Allan McLean, formerly secretary-treasurer of J. M. Seovil & Co., Ltd., of St. Stephen, will take up his residence at Black's Harbor to devote his whole time to the enterprise.

Maine Canneries Seriously Affected

The extensive sardine herring industry of St. John and Charlotte counties and of Washington county in Maine is facing a serious menace, according to the packers and Congressman John E. Nelson, who has been in the Passamaquoddy district, investigating that phase of the situation which has to do with a threatened imposition by the United States of a duty on the little fish and also on smoked herrings.

Congressman Nelson took the matter up with Secretary of the Treasury Mellon and has received a telegram from Eliot Wadsworth, assistant secretary, that a hearing will be held in Washington about Dec. 15,

at which all interested parties will be invited to be present. Should the department finally rule that these little herrings are not the products of the American fisheries, the business of 30 packers would be affected.

At least 75 per cent. of these herrings are caught in New Brunswick waters. Salt is thrown over them to keep them from spoiling, but if they were salted fish, so called, they could not be canned or used as sardines. Heretofore, the department has made no ruling that would prevent these herrings from going into Maine as products of American fisheries.

The United States Treasury Department last summer had inspectors on the Maine coast making an investigation, and it is understood that the department has seriously considered making a ruling that the sardines, herrings and smoked fish come under the salted fish clause of the tariff.

Roughly, if a ruling is made that these herrings are not the products of American fisheries, there would be a charge of one cent a pound or from 80 to 100 cents a hogshead on them, and packers maintain that the proposed ruling would put their factories out of business.

The yearly sardine herring pack in Maine in 1921 was 1,350,000 cases, valued at nearly \$4,000,000. The pack has reached nearly \$12,000,000 in value in a year.

Sardine Buyers' War

Towards the close of the sardine-herring fishing season in the Bay of Fundy, a buyers' war developed, according to Fisheries Inspector John F. Calder. This had been brought about by the competition of the buyers of lobster bait from Nova Scotia with the sardine packers. While the factories were paying \$10 per hogshead, lobster bait buyers raised the price to \$12. The canners then raised the price to \$12 per hogshead, but the lobster baiters coming in from Nova Scotia gave the price a boost to \$15. The canners later offered \$20 per hogshead. As a result of the competition as high as \$55 per hogshead was offered by the Eastport, Me., canners to fishermen at Campobello.

Fish were few on the Maine coast at the time, but some were caught in the weirs on Grand Manan, Deer Island and Campobello. Mr. Calder reported weirs at Grand Manan did exceptionally well in catching large net herring.

A great school of sardine herring struck in at Whitehead, Grand Manan, in November and the residents captured 300 hogsheads, which they sold to Lubec factories for \$10,500, or at the rate of \$35 a hogshead, which is equivalent to about \$1 a case.

The school helped several of the island fishermen to get partly on their feet after a bad season.

One fisherman said the reason for the way the fish have acted is that their natural enemies, the squid, pollock and whales, have not been pursuing them this year as closely as usual. Others think that the cold winter of last year had something to do with it, but the fact remains that the herring have not followed their usual custom, with the result that the pack will be less than 80 per cent. of normal.

New Brunswick Third

The fisheries of the Province of New Brunswick are exceeded in value by the fish harvest of only two other provinces in Canada. Hon. Dr. P. J. Veniot, premier of New Brunswick, stated at St. John on December 4, in replying to the toast, the Province of New Brunswick, during the luncheon given by President Beatty of the C. P. R. on board the C. P. O. S. Montelare.

Boiled halibut, with oyster sauce, was an important and delicious item of the menu.

At Shippegan, N.B., a breastwork was built last summer in front of the refrigerators of the W. S. Loggie Co. This will greatly increase the accommodation and facilities for landing and shipping fish.

A new company called the Shippegan Packing Company, with stockholders in Quebec, Shippegan, Lameque and other places, has lately been incorporated, and several buildings are to be erected to conduct business at Shippegan.

In upper Gloucester county the catch of cod and mackerel this year has been heavy and there are no hard times in Shippegan, Caraquet and Miscou.

Seals, along the East coast of New Brunswick towards the end of November, proved a great nuisance to fishermen, and caused a considerable loss of business. However, they are harbingers of a bountiful smelt crop.

for the fishermen know that they would not come so far from their natural habitat if there was not an abundant supply of food for them.

Smelts were reported to be very scarce in Prince Edward Island late in November and seals caused considerable damage to nets. On December 1, bag-netting took the place of gill-netting. American buyers were bidding high for smelts.

Fishermen at Chatham, N.B., made fair catches of smelts, early in December, but, owing to the mild weather, the fish could not be frozen; hence, the full value of the catch could not be realized. The fish caught are quite large and good prices prevail.

Recently a freight car supposedly loaded with sardines was hauled into the freight yards at Vanceboro, Maine. When the car was examined for an hour or more the alert customs men uncovered more than 12,000 quart bottles containing liquor. There were 485 cases of whiskey and 20 cases of wine. Among the liquor were 300 boxes of sardines billed to Cleveland, O., brokerage company. The seizure is said to be worth nearly \$75,000.

A market report received by the St. John Board of Trade in November, from Havana, mentioned only Scotch and Norwegian fish. It has been pointed out to our fish dealers that there is a good market in Havana for white naped cod.

Modus Vivendi Abrogated

Canada has advised the United States of its intention to terminate the policy of granting modus vivendi licenses to United States fishing vessels for the purpose of enabling them to buy bait, ice, lines, and other supplies at Canadian ports and also for the trans-shipment of their fish and the shipping of crews at Canadian ports. Announcement of this decision by the Canadian Government—a decision of great importance to the fishing industry in Nova Scotia—was made by Hon. E. M. Macdonald, Minister of Defence, in a speech at a mass meeting in Halifax recently.

Abrogation of the treaty will go into effect on January 1, 1924, the minister announced amid a storm of cheers. After that date United States fishing vessels will not be allowed in Canadian ports, except for the humanities, wood, water, shelter and repairs. This marks the latest phase in a long drawn out difference of opinion between Canada and the United States as to the rights of that country's fishing vessels to use Canadian ports. It comes in a measure as a retaliation for the placing of a tariff on Canadian fish by the United States and for the refusal of the Washington Government to give Canada a quid pro quo in the matter of port privileges for fishing vessels.

Way back in 1818 a treaty was signed by Great Britain and the United States provided that vessels of that country should not operate inside the three-mile limit of Canadian waters and vice versa. Then in 1888 the agreement for modus vivendi licenses for United States vessels as described above was put into effect by order-in-council. From that date until 1918 licenses were regularly issued to United States vessels in accordance therewith. During the continuance of the modus vivendi attempts were frequently made to secure for Canadian fishermen the same privileges in United States ports as were accorded United States nationals in Canada; but, up to 1918, nothing was done. In that year, the war being then in progress, arrangements were concluded for reciprocal privileges.

When the United States war legislation ceased to be effective on July 1st, 1921, the privileges terminated, so far as Canada was concerned; but this country still continued to extend them to the United States, in the hope that the country would again reciprocate. They have not only made no provision for the restoration of the 1918 arrangement, but by their tariff provisions have put additional duties on Canadian fish seeking a market in that country. As a result of the Canadian Government's decision, our fishermen will no longer have the handicap of the disadvantage with which they have competed with vessels operating out of Gloucester.

CARGO OF LIVE EELS

Three specially constructed vessels left the Lower St. Lawrence for New York City early in November with 100,000 pounds of live eels aboard. The cargo will retail in the metropolis during the holiday season as high as seventy cents a pound. Devices aboard the vessels permit the repeated intake and discharge of fresh water which keeps the eels alive and fresh. The latter range in size from three to six feet.

GERMAN TRAWLERS AT ABERDEEN

Once again the Aberdeen fish market has been invaded by German trawlers. Their repeated visits in May last so aroused the Scottish fishermen that the invaders were threatened with violence. Seven German trawlers early in November landed 225 tons of Iceland fish, while 32 local trawlers which had been to the North Sea grounds had an aggregate of 218 tons only. Extra large haddocks landed by the Germans sold at 4s a box more than the North Sea haddocks caught by the British boats.

Dry and Pickled Fish Markets

(An address Delivered Before The Maritime Board of Trade)

By A. H. WHITMAN, of Halifax, N. S.

The depression of the past year and now existing in the dry and pickled fish export trade is due to conditions quite beyond the control of either the fishermen or exporting houses, among which conditions are the following:

1. The poverty of the people of the fish consuming countries of Europe and South America, which has materially curtailed the demand, and owing to adverse exchange rates the consumers in their currency are paying comparatively high prices which, however, only net the producer less than pre-war figures.

2. The world's production of dry fish during the years 1921 and 1922 was an average one. The demand being less than normal, the natural consequence was that exporting houses in practically all producing countries felt compelled to consign large quantities of fish instead of, as was previously the custom, shipping mostly on c. i. f. orders. The resultant losses have been heavy. Fortunately Nova Scotia exporters have come through comparatively better than Newfoundland.

3. In 1919 Norwegian exporters of dry fish represented to their Government that during the war Canada and Newfoundland had taken from them several of their markets, and that in order to regain same, financial assistance was absolutely necessary. The government in response made available in the years 1920, 1921 and 1922 a total of about \$3,000,000. While the Norwegian government has now withdrawn from providing further funds, it is understood that there still remained available on June 1st last about \$300,000. Minimum prices were fixed for the fishermen and the government paid the losses made by the exporting houses who were allowed a commission—in other words a profit. Norway fish was freely consigned to Europe, Brazil, and Cuba, which added to the difficulties Canada and Newfoundland were already up against.

4. The 1923 catches of codfish as made by Norway and Iceland were 25% greater than in 1922. This year's European cure of fish is being offered in the consuming markets at very low prices—in fact below Canadian cost of production—so that while it is estimated that the Canadian and Newfoundland catches will be 25% less than in 1922, there is little prospect of marked conditions improving.

The natural result of the above conditions has been the curtailment in Canada of the production of dry fish. About half of the Nova Scotia shore fishermen, knowing that the ruling prices would not cover their living expenses, either emigrated to the United States or sought other employment in Canada. There was a decrease in the Lunenburg fleet of Banking vessels of 20%. In New Brunswick and Quebec about 30% of the fishermen have left their usual occupation. As a matter of fact our shore fishermen were really more discouraged than the situation warranted, mostly brought about by the fear of the consequences of the American tariff. For some years back the bulk of the codfish caught on the shores of the Maritime Provinces has been heavily salted in pickle to be sold without drying in the United States, or used for the domestic boneless fish trade. In the autumn of 1921 the Fordney tariff imposed a duty of 1 1-2c. per lb. on whole codfish, 2 1-2c. on boneless codfish in packages of

30 lbs. or over, and 25% ad valorem on boneless fish in packages of less than 30 lbs. It was generally thought that the price of codfish in Canada suitable for this trade must be lower than when codfish had free entry, and as our fishermen had difficulty under free entry to make a living, the prospect of lower prices compelled them to seek employment in the United States, or other occupation at home. When it was too late it was found that instead of prices ruling lower in the United States the market advanced 50c per 100 lbs. over the prices prevailing before the Fordney tariff became effective. There is, therefore, good hope that 1924 will see more shore fishermen at work than during the present season. I regret I cannot be as optimistic in regard to the Lunenburg fleet, the value of the output of same not being affected by the American market for which the product is not suitable. The Lunenburg Bank fishermen are in the same position as the fishermen of those districts which dry their fish for export—namely—up against the conditions outlined above which time only will right.

Pickled Fish

The Canadian export trade in pickled fish has in recent years dwindled to very small proportions. This trade was badly hit by the Fordney tariff—the United States being the biggest buyer of our mackerel and herring. The export trade in herring to the United States has been practically killed—the duty being \$2.00 per bbl. The marketing of spring mackerel has also been seriously affected. As a result our fishermen have practically abandoned the catching of herring, and owing to supplies of spring mackerel being rather excessive for what is practically the only market, Jamaica, the value has been reduced 50% and does not give the fishermen a living wage. It would also appear that the demand for pickled fish in the West Indies is steadily diminishing.

Work Out Our Salvation

I was asked to present some suggestions as to what could be done to help the fishery situation. I must confess I have nothing to put forward otherwise than a continuation of the efforts that are being made by those engaged in this important industry to carry on. Speaking for the concern with which I am connected, I can assure you that during the past two years it has not in most cases been a question of paying the fishermen the lowest price possible, but with a realization that the producer has been faced with prices that do not cover his cost of living, an endeavor has been made to pay as high prices as the situation warranted. I readily admit that this policy shows self interest in that the future prosperity of the exporting houses depends on the producer. There is danger that many of our fishermen who have this year abandoned their vocation for other employment, may be permanently lost to the industry.

In view of the great exodus of fishermen from the Maritime Provinces, I have recently been asked if the federal government should not in some way provide assistance. My opinion is that the result of government interference in Newfoundland and Norway has proven disastrous, and the Canada's great fishing industry will work out its own salvation. I believe that the fascination of the indepen-

dent life as lived by our fishermen will be sufficient inducement to bring them back to their original vocation, even before they can see that they can earn as much as they are receiving in other occupations.

In regard to the Lunenburg Bank fishery, I fear a further curtailment in 1924. While the Lunenburg fishermen and vessel owners have my sympathy—in fact I am an interested party, my company outfitting a portion of the fleet—at the same time I cannot but present the fact that the Lunenburg fishermen more or less refuse to help themselves. From 50c to \$1.00 per quintal, or say \$125,000 to \$250,000 could annually be added to their returns if they would adopt Iceland methods—namely—bleeding

the fish 18" and up in length when taken off the hooks, then properly splitting, whitenaping and thoroughly washing, before being put under salt. In spite of energetic efforts made by exporting houses the Lunenburg fishermen refuse to improve their methods. Today European codfish, originally no better than our Nova Scotia produce, is selling in Havana at \$2.00 per 100 lbs. over Lunenburg cure. Not only in this matter do the Lunenburg Bank fisherman make a direct loss, but a further loss is entailed by the exporter being limited in the disposal of the inferior Lunenburg articles to only a few markets, whereas a superior article would open up an export trade that at present is impossible.

Industry not Gone to the Dogs

There is nothing wrong with the Maritime fishing industry in general, and a "whale of a lot" wrong with the oyster fishing industry in particular, according to Ward Fisher, Inspector of the Eastern Fisheries' division, who addressed the Rotary Club at Halifax recently on "Our Resources in Fish."

Inspector Fisher made a point of swiftly dispelling the gloom which seems to exist with regard to fisheries.

"This business has not gone to the bow-wows," he said colloquially. "In 1914 the Nova Scotia fisheries totalled \$8,000,000 and kept increasing till in 1919 the business amounted to \$15,000,000. This was happening in war time. What are the facts since the close of the war? In 1921 the fish catch amounted to 237,000,000 pounds, which was valued at nine and three-quarter million dollars. In 1922 the catch amounted to 270,000,000 pounds, valued at ten million, two hundred and fifty thousand dollars. And this increase since the war resulted in spite of the fact that our fishermen did not have, as before the war, the markets of the world."

But Inspector Fisher had a different tale to tell in regard to the present year. "The present year in the fishing industry," he said, "is distressful, and will be the worst in forty years. There will be a loss probably of at least a million dollars and possibly of two million dollars, because we have not only lost the markets of the world, but also are in fierce competition with markets near home. But there is hope, for conditions in connection with our fisheries have been decidedly improved."

Some Improvements

The speaker proceeded to point out some of the improvements. The administrative service has been re-organized so that 75 trained men are giving their whole time to advancing the industry. There is an advance brought about by biological research, notably in the lobster canning business. The council of scientific research is doing good work in connection with improving dried fish. The pickled fish inspection act has had excellent results. The meat and fish and canned foods act has resulted in getting better quality in canned lobsters. And there has been an improvement in smoked fish, fillets, and other fish products. Finally, new avenues for the employment of fishermen have been discovered. In the matter of scallops, experiments with proper appliances have brought to

light the fact that we have infinite quantities of the finest scallops in the world.

"But," said Inspector Fisher, "our oyster trade needs looking after. Ten years ago P. E. I. produced the finest quality of oysters in the world and production amounted to 58,000 barrels. Last year the amount had decreased to 8,000 barrels. If the P. E. I. government would establish the industry on a proper basis with proper management, this would mean annually the payment to the people of \$500,000 in cash."

Bait Shortage

The inspector emphasized some needs that would assist in the development of the fisheries industry. A necessity is the establishment of a system of cold storage, bait, and ice plants. Every year there is a shortage of bait, and this means that there can be no fishing. "In Western Nova Scotia," said the speaker, "10,000 hogsheads of sardines for lobster bait are needed, but there are so far only 1,000 hogsheads available for next summer's fishing. There will be a bait famine, and this will put up the price of bait to \$10.00 per barrel — a prohibitive price, which will affect very detrimentally the lobster industry. The must be also standardization of dry fish products. Further, we must put up our fish products to meet the requirements of the present day market."

Inspector Ward concluded by making a suggestion which he thought feasible. He suggested the establishment of a separate biological station for Nova Scotia, which would do experimenting, put up fish as they ought to be put up, and teach proper smoking, drying, and curing of fish. He also suggested that the technical end of the biological station should be linked up with the Nova Scotia Technical College, and the biological end with the department of biology in Dalhousie university.

ANOTHER FAST FISHERMAN LOST

Ill-luck continues to pursue the fishing schooners which figured in the races for the international fishermen's trophy. The Elizabeth Howard, the unsuccessful contender in two elimination contests to choose the United States representative in the international event, was wrecked off Porters Islands, New Brunswick early in November. The vessel is a total loss but all members of the crew are safe.

Record of Lunenburg Fleet

A review of the activities of the Lunenburg fishing fleet this season, indicates that while this time last year found the entire summer catch without buyers, there is fair demand this year for all available marketable fish at \$7.00 a quintal. Last summer's catch did not start to move until after the first of the present year, when sale was found at \$7.25 a quintal, dropping later to \$4.75.

This year only eighty vessels fished out of Lunenburg the lowest number in eighteen years. During that period the largest fleet was 136 vessels, in 1913, and only rarely did the summer fleet number less than one hundred.

The catch last summer was 194,225 quintals. Captain Abram Cook, veteran high-liner, again led the fleet with 4,600 quintals in the Schooner George M. Cook, Schooner Pauline Mosher was second with 4,500, and the former champion racing schooner, Bluenose, was third with 4,300 quintals.

The following statement, shows the number of vessels engaged, the catch per vessel, and the total catch for the last eighteen years.

Year	Vessels	Qntls.	Average catch per Vsl.
1906	134	120,970	902
1907	109	123,625	1,135
1908	110	136,180	1,256
1909	93	173,582	1,866
1910	102	217,400	2,051
1911	122	217,450	1,774
1912	136	211,080	1,552
1913	121	211,405	1,747
1914	118	154,065	1,605
1915	118	227,245	1,927
1916	106	217,060	2,060
1917	95	256,215	2,698
1918	103	247,395	2,400
1919	106	295,150	2,784
1920	117	291,475	2,405
1921	95	269,830	2,840
1922	100	317,050	3,170
1923	80	194,225	2,428

The frozen baiting catch of 20,850 quintals sold at \$5.80, against \$8.00 last year.

The spring catch of 47,150 quintals sold at \$5.50, against \$7.75.

The summer trip of 126,225 quintals is selling at approximately \$7.00 per quintal, with a large portion still unsold.

It will be seen that the fleet was reduced by twenty sail, since last year. The great demand for schooner by Americans and outsiders, and the inducements in contraband freights, accounts in large measure for the reduction in the fishing fleet.

The following are the names of the vessels, captains, and catch per schooner for the season for 1923.

- Daisy Marguerite, Mossan, 2,400.
- Glacier, Knock 3,100
- J. E. Conrad, Corkum, 2,925.
- J. H. McKenzie, Silver, 2,200.
- Hermada, Corkum, 2,150.

- Alsatian, Deal, 1,800.
- Hermone, Creaser, 2,750.
- Lauretta Francis, Spindler, 3,000.
- Bertha Walters, Spindler, 500.
- Donald Creaser, Creaser, 2,200.
- Mary Pauline, Romkey, 2,100.
- Eugene Creaser, Creaser, 1,900.
- Selma Creaser, Creaser, 2,200.
- Delawana, Cook, 2,200.
- Agnes McGlashen, Wamback, 2,100.
- Clara Creaser, Creaser, 2,800.
- Mannata, Risser, 2,600.
- Annie Gerhardt, Gerhardt, 2,800.
- General Haig, Bachman, 3,000.
- Bernice Zink, Zink, 1,700.
- Dorothy Adams, Berringer, 2,000.
- Marian Adams, Parks, 2,700.
- J. H. Sinclair, Crouse, 2,600.
- Ruth Adams, DeCoursey, 2,100.
- George M. Cook, Cook, 4,600.
- Edith Newhall, Mosher, 3,150.
- Vivian Smith, Wharton, 3,100.
- Bluenose, Walters, 4,300.
- Gladys Mosher, Mosher, 3,150.
- Democraey, Zink, 1,100.
- Mahaska, Maek, 2,200.
- Gilbert Walters, Walters, 2,800.
- Nina W. Corkum, 3,150.
- Francis Smith, Corkum, 2,850.
- Joyce Smith, Maxner, 2,300.
- Mary Hirtle, Cleveland, 2,700.
- Alfour J. Balfour, Crouse, 2,600.
- Margaret Zineck, Lohnes, 2,500.
- Uda R. Corkum, Corkum, 2,450.
- Francis Spindler, Spindler, 2,300.
- Grace P. Brown, Beek, 2,300.
- Elsie M. Hart, Meisner, 2,800.
- Pauline Winters, Winters, 3,150.
- Luck Corkum, Corkum, 3,100.
- John D. McKay, Mossan, 3,000.
- Frank Baxter, Westhaver, 1,900.
- Neva Bell, Wentzel, 2,600.
- Kathleen Creaser, Creaser, 2,400.
- Grace Bohner, Mossman, 1,500.
- Marian Elizabeth, Westhaver, 2,350.
- S. B. Hirtle, Heisler, 1,700.
- Jean Smith, Selig, 1,700.
- Vera P. Thornhill, Thornhill, 3,000.
- Marian J. Wolfe, Harris, 2,500.
- Coral Spray, Wamback, 2,450.
- G. W. Rhuland, Myra, 2,350.
- Alicante, Rowkey, 1,400.
- Pauline Mosher, Mosher, 4,500.
- Lucille Colp, Mosher, 1,075.
- Ocean Maid, Himmelman, 2,300.
- Jennie Elizabeth, Riteey, 2,650.
- Mary Ruth, Conrad, 2,800.
- Clayton Walters, Walters, 850.
- Keno, Himmelman, 3,150.
- Annie Conrad, Richard, 1,500.
- R. M. Symonds, Ernest, 1,750.
- Ada M. Westhaver, Westhaver, 1,350.
- Silver Thread, Getson, 2,300.

Irene B. Corkum, Corkum, 3,200.
 J. W. Margeson, Ross, 2,450.
 Vera Himmelman, Wentzul, 2,100.
 C. W. Anderson, Knickle, 1,800.
 Lois H. Thomas, Himmelman, 3,450.
 W. E. Knoek, Deal, 3,200.
 Harold Conrad, Conrad, 1,500.

Norma Coolen, Fudge, 2,450.
 Nina Conrad, Conrad, 2,200.
 Norma Conrad, Heckman, 375
 Mona Myree, Ritecy, 2,000.
 Margaret Smith, Whynacht, 3,000.
 Total catch, 194,225 Quintals.
 80 vesels, catch per vessel, 2,428 Quintals.

New Method of Utilizing Fish Wastes

(From Chemical & Metallurgical Engineering)

Scrap is always to be found in a fish cannery. As the canning industry grows, the disposal of this waste material is becoming increasingly important. That the industry is growing, especially on the Pacific coast, is evidenced by the fact that one of the first gunboats scrapped under the international agreement is to be used for fishing purposes. The efficient utilization of scrap and of non-edible fish for fertilizer and for fish-oil production constitutes a unique problem of chemical engineering. The scrap if allowed to accumulate, becomes not only a nuisance but an actual menace to health. For that reason it is usually imperative that some inexpensive method of disposal be resorted to. On the western coast, because of the growth of the industry, considerable interest has been aroused in the Miller fish waste machine, which has been devised to make profitable products from the offal.

Fish oil and fish meal are commodities for which there is usually a market. The former is used to a considerable extent in the leather, paint, varnish and soap industries, salmon oil being especially adapted for use in leather dressing. The fish meal that results from drying the scrap from which the oil has been expressed is used both as a fertilizer and as a feed for livestock. These materials are the natural by-products of the fish cannery as well as the direct product of the fishing industry itself, where fish unsuitable for food are caught on a considerable scale.

The processing of the fish waste to obtain oil and meal has been carried out by various methods in the past, usually with the evolution of especially disagreeable stenches. The method developed by Stanley Miller is interesting in the compactness of the apparatus employed and in the apparent economies of operation. This device employs the fundamental principles of chemical engineering very effectively—disintegration in the preparation of the waste, expression in the removal of the oil, drying in the forming of the meal and further disintegration in preparing the meal for shipment. A unique feature is that the entire process takes place in a machine built as a unit, 27 ft. long, 10 ft. wide and about 15 ft. high. A further feature is the substantial elimination of the usual objectionable odors and other nuisances incident to the older methods of fishmeal manufacture. It is maintained that the new machine, when operated in the same building where foods are being prepared and packed, gives rise to no menace whatever.

How the Process Works

The apparatus is installed as near the cutting room as possible. A conveyor connected with cutting room tables transfers the scrap fish directly into the feed hopper of the machine. The material is cut up there with a special cutter contained in the hopper. This cutter allows the use of whole fish or of fish scrap at one time, as the material is all chopped or cut to the same size, making a uniform and continuous feed.

The cut fish is next conveyed to the continuous pressure cooker, where a constant pressure can be maintained, by

the adjustment of the reducing valve, after it is adapted by the operator to conform to different fish. For example, herring and salmon scrap must be cooked at different temperatures. This regulation is made possible by simply adjusting the pressure at which the material is cooked.

After the material is properly cooked, it passes through the continuous screw press. This press has a number of new features—an important one being simplicity in cleaning, this being accomplished by a special device whereby the press can be thoroughly cleaned in 5 minutes' time. From the screw press the course of the material, substantially oil free, is into the drier, which is of the rotary double drum type, especially adapted for this purpose running practically the full length of the machine. The primary object of this drier is to have the most intense heat, supplied by combustion of oil, come into direct contact with the meal directly from the press. This starts evaporation instantly, and as the evaporation starts, the temperature is immediately reduced below 212 deg., therefore there is no chance of burning or discoloring the meal in any way. After the meal is discharged from the drier, it is conveyed to the grinder, which can be set for any desired fineness, and thence into the hopper ready for sacking. It is possible in this way to keep a cannery in a clean condition by eliminating all storage of the fish offal for even a few hours.

The plant when in operation works very simply. Only two men are required to operate it to capacity, providing the material (fish or fish scraps) is fed to the machine by some automatic means. One of the chief aims has been to devise a machine of sufficiently low cost to place it within the profitable range of operation for a small cannery or packer. The power consumed when handling 2 tons of scrap per hour is 15 hp.

The standard unit—as now developed—is continuous, clean and seems to be economical to operate. It handles from 3,000 to 6,000 lb. raw material per hour, depending upon the type of fish used. Costs based on actual tests, as given out by the maker, show that when installed in a plant reducing 20 tons of fish waste per day, operating under fuel and power costs of the Pacific States, a net profit of close to \$10 per ton of offal may be realized at present by utilizing this method of by-product recovery. Because of the considerable flexibility of operation, the tonnage put through a given unit may be varied considerably without affecting the product.

Fishing Schooner Burned

The Lockeport, fishing schooner Dorothy L. Bill, recently built at Shelbourne, was destroyed by fire, five miles off shore on November 4. Her crew of seventeen escaped in three dories, and rowed to shore, arriving at Lockeport after a five-hours' row.

The fire was caused by an explosion of the vessel's gasoline engine which set fire to the cabin.

What Research Does For The Canning Industry

By W. R. DRYNAN
Dominion Cannery, Limited, Hamilton

The art of canning was discovered by a Frenchman, Nicholas Appert, in the latter part of the eighteenth century, to meet the needs of Napoleon's soldiers. He, however, did not call it canning because he used glass jars — the tin can was to be invented later. It was a development of the American Civil War.

In 1765 the science of canning began when Spallanzani, an Italian, working on meat extracts, concluded that spoilage in preserved goods was due to something invisible, which entered into the container from the air — an early hint of what we now know as germs. He found that if these invisible things were killed by heat and the goods sealed so that no more could get in from the air, the goods would keep. Appert, recognizing this great fundamental fact, applied this principle to his experiments. So from these small beginnings has been built the great canning industry as we know it to-day.

No Material Changes

The principles of preserving food by hermetically sealing and sterilizing by heat have not been materially changed since Appert's discovery. The former growth of the canning industry was due to various improvements in the mechanical equipment. Yet to-day it faces industrial stagnation. No new machine can be expected to give the required new life. What is the solution?

What has chemistry to offer? First, broad research for the development of new and improved processes; second, the utilization of canning wastes; third, chemical control of factory.

The chemist's ideal in the canning business is to turn out uniform products uniformly good. He has the training to accomplish this end. In the tomato pulp, one degree brix in specific gravity makes a difference of over twelve gallons in every hundred gallons of the finished product. The eye of the experienced cook is not accurate enough to manufacture uniform products. It pays to use instruments of precision in the hands of experienced men. If a consumer purchases a bottle of catsup or a can of goods from his grocer and it proves to be of good quality, he can rest assured that the next can of the same brand will be equally good, if that firm packs goods under real chemical control. The general public have confidence in those firms which advertise chemical control of their products.

Before the canning industry became acquainted with the chemist it suffered severe annual losses from the spoilage of goods. Apparently all the processes were being carried out in the same way. The same rule-of-thumb method had been practised on all the pack, yet one lot of goods would have a high percentage of spoilage and another lot would be practically free from it. What was the cause? Both had been treated in the same way, filled into the can and cooked for the same length of time. They were practical men and did not possess the necessary technical equipment to study the cause of spoilage. The chemist is trained for exactly that work. He studies the effect of the slightest change in the process. In one case the chemist discovered that dropping apples in a particular pro-

cess into a bath at a temperature of twenty degrees higher than had been used, prevented subsequent spoilage of the goods.

The chemist found that the initial temperature at which the goods entered the can was an important part of the process. Goods which entered the can at ninety degrees were successfully sterilized in the cook while the same product entering the can at fifty degrees was not sterilized.

Then again the processor did not always realize the importance of working the goods at the same temperature for the same length of time. The research chemist discovered that a spore of a particular organism of spoilage requires for its destruction to be heated twelve minutes at two hundred and forty-eight degrees F. or sixty minutes at two hundred and forty deg. F., or one hundred and seventy-five min. at two hundred and thirty degrees F. These are factors which could only be found out by research and not until then was brought home to the canner the great importance of securing the correct combination of time and temperature.

The non-scientific canner says, "Well, I'll make sure of it and heat twenty minutes at 250 deg. F." But here again scientific research shows the mistake. For many years peas had, under the method of process, a cloudy liquor. A slight reduction in time of cook proved sufficient to give an attractive, sparkling liquor. Discoloration is sometimes caused by a quick, high temperature process as in sweet potatoes, but not in a longer lower temperature process. The can of goods is sterilized only when the centre of the can reaches the temperature sufficient to destroy the organism of spoilage. Through research, apparatus has been invented to determine the time and temperature factors for the various products. Again research has demonstrated that acid foods such as fruits require for sterilization a lower temperature than non-acid foods such as vegetables. Only through research by trained men can data of this kind be obtained and tabulated for the practical canner's use.

If the canning industry is going to meet with the success which it deserves it must be ever endeavouring to place before the public not only an article of uniform quality, but a better one. For instance, after research was applied to asparagus a better article resulted when the old process of cooking in an open bath for a considerable length of time was abandoned for a new process of cooking above 230 deg. F.

Science Saves Space

A few years ago apples were placed in gallon cans, with the addition of water. The net weight of the apples was scarcely sixty ounces. Research devised a method whereby as much as one hundred ounces of apples could be placed in a can. This resulted not only in a great saving in storage, freight, etc., but it was also found when the new process was carefully carried out, the color, texture and flavor were greatly improved.

The processor must not only be careful that goods be heated sufficiently to effect sterilization but that subsequent cooling be carried out with care. Re-

search has demonstrated the fact that some products must be cooled quickly to room temperature after sterilization. In certain classes of canned goods there are spores known as thermophilic, which develop and cause spoilage only when the goods are held at a temperature of 140 deg. F. for some time. These spores are not destroyed by the high temperature of the process but give no trouble at the ordinary temperature at which goods are stored. Corn is a product which, because of its heavy consistency, cools very slowly. It remains for a long time if allowed to cool slowly in the air, especially when piled in close formation in storage at a temperature favorable for the development of thermophilic bacteria. Research, therefore, has discovered that not only thorough processing should be carried out, but that in many products, especially of heavy consistency, artificial cooling should be employed.

Science has discovered the importance of the time which the raw product is allowed to remain standing before being canned. Asparagus, after standing forty-eight hours, has developed fifty per cent. poor quality as judged by bitterness and color. Peas allowed to stand more than four hours become tough, lose flavor, and quite often commence to decompose, resulting in flat sours. Corn, if allowed to stand overnight, loses forty per cent. of its sugar content. These are just a few of the facts which the application of science to food products themselves has demonstrated.

Pin Holes in Cans

From the point of view of the container the canner has met with many troubles, especially with fruits, of what is known as pinholing. The pin hole forms in can, giving access to the organisms of spoilage. Research has demonstrated that this is action which starts from the inside of the can and is due to the acid in the fruit in the presence of oxygen. The obvious remedy, then, is to secure a better coating of tin on the inside of the can, protected in some cases by enamel, and reduce the amount of oxygen in a can of goods by obtaining a higher vacuum. This method has given results.

Occasionally discoloration or a peculiarity of flavor is developed in a pack of goods, the cause of which the canner has been unable to determine. A few years ago a peculiar discoloration occurred in some canned goods. A chemical test showed no appreciable amount of foreign substance, but a scientific survey of the entire process disclosed that the goods had been cooked in copper containers, thereby leaving a slight trace of copper, which later caused discoloration. Tinning the copper vessels overcomes the difficulty.

Effect of Different Heats

The application of these principles to the manufacture of jam and jellies reveals some very interesting facts. It was found that a batch of orange marmalade which would yield 160 lbs. when taken off at 219 deg. F. would yield 148 lbs. if taken off at 220 deg. F., and 130 lbs. if taken off at 221 deg. F. In the packing of fruits in syrups it is essential that the processor have sufficient instruments to determine specific gravity of the syrup at its boiling point. No two syrups of different concentrations have the same boiling points and therefore the use of an instrument calibrated at a certain boiling point gives false results. Many thousands of dollars are annually lost in this manner.

Use of Waste Products

Some industries have succeeded in utilizing waste products in such a way as to meet all operating costs. A great variety of waste products are found in the canning industry. A few of these have been successfully turned into valuable by-products. A factory which packs corn has annually many tons of corn cobs which go into silage and are sold as cattle feed. A process has been developed whereby adhesives, rare sugars, such as xylose and furfural, can successfully be extracted from the cob. Another notable example of the use of by-products now attracting great attention is pectin. The pulp of the apple is for ordinary canning purposes, the cores, skins and trimmings are pressed for vinegar stock, the remaining pulp reprocessed, and pectin, a valuable product in jelly manufacture, is extracted.

The Ptomaine Bogey

For a number of years the general public attributed the cause of many cases of food poisoning to canned goods under the misnomer of ptomaine poisoning. This became so serious that when a case of even mild poisoning occurred, the question was, "When did you last eat canned goods?" This was reacting very unfavorably on the canning industry and was brought to a head something over three years ago when there was a general outbreak of what is known now as botulism, in the middle western states. This was supposed to have resulted from eating ripe olives. A systematic study was made of reported canned foods poisoning cases. The result was that the "ptomaine bogey" was entirely exploded and it was found that botulism rarely occurred except in warm climates, and then only in certain foods. Research, however, demonstrated that even this could be eliminated and that canned foods of standard quality were safer than garden truck. The olive packers, after suffering a severe setback, have now applied these scientific principles, and the general public, realizing that it can absolutely trust a system of chemical control, are rapidly bringing back the olive consumption to normal.

Formerly dietitians based food values in calories, and composition in proteins, fats, carbohydrates and inorganic sales. Quite recently it has been demonstrated that foods contain another very essential element with peculiar properties, known as vitamins. Although many of these are not supposed to be able to withstand heat, it has been demonstrated that under the methods employed in canning, most canned goods have a very high vitamin content. A bulletin by E. F. Kohman of the National Canners' Laboratory, illustrates this fact very nicely. Research, then, has shown that canned foods are extremely valuable from the nutritional standpoint. If these facts are properly used, canned food consumption could be greatly increased.

The general public are now endeavoring to buy foods of high nutritional value. This change has been eagerly brought about by an efficient advertising campaign. Research affords the necessary data to carry on sound advertising. The public is interested in vitamins but does not yet realize that canned goods are rich in vitamins. Research showed that canned tomatoes have a high vitamin value and the juice is now extensively used in place of orange juice in infant feeding. The consumer has just come to have confidence in the superior quality and uniformity of the packers who employ research chemists.

School of Fisheries at Last

Halifax selected for fishermen's educational institution -- The government's plans

At last Canada is to have a school of fisheries. It has been agreed between the Biological Board of Canada and the Fisheries Department, Ottawa, that the special appropriation of \$70,000 made by the last session of parliament, shall be applied, largely if not in its entirety, toward the establishment of a practical school for fishermen and workers in various departments of the industry. Halifax has been selected as the logical site for the school, in the first place because of its being a fishing port and a centre for the industry, but beyond that for the peculiar co-operative facilities existing there. There is the technical school and also Dalhousie University, both of which institutions will be of value as aids to the enterprise. The heads of both of these institutions, along with commercial leaders in the industry, have long been advocating such a school and the action taken by the authorities will be universally gratifying. The new school, which is to be patterned very closely on the lines of Dr. J. N. Cobb's College of Fisheries, Seattle, will fill a long-felt want. It will close the gap that has existed between the scientific and the practical branches of the industry. It will afford budding scientists the means to apply their ability and training to the solution of practical problems, and, on the other hand, will enable practical workers to study the methods of science and make commercial use of the numerous and frequent discoveries.

It is the intention to proceed at once with the construction of the necessary plant and equipment and unless plans go awry the institution will be functioning next season. Should the experiment prove successful, and the record of the college at Seattle and that in Japan, would seem to leave no doubt on the score, it is the idea to locate similar schools at other fishing centres.

What Scheme Involves

In brief, the following gives a fair idea of what the project involves, and the purposes it will serve:

1.—A suitable building is to be erected at a central place in Nova Scotia, to which fishermen, fish curers and others directly interested can be conveniently gathered for instructional purposes, and where scientific and technical workers and instructors may be most readily available.

2.—The building is to consist of a chemical laboratory for carrying on the preservation and curing of fish of

various kinds, by salting, drying, canning, smoking and pickling, on the analysis of fish oils, of oils used in canning and of salt used in fish curing; also researches on the utilization of fish offal, and waste for the most economical production of fertilizer oil, glue, etc.

3.—A model fish canning equipment where demonstrations and instructions in the best methods of canning fish of all kinds may be given.

4.—A model fish drying plant for testing and demonstrating the effect of salt and temperature on dried fish, and where demonstrations and instructions will be given in the best methods of curing.

5.—A section for demonstrating and giving instruction in the best methods of curing various kinds of fish in pickle, including the preparation of boneless fish.

6.—A model smokehouse where demonstrations and instruction may be given in the most approved methods of smoking fish of various kinds.

7.—A museum or lecture room which will be furnished with models and photographs of boats and vessels of different types used in the fisheries in the principal fish producing countries, of nets, lines, traps and other fishing gear, of curing establishments, etc., and the utensils used therein; and where lectures will be given on all phases of the fishing industry.

8.—In addition to the instruction to be given at the central station, qualified instructors from the station will as far as it is possible to do so, carry the work of instruction to the fishing villages. This will necessarily be limited at first, but in time it is hoped to greatly expand this means of diffusing knowledge for the central station.

Must be of Benefit

The fishing industry will be bound to be benefited by the large number of young men who will be enabled to engage in research work and thus become interested in its growth and development.

It should also be pointed out that improved methods of curing, salting, packing, etc., are essential to the successful marketing of fish abroad. Canada's principal competitor, Norway, is adopting the most modern and scientific methods in the development of its fisheries and it is only by doing likewise that we will be able to increase our foreign markets.

Extensive Scallop Beds Discovered

The following interesting report has been made to Ottawa by the captain of the Fisheries Protection Vessel "Arleux":

"I beg to report that on November 15 the "Arleux" proceeded to the Lurher fishing grounds searching for scallop beds.

"We found three new beds which have not been tried which have every indication of being good scallop grounds the bottom being suitable for operating scallop drags.

"The first bed located is three miles N. N. W. from the Lurher light ship, the second is N. N. W. 3.5 miles from

the Lurher light ship, the third is N by W 6 miles from the Lurher light ship.

"I think this entire section has scallops in quantities which will pay good dividends to boats properly fitted for catching scallops. The depth of water varies from 44 to 55 fathoms but the boats fishing off Digby catch scallops in a similar depth of water. It is quite possible that these beds are really one large bed on which scallops can be found in paying quantities. There are indications that scallop beds exist in various places north of this bed towards and on the fishing ridges 10 miles west of the south west Brier Island buoy."

QUEBEC POLICY CONDEMNED

From le "Prix Courant"

A few days ago one could read in the newspapers of our province, that the fishermen were getting together to form an association with the object of increasing the fish trade on the North Shore and on the shores of Gaspé. This association, the papers relate, would be formed in the principal centers, with the help of the provincial government who would send representatives to organize this work.

The Co-operative Federal de Quebec has decided to come in closer touch with the Gaspesian shore fishermen and furthermore will buy their fish direct and in large quantities. This plan was supposed to lower the price of fish on the Montreal market and produce more advantageous conditions for the fishermen. This plan with the government help was to take effect before long. So it seems the government now proposes to take a new line of commerce under its wings as it did with the liquor business. In the former case the advantages it offers will be, they say, public interest, consumers interest and the fisherman's interest.

Must we look at it this way?

Certainly it is plausible to try and increase the volume of catch as well as the quantity of fresh fish offered to the public, but is this not a bit like starting to read a book at the last chapter and starting a fight with the firm conviction that it is already won, a larger catch will not increase Canadian consumption—and we sincerely believe that the publicity campaign, suggested by the Canadian Fisheries Association, would be more urgent and useful.

But there is another thing. Would not this new monopoly that the government would assume, result in the inevitable demoralisation of the fishing trade? This is the usual effect when the State competes against the individual. Having to compete with a rival that is much stronger than he, the merchant soon is forced to unsavory methods, that up till now were sincere, and, moreover, he will prefer dropping the fight against an inferior mechanism but one which is equipped with abundant resources. Will there be a legitimate merchant who will take his work to heart when two large and menacing shadows like the provincial government and the Federative Co-operative are hanging over him?

Our own province of Quebec has always been noted as a model province, particularly because our natural resources have always been developed by personal efforts; but since two or three years it is not thus, so is it not excusable for us to write, that we would surely like to hear those praises about the Province of Quebec again?

The Province of Quebec is in a flourishing financial situation. Is this not due to the fact that our Government since three years have passed the Quebec Liquor Commission has come, and all will admit that the results have not been satisfactory, if one compares the net receipt for the sale of permits—the province received before the present law and the latest figures of the Commission after confiscation deductions. As for the future we believe that the commission is only on the first step of ladder of difficulties.

But this is not all. Does not the Government organization protest the Federative Co-operative, who by definition competes unjustly with the regular commerce of farm products? and also does not the Banque Rurale, which is only new and inspired by the Government, compete against the financial institution not on a "service" basis, but by exploiting popular sentiment?

And now they are trying to grab the fishing industry!

Shall we let them do it as easily as they think it can be done?

WALTERS CLAIMS TROPHY

Apparently the last has not been heard of the unfinished international fishermen's races this year. At a special general meeting held at Lunenburg, N. S., November 21, of the shareholders of the sch. Bluenose Company, Ltd., a resolution was adopted approving the conduct of Capt. Walters and the crew of the Bluenose in the 1923 international fishermen's races at Halifax.

The meeting also authorized the managing director of the company, Capt. Walters, to take such action as in his discretion may seem fit and proper to protect or enforce the rights of the sch. Bluenose, her master, crew and owners in the matter of the north Atlantic fishermen's trophy and the prize money appropriated to the schooner winning the races."

The week before, the solicitor for the Bluenose company wrote the trustees of the trophy, who are keeping it at Halifax as a result of the international race committee having declared the 1923 races unfinished and requested that the tankard be handed over to Capt. Walters. The solicitor requested an early reply and hinted that legal action might be advisable if the trustees refused to give up the cup. The trustees replied that inasmuch as the international race committee before disbanding had decided that the trophy should be held by them in trust until next year, they had no course to them but to abide by that decision.

The shareholders of the Bluenose Company, after learning the attitude of the trustees, decided to back Capt. Walters, and have given him "carte blanche" to act as he thinks fit. This decision was not reached without much discussion. Just what steps Capt. Walters will take is problematical, but many Lunenburg people would not be surprised if he carried the dispute to the courts.

THE LOBSTER INDUSTRY

Lobster is the most important fish in Quebec and Prince Edward Island, ranks second only to cod in Nova Scotia, whilst it is also the first of fish products in New Brunswick. This great fishery gives employment to thousands of men in the Maritimes, and is sending its products in a fresh and canned state to expansive world markets.

The value of the eastern Canadian lobster catch in recent years has not varied very greatly. The catch in 1918 amounted to 432,341 cases, with a value in its green state of \$2,999,989. 1919 the catch amounted to 264,096 cases valued at \$2,123,406. In 1920, 376,855 cases were taken worth, in that year of higher values, \$4,249,480. The 1919 catch of 371,923 cases was valued at \$2,962,487. The year 1922 was a fine one in this regard, and figures show a substantial increase in both volume and value.

Whilst the market for the fresh lobsters of the Maritimes is entirely in the eastern United States, almost three times as many are canned and go to world markets—the United Kingdom, United States, Argentine, Belgium, Denmark, France, Greece, Newfoundland, Norway, St. Pierre and Miquelon, and Sweden.

In the last fiscal year a total of 72,926 cases of fresh lobsters worth \$1,403,257 were exported, all going to the United States markets. Canned lobster exports amounted to a total of 72,440 cwt. worth \$3,756,443. The three principal customers for canned lobsters are the United Kingdom, which last year took 33,249 cwt. worth \$1,797,467; France, which took 15,993 cwt. worth \$820,557; and the United States, which took 15,691 cwt worth \$736,521.

The canning of the lobster is, in the Maritime Provinces, naturally an important industry, whilst steps are being taken calculated to increase its importance in Quebec. In the Maritimes there are upwards of 600 canneries licensed to can lobsters.

Expedition to Study Whales

The acquisition of the *Discovery*, the vessel built for Captain Scott's first Antarctic expedition, for scientific investigation on whales and the remote seas they inhabit, is a step of advantage to zoological knowledge and to a precarious industry. It is a first result of the work of an interdepartmental committee appointed by the Colonial Secretary in 1918, to inquire into research and development of the dependencies of the Falkland Islands, and, more remotely, of the active interest taken in whales by the British Museum of Natural History for many years, writes a scientific correspondent in *The Times*.

The "right" or whalebone whales and the toothed whales, including porpoises and dolphins, are the least known of existing mammals. It is not even certain if they are of common lineage, rightly placed in a single "order" of mammals, or if complete adaptation to a strictly aquatic life has not brought about a convergent resemblance between two groups of mammals as little related as, say, the elephant and the armadillo. Their place among the other orders of mammals is doubtful. Creatures like seals and walrus are clearly carnivorous land mammals that have faken to a marine life secondarily, and still betray their terrestrial origin in their structure and in their habit of coming ashore to breed.

Whales are truly pelagic, becoming stranded only by accident, conducting all their affairs, including courtship, birth, and the rearing of the young, on the high seas, and showing in every detail of their structure so intimate a fitness for the waters that they might almost be survivors from an epoch in which there was no advanced terrestrial life. Fossil history throws no light on the origin of the whalebone whales and hardly does more than suggest a possible closer approach to the toothed whales, although, indeed, the latter can be traced back to more primitive and generalized creatures resembling the common ancestors of carnivores and insectivores.

It is not even known if the whales found south of the equator, and given names by whalers identical with those of northern waters, belong to the same species. The porquals, or "finners," which comprise the most gigantic and swiftest of the whole order, are supposed by some authorities to visit all the seas in the course of cosmopolitan migrations, but by others it is suspected that were they more known specific differences would be discovered. The breeding places, probably in warmer waters, have yet to be ascertained, and there is uncertainty even about the food. Toothed whales for the most part hunt a larger prey, pursuing and capturing fishes of all kinds. Whalebone whales swim open-mouthed along the surface, sifting the myriad and minute floating life in their baleen plates, but some of them also capture fish.

Rise and Fall of Whaling

Sir Sidney Harmer, who as director of Natural History departments of the British Museum, has succeeded to his predecessor, Sir William Flower, has repeatedly called attention to the grave danger attending unrestricted whaling. The pursuit of the Atlantic right

whale in the Bay of Biscay was active from the twelfth century, but has now ceased on account of the practical extermination of the quarry. The Greenland right whale was pursued to exhaustion successively off Spitsbergen, in the Davis Straits, and in the North Pacific and Behring Sea. The introduction of the modern harpoon gun made it possible to attack the large and swift porquals, and the industry is now concerned chiefly with the humpback, the fin, and the blue whale. These have now been seriously reduced in northern waters, but since 1905 have been profitably attacked on the edge of the Antarctic ice.

The method of the industry has also changed. The captures are no longer stripped of their blubber and whalebone at sea, but are towed to elaborate factories on shore. In these establishments almost every part of the carcass is utilized. Train-oil, sperm-oil, spermaceti, baleen, and ambergris are carefully prepared. The meat is used as human food and is held to be excellent by those who have tasted it. The refuse and the bones are turned into various forms of guano.

The favorite localities are in South Georgia and the South Shetlands, islands which are dependencies of the Falklands and therefore under British jurisdiction, although actually the commercial interests are largely in the hands of Norwegian firms. The question which it is hoped to resolve by the work of the *Discovery* is whether or no Antarctic whaling is in danger of the fate which has overtaken northern fishing. In a single year as many as ten thousand whales were captured and brought in. The leaders of the industry urge that as these whales have enormous regions open to them the toll now taken in a restricted area cannot seriously affect their numbers. But Sir Sidney Harmer pointed out in *Nature* recently that there is no certainty on this point. Whales are migratory creatures, and on their circumpolar voyages in quest of food they must pass through the narrowest part of the Antarctic Ocean, in which South Georgia and the Shetlands lie. The industry may be attacking not merely a small part of a widely distributed fauna, but the main body of the whales in the course of their migration. Only research can provide the facts on which the question of legal restriction must be determined.

Salmon Pack of British Columbia 1923

(Minus Somerville Cannery Company on Nass River, Fraser River, and Clayquot Sd. Canning Co. Ltd. Vancouver Island.)

	Tails	Flats	½ Flats	Ovals	Total
Sockeye	68,165	14,698	242,938	2,509	328,310
Red Spring	1,152	620	15,711		17,483
Stan. Spring	1,124		3,720		4,844
White Spring	2,706	21	1,966		4,693
Bluebacks	3,657		3,440		7,097
Steelheads	227		1,280		1,507
Cohoos	51,364	2,073	50,681		104,118
Pinks	259,255	21,464	144,695		425,414
Chums	321,588	1,544	47,452		370,584
Grand Total	709,238	40,420	511,883	2,509	1,264,055

Radcliffe to Assist O'Malley

On the first of November Lewis Radcliffe took over the position of deputy commissioner of fisheries at Washington, D. C., replacing Dr. H. F. Moore who resigned. The appended skeletonized biography of Mr. Radcliffe indicates the able support Commissioner Henry O'Malley has drawn to him. Mr. Radcliffe is well known wherever fish forms the basis of commerce and most recently he has won prominence through his investigations into net preservatives and the testing of the brine system of freezing fish. He is a man of wide experience, deep knowledge and is possessed to an unusual degree of the faculty of applying his knowledge to practical commercial problems. Much may be expected of him at Washington and it is hoped for the sake of the industry the world over that his services will be retained while he lives and that he will not be forced to other fields of effort by inadequate remuneration or the tinkering of politics. The industry has too few of his calibre.

Born: Savaiiah, N. Y. January 2, 1880.

Education: A. B. Cornell University, 1905; M. S. George Washington University, 1915; largely science courses with special attention to ichthyology.

Employment: April, 1905 to June, 1907, teacher of science. Port Jervis, New York; July 1, 1907 to November 15, 1922, in service of Bureau of Fisheries; November 16, 1922, to date, with U. S. Tariff Commission.

Experience: Fish culture, exploration, biological, oceanographic, statistical, fishery methods, technological and administrative with the Bureau of Fisheries; economics, fishery treaties and trade relations with the Tariff Commission.

Positions: July 1, 1907, apprentice fish culturist, Woods Hole, Mass.

October, 1907, assistant naturalist Steamer *Albatross* on extended biological explorations in the Philippines.

May, 1912, Superintendent and Director, Fisheries Biological Laboratory, Beaufort, N. C.

November 9, 1916, assistant in charge, division of fishery industries, terminated November 15, 1922.

November 16, 1922, special expert in fishery matters, Tariff Commission.

Notes on service: Care, classification and distribution of Philippine collections. Reorganized and increased effectiveness of Beaufort Laboratory. Surveyed fishing grounds off coast of North Carolina and developed a fishery which has continued to the present. While chief of division of fishery industries, the fisheries products laboratory (Washington, D. C.) was constructed (1918) and a series of investigations on the salting of fish, preservation of nets, and refrigeration (including brine freezing of fish were inaugurated; a temporary technological laboratory at San Pedro, California, was established (1917); war time activities, including demonstrations in fish cookery, were carried on; statistical work was augmented to include an annual canvass of canning and by-products industries; market surveys of fish trade in several cities were made; increased use of fishery products and by-products stimulated, including the

production and use of fish meal on the Atlantic coast on a large scale, the use of fish hides for leather, etc. Charged with the preparation of the fisheries exhibit for the Brazilian Centennial Exposition.

Under the Tariff Commission have made a world survey of the salmon and sardine industries and treaty and trade relations with Canada.

Publications: Early papers include a series of reports on systematic ichthyology, fisheries of Peru, eastern tropical Pacific and Philippine Islands, including descriptions of approximately 100 new species. Later publications devoted to commercial fisheries, methods, statistics, and utilization of fishery products.

The following are some of the publications:

Notes on Pond Culture in the Philippines.

Offshore Fishing Grounds of North Carolina.

Caviar: What it is and how to prepare it.

Fishery Industries of the United States. Reports of the Division of Fishery Industries for 1918, 1919, 1920, and 1921.

Fishery Products Laboratories Afford the Greatest Promise of Relief of Unsolved Problems affecting Commercial Fisheries (This paper was awarded a prize of \$100 by the American Fisheries Society in 1919 for the best contribution on the solution of problems affecting commercial fisheries work.)

Fisheries and Markets for Fishery Products in Mexico, Central and South America, West Indies and Bermudas.

The Fishery Industries of the United States.

Report prepared for the Commission of the United States to the Brazilian Exposition.

Membership in Societies:

Sigma Xi.

American Fisheries Society

American Association for the Advancement of Science.

American Society of Ichthyologists and Herpetologists.

Biological Society of Washington.

American Museum of Natural History.

YOU'VE GOT TO KEEP ON.

One step won't take you very far,
 You've got to keep on walking;
 One word won't tell folks who you are,
 You've got to keep on talking;
 One inch won't make you very tall,
 You've got to keep on growing;
 One little ad won't do it all,
 You've got to keep them going.

VALUE RECEIVED

A young man, having found the wallet of a business executive, was ushered into his private office. Said the latter: "Well, young man, say what you have to say and say it quickly. My time is worth a dollar a minute."

"And so is mine. Here is a wallet you lost yesterday, less pay for an hour's time which I used in waiting to see you," the young man replied as he extracted sixty dollars from the wallet.—Stevens Tech. Stone Mill.

Hon Chas. MacCrea Discusses Fish Problems

Work of Ontario Hatcheries being extended - The industry of the Great Lakes

(Special correspondence)

Toronto, Ont.— No decision has yet been reached by Hon. Charles MacCrea, Ontario Minister of Mines and Fisheries, regarding the request of the Bronte fishermen for an extension of the licenses permitting them to fish herring with a two and a half inch mesh gill net, instead of with a three inch mesh, as required by dominion regulation. "We don't propose to come to any decision on this matter until we have had an opportunity to make a very thorough investigation," declared the minister. "It is the policy of this department to do everything possible to preserve the fishery resources of the lakes. If our investigation discloses the fact that the herring of Lake Ontario have already been so depleted that they are so small in size that it is only a paying proposition to take them in a two and half inch mesh, then it seems to me it is time they were being given a chance to grow to maturity so that they can reproduce themselves to former numbers."

Asked when the department expected to complete the investigation, the minister explained that their efforts has been delayed on account of this being the season for collecting spawn for the hatcheries at Hat Bay. All the available boats were busily engaged in this work at Hat Bay and the proposed investigation, accordingly, must be held up for a time.

While speaking of the fish hatcheries, Mr. MacCrea declared that the department was greatly extending its activities in this direction this year, and that many more millions of eggs will be planted than ever before. This had been made possible largely through a measure of co-operation between the department and the fishermen themselves. Whereas before the department had always collected its own supply of spawn, this year an agreement had been put through with the fishermen around Hat Bay by which they stripped the spawn from the fish themselves, and received a price of 40c a quart for it from the department. This was in addition to the supply usually gathered by the hatcheries and the scheme, stated Mr. MacCrea, was working splendidly.

Coming back to the Bronte matter, the minister stated that the department did not wish to inflict any hardships on the fishermen whatever, but of course the primary interest had to be the preservation of the fish resources. Pending the findings of the investigation our attitude will be one of reasonableness, "he said." "We do not want to discourage the fishermen in any way. I am not sure just when we will be able to complete our investigation, but we shall get around to it as soon as possible."

Mr. MacCrea stated that another matter which he intended to clear up was the meaning of the term "three-inch mesh". "There is considerable doubt," he explained, "as to whether this means three inches when the mesh is dry, or when the net is wet and stretched. I believe that the dominion authorities have defined it to mean when the net is taut, but we are not sure on this matter yet, and intend to get an adequate definition and will then enforce it to the limit. The laws are made to be obeyed, no matter how unfair they seem to be on certain sections under

certain circumstances, and we are going to see that our regulations are enforced."

Subsequently it was learned that Lake Eric fishermen had lost out on their contentions as to the proper method of determining what is a three-inch net. Whereas their previous representation was that the measurement should be taken from side to side of the mesh, Ottawa, having been asked by the Ontario Department of Game and Fisheries, has interpreted the regulation to mean a three-inch measurement on the farthest angles. The fishermen also had contended that the nets were to be measured when dry, but the Ottawa ruling which was received in Toronto on Dec. 5, says that the measurement is to be determined after the nets are saturated with water, and the mesh extended to its fullest extent without involving any strain.

Good Egg Collections

Superintendent Alex. McDougall, of the Government fish hatchery, Southampton, states that this fall has been the most successful they have ever had for collecting salmon trout spawn. Not only have they succeeded in catching a large quantity, but the spawn is in a better condition with fewer unfertile eggs. This spawn is secured from the catch made by boats engaged in commercial fishing at Southampton, Kincardine and Tobermory. This fall they secured 11,809,000 eggs and 10,241,000 will be retained at the local hatchery. The balance of 1,568,000 will be distributed among other hatcheries as the fisheries department may direct. The Southampton hatchery was established in 1912. Last year it distributed 6,430,000 salmon trout fry.

How Captain Macdonald, a well-known lakes mariner, piloted the Dolphin, a little 35-foot fishing smack, through the storm-swept waters of Lake Huron alone, was told by the captain on his arrival at Sarnia on Nov. 28. Capt. Macdonald left a few days before for Goderich, where he purchased the smack. He tried to hire several sailors to help him pilot the boat to the St. Clair River, but on account of the inclement weather prevailing he was unable to get any men to venture out on the trip. Then he decided to attempt to reach home alone. He left Goderich at 8. p. m. Alone and unaided he set the nose of his miniature ship to the southwest, with a strong, cold wind blowing from the southeast. When just off Bayfield the little two-master shipped water, and had to be hauled to for a thorough pumping out, which took half an hour. Cold weather and rough seas were encountered and again the Dolphin shipped water. Eventually, however, the captain managed to reach port after fifteen hours of exciting and wearying toil.

To Build Storage Plant

T. G. McWain, fish dealer of Deseronto, will build a freezing and cold storage plant on the Bay of Quinte. The plant will have a capacity of 1,000,000 pounds of fish together with space for the storage of eggs, dairy products, apples, etc.

During the past season over 200,000 speckled rainbow and salmon trout fingerlings from the Soo hatchery have been released within a radius of twenty miles from the city of Sault Ste. Marie, Ont. The fingerlings were all in excellent condition, well matured, and there were no

losses in transporting them from the hatchery to the lakes and streams. It is significant that this is about one-fifth of the total number of fingerlings released in the entire province of British Columbia.

J. Jackson, representing Levi Jackson & Sons, manufacturers of fishing lines and other fishermen's supplies, Glossop, England, has recently been in Canada, and is anxious to get into touch with large users of supplies. He has appointed V. E. Hunt, Winnipeg, as agent for the Prairie Provinces.

J. W. McEwen, of John Leckie, Limited, Wellington Street, Toronto, fishermen's supplies, has returned to Toronto after an extended business trip through the Canadian west. Mr. McEwen says that the outlook for business in the west next year is good.

The many friends of F. T. James, head of the F. T. James Company, Limited, wholesale fish and provision commission merchants, Church Street, Toronto will be pleased to learn that he is well on the way to recovery following a recent operation and that he is now able to resume active control of his business.

It is stated that of late years the suckers and other coarse fish in Lake Winnipegosis have increased out of all proportion to the whitefish and other commercial species and this year the department of marine and fisheries undertook the netting of these fish and their disposition so far as facilities available would permit, by placing them in other lakes, the character of whose waters precluded stocking with the finer species. In all 281 adult fish and 5,530,000 eggs were planted in the lakes, the species being pike, suckers and pickerel. The following lakes were stocked: Lenore, Burton, Chrystal, Boyds, Grays, Pelican, and two lakes unnamed, one near Roblin and other near Binscarth, Manitoba. More than 550 young catfish have been transferred from Selkirk, Manitoba, to Prince Albert, Saskatchewan, for the Saskatchewan River, and 400 to Quill Lake, Saskatchewan.

OCTOBER FISHING PROFITABLE

The total catch of sea fish during the month of October was 531,572 cwts. valued at \$1,614,332., compared with 679,320 cwts. valued at \$1,493,210. in October, 1922.

Decreased catches of haddock, hake, pollock, halibut, herring, mackerel, sardines and pilehards are noted. Increases are noted in the catches of cod, salmon, albacore, swordfish, lobsters, and oysters.

The quantity of cod, haddock, hake and pollock landed was 147,159 cwts. compared with 155,971 cwts.

There were 9,189 cwts. of mackerel caught and 33,122 bbls. of sardines compared with 20,051 cwts. of mackerel and 93,830 bbls. of sardines in October, 1922.

The lobster fishing season closed during the month with a catch of 6,092 cwts. The total catch since the commencement of the season in November last was 372,761 cwts. compared with 363,925 cwts. for the previous season. Of the former catch 79,859 cwts. were shipped in shell and 146,436 cases canned. From the 1922 season catch 67,499 cwts. shipped fresh and 148,644 cases canned.

The sardine fishery during the month was very poor, only 33,122 bbls. being taken compared with 93,830 bbls. in October, 1922.

The catch of swordfish shows a big increase, 1572 cwts. being taken against 52 cwts.

The quantity of oysters increased from 10,630 bbls. last October to 12,099 bbls. during the months under review.

On the Pacific Coast the catch of halibut was 18,492 cwts. compared with 23,835 cwts.

Herring shows a big drop in the catch, only 20,930 cwts. being landed. This is a decrease of 93,254 cwts.

The catch of pilehards was only 1,977 cwts. compared with 13,714 in October last year.

Salmon shows a very gratifying increase. The catch was 198,167 cwts. as against 98,176 cwts. in last October. The former catch was made largely of chums. The total pack of B. C. salmon up to November 10 was 1,312,413 cases.

One fisherman lost his life on the Atlantic Coast during the month.

REPORT ON MARITIME FISHERIES

A special report on the fisheries of the Maritime Provinces, prepared for the Canadian Fisherman, follows:

The general conditions along the Atlantic coast improved very considerably during the month of October, although they continue to be quite unsatisfactory.

New Brunswick

The situation in connection with the weir fishery of Grand Manan and vicinity has been bad. Some fairly good catches were taken by a number of weirs but are not to be compared in volume to past years.

Nova Scotia

District No. 1—Mackerel appeared off the coast during the latter part of September but the severe storm that occurred around the first of October drove them off. The catch of mackerel has been gradually falling off in Inverness County during the past three years for some unaccountable reason.

The catch of other kinds of fish was about the same as in October 1922.

During the storm in the first part of the month a number of boats and nets were destroyed causing considerable loss.

District No. 2—Cod and haddock were landed in about the usual quantities while pollock and mackerel were scarce.

Oyster fishing was carried on along the Northumberland Strait portion of the district and compares favourably with the fishing during the past year.

One steam trawler has been added to the fleet of the Maritime Fish Corporation at Canso.

The severe storm during the first part of the month caused much damage and loss of boats and gear are reported.

District No. 3—Fishing has been poor with bait quite scarce.

The deep sea fleet of Lunenburg has practically all been laid up with the exception of those vessels engaged in freighting.

One new 70 ton vessel has been added to the Lockeport fishing fleet and will commence operations in the near future.

Prince Edward Island

Cod and smelts were taken in fair quantities with a good demand for the latter from the American markets where higher prices are obtaining.

Winter Fishing in Manitoba

(Special Correspondence)

Winter fishing season in Manitoba has just set in opening on the 15th of November and it will continue to the 28th of February.

The following are the principal lakes in which winter fishing is carried on in the province: Lake Winnipeg, Lake Winnipegosis, Lake Manitoba. These lakes are situated in the older part of the province and have been fished continuously for a period of from twenty-five to forty years. In the newer district, known as the district of The Pas, there are numerous small lakes which abound with different varieties of fish, and in which winter fishing is carried on to a considerable extent.

Of all the lakes in Manitoba, Lake Winnipeg may be considered the most important and the greatest producer, and it is fished all the year around. It covers the largest area and has the greatest depth of water. It is, I believe, reckoned amongst the eight or ten largest lakes in the world, approximately 300 miles in length. Owing to the vast distance from railway of the northern portions of the lake, practically all the winter fishing is carried on within the southernly 150 miles, or as far north as Swampy Island, and Berens River. Beyond that there are only a few scattered whitefish camps of the more venturesome fishermen.

Winnipeg Tullibee Lake

By far the most important fisheries on Lake Winnipeg in winter are the tullibee, fished in a 3 1-2 inch mesh gillnet. These fish weigh about 3-4 of a pound and are not unlike the fresh water herring of the great lakes, and the cisco's of Lake Erie, and compete with these fish as "smokers" on the American market. The usual winter production of tullibee, runs from 3,500,000 to 5,000,000 lbs. Other species of fish produced are as follows:—pickerel, (yellows), jackfish, whitefish, goldeyes. The total of these will run from 1,250,000 to 1,500,000 lbs.

The number of fishermen operating on Lake Winnipeg this season will be about 440.

The next in importance of production is Lake Winnipegosis, and produces much the same varieties of fish as Lake Winnipeg, with the exception of tullibee which are not found in that lake. The varieties caught there are as follows:—whitefish, pickerel, jackfish, goldeyes, and mullets. The first two varieties yield the best returns and command the best price. The average winter production for this lake runs about 3,500,000 lbs. for some 275 to 300 fishermen engaged. This lake is maintaining its supply of fish wonderfully well. The past two fall seasons have been as good as any in its history, both in the catch of whitefish and pickerel. As an indication of this it might be mentioned that fish taken for hatchery purposes last fall, which started out to procure 80,000,000 or 90,000,000 eggs, sufficient to supply the hatchery at Winnipegosis only, ended up by taking fully 150,000,000 whitefish eggs, by which it was possible to stock Gull Harbor Hatchery on Lake Winnipeg with some 50,000,000 eggs. The spawn taking of Port Qu'Appelle was supplemented from Winnipegosis with 10,000,000 eggs, leaving a full hatchery of 90,000,000 eggs at Lake Winnipegosis.

Good Facilities About Manitoba

Lake Manitoba has also a very important fishery, the varieties of fish produced from there, in order of importance are as follows:—pickerel, (yellows), whitefish, jackfish, tullibee, perch, mullets.

The production from this lake for the winter season will run about 3,000,000 lbs. This year about 650 men have taken out licenses to fish. This lake is comparatively small and with that number operating on it, it may be considered to be very heavily fished. There are various reasons why it is so popular with the fishermen, the chief amongst them being that the country on both sides of the lake is thickly settled and these settlers are farmers and fishermen both. Another reason is railway facilities. The lake has a railway line running parallel with it almost its entire length on both sides. This makes it possible in the majority of instances for fishermen to operate from their farm homes and almost entirely eliminate the expense of hauling fish to railhead, which is a tremendous item on the more remote lakes of the west. Another reason why so many fish on this lake is, the ever-increasing demand of the American market for fresh or green fish. The very exceptional railway facilities here make it possible for the producer to market almost his entire catch in that way. Each day's catch is brought the railhead, packed in snow or crushed ice the same day, and it's on its way in heated express cars the following day to the American market. Prices for this product range much higher than for the frozen stock, sometimes more than double.

Cost of operation here is small indeed in comparison with other lying lakes of the province, where fishermen have to go to their winter camps on open water and wait there away from their homes for a month or more until the season opens or freezes up. Likewise they pay in some instances upwards of a third of the price realized for the haulage of the fish to railhead. On this lake these inconveniences and expenses are almost entirely eliminated.

The very heavy fishing on this lake, however, has caused grave doubts to be felt as to whether the supply would last. The department of fisheries has become cognizant of these conditions, and last summer caused a survey to be made for a hatchery location on the lake, and settled upon a desirable site. As the lake is rather shallow and essentially suited for pickerel, the intention is to endeavor to restock it with pickerel only. The success which has followed pickerel hatching, both on Lake Winnipeg and Lake Winnipegosis, has given grounds for absolute confidence in the minds of those interested that as soon as the hatchery is established and its results become due, nothing further need be feared as to depletion, at least of this variety of fish.

Transportation Costly

Fishing in the northern lakes, district of The Pas, is more intermittently carried on, and under many difficulties, chief of which is the heavy freight charge from the lakes to railway, which in this outlying country is so high that it leaves but very little (and that under the most favorable market conditions) as a margin for the fisher-

men. The chief production here is whitefish, then lake trout.

Fully two-thirds of the fishermen of the older parts of the province are small farmers residing in the immediate neighborhood of the lakes wherein they fish. The extent of the operations, therefore, depend always very materially on the conditions of the farming industry, as well as the probable market outlook for the fish.

Since the slump in the fish market in the winter of

1920-21, market conditions have steadily improved, and prices now may be looked upon as fair. The demand has nicely overtaken the supply. On the other hand farming conditions starting from the same period have gone from bad to worse until this year the lowest level of prices has been reached for all kinds of farm products. It is owing to these conditions that fishing this season will be more extensively carried on than in most previous years in the history of this Province.

Poor Outlook For Canned Lobster

Before another lobster season commences, the entire trade in the Maritime Provinces, including buyers, shippers, fishermen and packers should put "its house in order" and be able to grapple with the peculiar problems of trade which are now confronting the lobster industry of these provinces," says George E. Roberts, of Halifax, who recently returned from a visit to Great-Britain where he made an extensive enquiry into the condition of the lobster markets both in England and on the continent.

"Canned lobsters are produced in no other country in the world other than the Maritime Provinces and Newfoundland, therefore," said Mr. Roberts, "one can readily appreciate the value which attaches to this great industry as related to the trade of our provinces. Undoubtedly this fact that we control the canned output of lobsters for the world will astonish people of this province not familiar with the trade, but it is still further surprising," Mr. Roberts said, "how few of those engaged in the canned lobster trade or associated with it realize just what effect for good or evil conditions in Europe have upon the lobster industry of the Maritime Provinces."

Why Nova Scotia should be so directly affected by the European situation is because Europe was always in the past the principle market for canned lobster. Germany in pre-war days absorbed all the one pound size cans, but since the war she has ceased to exist as a buyer.

Markets Practically Closed.

At the commencement of the 1923 season the French and Belgian markets were practically closed to canned lobster because exchange rates made their cost to the consumers in those countries practically prohibitive.

With these markets closed, Mr. Roberts said, this left only Great Britain and Scandinavia as outlets for the Canadian product. Of these countries the latter were limited buyers, thus leaving Great Britain, of all the European countries, to consume two-thirds of the pack of lobsters of the Maritime Provinces. Probably under normal conditions with reasonable prices she could accomplish this feat, but unfortunately conditions in England have not been normal, and owing to conditions that prevailed among the trade in the Maritime Provinces reasonable prices did not exist. The result was that only small sales were made in England.

"Other conditions," continued Mr. Roberts, "came up to still further restrict the sale of lobsters in England. There was a chance to sell last year's pack in England during June, July, August, but unfortunately

the dockers at Liverpool and London went on strike and remained out for a considerable length of time, and in consequence the shipment missed the season of the year when lobsters were in demand."

The 1922 pack of lobsters was about 130,000 cases. The 1923 pack is practically the same as last year. The unsold portion is about 60,000 cases to-day, and it is now desirable to sell them before the spring of 1924, when new packed goods are available.

"This would be a formidable task under normal conditions," Mr. Roberts said, "but to-day with two millions of unemployed in England and the continental markets closed, you may realize that the task is even more formidable, and very serious from the view point of Nova Scotia."

FISHING HOOKS HUNG FROM KITES

To catch tuna and swordfish, kites are being used on the west coast to carry the hooks and bait far from the boats. After they are sent up, the fishing line is attached to the kite string which drags it over the water. When a fish bites, the sportsmen reels it in close enough for a companion to strike with a harpoon.

FUTURE OF PRESERVED FISH

"Fish Preservation and Food Supplies" was discussed by Dr. J. Johnstone, Professor of Oceanography, at the annual meeting of the Liverpool, Eng., Biological Society recently. Having mentioned that the freezing of fish in the ordinary way greatly impaired it, Dr. Johnstone said that, in his view, future development would be made by way of super-cooled brine preservation and hermetical sealing. Herrings, tinned in oil, kept in good condition for at least ten years, gaining in tastiness by long keeping, though the flesh became soft.

Salt as a preservative for fish had been in use as far back as written records went, but the discovery which formed the basis of modern methods was made by a Dutchman early in the fifteenth century, who found that, when all the organs containing blood were removed, the fish preserved in brine remained good for a very great length of time. With one operation an expert girl could cut out the gills, heart, ventral aorta, gut, spleen, and liver from a herring. The discovery of this method by the Dutch fisherman built up a huge industry, which thrived in Holland from the fifteenth to the middle of the eighteenth century.

A New Line of Small Ammonia Compressors

A new line of Canadian built Ammonia Compressors in sizes of 2.5 to 42 tons has recently been placed on the market by the Canadian Ingersoll-Rand Co., Limited, 260 St. James Street, Montreal.

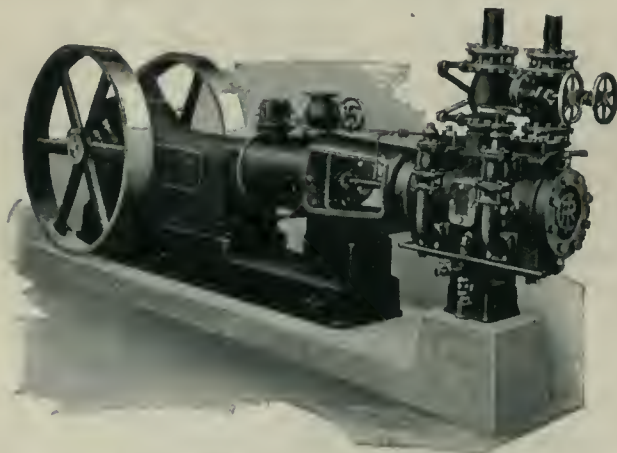
These small ammonia compressors embody all of the features responsible for the success of Ingersoll-Rand Air and Gas Compressors which have been on the market for over fifty years.

These features, including Ingersoll-Rand plate valves for ammonia inlet and discharge, exceptionally large valve and port areas, enclosed frame construction with automatic lubrication, etc., enable the users of small ammonia compressors to obtain efficiencies only heretofore attained by large plants.

The light high speed, automatic action of the valves, improved cylinder construction and the rugged, well protected, properly lubricated driving ends, permit higher speeds with resultant increase in tonnage per horsepower and per foot of floor space occupied.

These new machines are of the enclosed, horizontal, straight-line, center-crank type with single-stage, double acting ammonia cylinders. The design of the frame, crank-shaft, crosshead and other running parts is identical with that of the small air and gas compressors and vacuum pumps manufactured by the Canadian Ingersoll-Rand Company. The construction and valving of the ammonia cylinders represent a noteworthy advance in ammonia compressor design which is of particular interest to users of machines of up to twenty-five tons of ice or up to forty tons of refrigeration capacity.

The Class "ERA-1" Ammonia Compressors are arranged for long belt or short belt drive. The smaller sizes can also be equipped with tight and loose pulleys when desired.

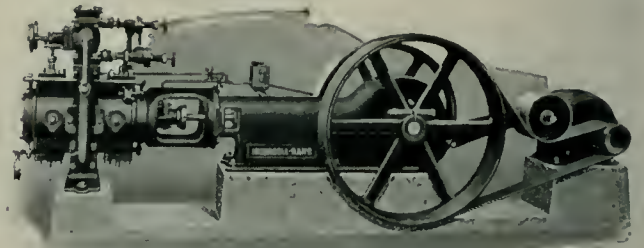


Ingersoll Rand Class "FRA-1" Single Stage Straight Line Double Acting Steam Driven Ammonia Compressor

The Class "FRA-1" steam-driven units are equipped with a simple piston valve steam cylinder placed between the ammonia cylinder and frame. The piston valve is of the Ingersoll-Rand balanced type, (similar to those used on modern locomotives) and together

with the wide-range automatic cut-off governor provides for better steam economy than has hitherto been obtainable from small steam-driven machines. With this valve the valve chest gland is subject to exhaust pressure only. It also permits the use of high pressure superheated steam as well as the low pressures common in the past.

Both types of compressors are simple and self-contained, easy to operate, economical and thoroughly reliable.



Ingersoll-Rand Class ERA-1 Ammonia Compressor with Short Belt Motor Drive Attachment

A few outstanding features of design are:

FRAME: The heavy one-piece enclosed dust and dirt proof main frame lends rigidity to the compressor and simplifies the foundation and installation. It also prevents waste of oil, insures cleanliness and long lived running parts.

AMMONIA CYLINDER: The double-acting ammonia cylinder is of cast-iron sufficiently heavy for reborring. The cylinder barrel and heads are thoroughly water-jacketed, insuring efficient lubrication and reducing heat of compression.

The plate valves used for both intake and discharge are placed in the cylinder tangent to the bore, so as to obtain minimum clearance. Discharge valves are at the bottom of the cylinder, thus preventing any liquid ammonia from being trapped in the cylinder barrel. All sizes are equipped with a foot-piece supporting the ammonia cylinder. This foot-piece is an integral part of the cylinder and contains the discharge connection. A small cast-iron soleplate under the foot-piece facilitates removal of cylinder when desired.

COMPRESSOR VALVES: Ingersoll-Rand plate valves are used on both intake and discharge. These valves are durable, light in weight, automatic and extremely quiet in operation. Large free port and lift openings offer the least possible resistance to intake or discharge of ammonia gas.

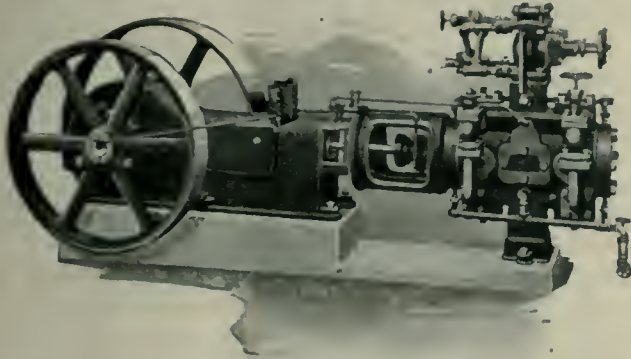
SPECIAL AMMONIA STUFFING BOX: These new machines are equipped with a special water-jacketed stuffing box, fitted with a special packing made up of a set of high and low pressure France metallic rings separated by a dry gas vent. An oil gland is also provided with this packing which acts as a seal, while additional soft packing, adjustable by means of a

screwed gland, prevents gas and oil leakage. The Francee metallic packing is of very high quality and has been particularly successful for ammonia work. If treated with good care it should last from five to ten years.

RUNNING PARTS: The running parts in all class "ERA" and "FRA" compressors are of very rugged construction. Crankshafts and connecting rods are one-piece drop forgings of special steel. The connecting rods are of the solid-end type with adjustable and renewable boxes. Crossheads are of the bored-guide type with adjustable bored and turned boxes.

BEARINGS: The adjustable, die-cast removable bearing shells of genuine babbit metal ensure smooth running and long life and are easily and cheaply replaced when necessary.

LUBRICATION: Main bearings, crank and crosshead pins and crosshead guides have adjustable flood lubrication. Force feed lubrication is used for oiling ammonia cylinder, ammonia stuffing box and steam cylinder. Lubrication is automatically proportioned to the speed of the compressor at all times.



Ingersoll-Rand Class "ERA-1" Single Stage, Straight Line, Double Acting, Belt Driven Ammonia Compressor

MAIN VALVES: Main ammonia stop valves for both intake and discharge are furnished complete with companion flanges of regular tongue and groove construction. These valves are located next to each other above the cylinder where they can be conveniently handled.

BY-PASS VALVE: A special large by-pass valve is provided for complete unloading when starting, so as to prevent excessive current inrush and overloading of the motor.

SAFETY VALVE: A spring loaded safety or relief valve is connected to the discharge passage of the cylinder and the blow-off of this valve is piped back to the cylinder intake.

PUMP-OUT PIPING: Pump-out piping is furnished complete with necessary valves and fittings.

THERMOMETER: Thermometer wells, thermometers and indicator connections are also provided.

The Canadian Ingersoll-Rand Company, Limited, also announce the publication of bulletin K-314, describing these units. Copies of this bulletin will be sent to any of our readers on request.

The Company also builds at its Sherbrooke plant a complete line of duplex ammonia compressors for steam, belt, oil engine or direct-connected electric motor drive, suitable for the larger plants.

BOOK REVIEW QUANTITATIVE STUDIES ON THE FAUNA OF

THE SEA BOTTOM. No. 1. Preliminary Investigation of the Dogger Bank. by F. M. Davis, B. A., Fishery Investigations. Series II. Vol. VI. No. 2 1923. of the Ministry of Agriculture and Fisheries, London, Eng.

This is the first of a series of papers on the "Quantitative Study of the Fauna of the Sea Bottom" and deals with a preliminary investigation of the Dogger Bank, by means of the 'Petersen Grab.'

It appears that the Dogger is an isolated plateau as far as its bottom fauna is concerned; and the most salient feature of this fauna is that although it is poor in number of species, two of its components, the bivalve shellfish, *Spanish subtruncata* and *Maetra sultorum* occur in vast quantities. Both these species are concentrated in beds, or patches, which, especially in the case of *Spisula subtruncata* are of great extent and densely populated. Each bed, in the case of *Spisula*, contains animals all of the same spat-fall, those of different year groups not occurring in the same bed.

One bed of adults of at least one year old had an area of not less than 600 square miles, and was estimated to contain over 500,000,000 individuals, while a bed of only a few months old was over 700 square miles in extent, and carried 4,500,000,000,000.

The original data are published, together with a short account of any point of interest in the natural history of the 75 living species found.

The animals found are mostly valuable fish foods, and it is suggested that the knowledge of the distribution of young bivalves in autumn would be of practical importance to fishermen, as it would indicate the areas in which concentrations of feeding fish would take place.

The report described above is being published by His Majesty's Stationery Office for the Ministry of Agriculture and Fisheries. Price 6s. net (postage extra).

ALMOST JUMPED INTO FRYING PAN

The following story is appearing in the Irish papers: A peasant farmer named Patrick Coleman, who has a holding on the banks of the river Gloire, a tributary of the Moy, was standing at his cottage door when he saw a 12-lb. salmon leap a 5-ft. wall and land from the river into his vegetable garden. In a few minutes a second and a third salmon jumped the fence.

Going to the spot, Coleman found no fewer than 30 salmon, varying in weight from 7 lb. to 15 lb., some dead and some dying, lying among his cabbages.

It appeared that the river Gloire formerly spread over a patch of shallows where the salmon had for many years, perhaps centuries, found a spawning ground. Last year Coleman, to improve his holding, built a stone fence along the river, and dumped 3 feet of earth on the sand and gravel which he reclaimed from the water. He thus converted a rood of flooded waste into a kitchen garden, from which he derived this year a crop of cabbages and onions.

When the river flooded, the salmon returned to their usual spawning ground, and it was only after a number had surmounted the obstacle that the remainder moved off in search of another patch.

News And Views of the West

(SPECIAL CORRESPONDENCE)

SIZE OF HERRING PACK THIS YEAR STILL DOUBTFUL

The herring fishing has improved slightly, the run of herring around Chemainus, Vancouver Island, being now in full swing, where half a dozen outfits are dry salting herring for the China market. Several of the operators are Japanese. The herring start to run around Chemainus about the end of October, and continue till the middle of December. At that time the run starts in Departure Bay, near Nanaimo, Vancouver Island, and continues into February. At the present time there is no indication as to the probability of the Department of Fisheries opening that bay, the Duff Commission last year recommending its closure. Should it not be opened the drysalt herring pack on the East Coast Vancouver Island will be practically a failure.

HALIBUT CATCH SMALL

The halibut catch for the last month has been very light, no fish at all coming in to Vancouver by boat, all the catch being landed straight at Prince Rupert.

OLD SEALING DAYS MAY RETURN

According to reports from Seattle the good old sealing days are to be revived, it being rumored there that vessels flying the black shirt of the Italian Fascisti will be sent from Victoria to the California and Japanese coasts to test the strength of the pelagic sealing treaty signed in 1911 by the United States, Great Britain, Russia and Japan. Former sealers here are naturally greatly interested in the proposed venture.

FRESH FISH TRADE AROUND VANCOUVER QUIET

The fresh fish trade is, as usual this time of the year, very quiet, a little local salmon being procured, but small quantities only will be available till the New Year, when the West Coast springs will come in again.

A little herring for the fresh fish trade is being caught around Pender Harbor, some being sold fresh, some frozen, or packed as bloaters.

VALDEZ COMMISSION'S REPORT HARMFUL TO INDUSTRY

It is very regrettable that so much publicity was accorded the findings of the Commission which sat at Valdez, Alaska, to consider certain allegations made regarding the United States canneries in Alaska. Large headlines blazoning forth alleged unsanitary methods claimed to be prevalent in the industry — such evidence in many cases secured from disgruntled cannery employees — are not likely to promote the sale of salmon among readers of the papers printing such matter.

As is well known among those conversant with the B. C. salmon canning industry, the B. C. product is put under the strictest supervision, every hygienic precaution being taken to secure the quality of the product. None of the conditions under which Alaskan canneries labor, viz. the difficulty of securing the best type of labor willing to undergo the virtual isolation incident to the location of the plants, and the difficulty of Government inspection in so sparsely settled an area where the canneries are not served by any regular transportation — are known in British Columbia, but the effect of such publicity will certainly be

felt by the Canadian industry. The opinion of the majority of those interested here is that the sensational allegations are to be taken with the proverbial "grain of salt;" but the trouble lies in the fact that to the average consumer salmon is salmon, regardless of origin, and his ignorance of the manner in which Canadian salmon is packed, will tend to make him eye salmon in a suspicious manner.

INTERVIEW WITH HON. E. LAPOINTE CLAIMED TO BE INCORRECTLY REPORTED

The canners on the coast here were very greatly surprised to read in local papers a reported interview with Hon. E. Lapointe, in which he was reported as stating that while he was on the coast, strong representations were made by the canners in favor of the employment of more Orientals in the fishing industry. This being quite contrary to fact, it was supposed that Mr. Lapointe had been incorrectly reported. The representations made to the minister were to the effect that as the increase in white fishermen had been in no way commensurate with the decrease in Oriental fishermen, no further reduction should be made until there were sufficient white fishermen to take the places of the Orientals, and as the reduction of 796 Oriental licenses had resulted in an increase of but 158 white fishermen, it was urged that any further reduction would only result in curtailment of the pack.

In order to remove any misconception arising out of the alleged interview, Mr. Lapointe was asked to notify the canners of his concurrence with their understanding of the situation, and are awaiting a reply.

FRASER RIVER FISHERMEN SECURE EXTENSION OF SEASON

The Fraser River closed for salmon fishing on November 15th. It was desired by the fishermen that the season be extended until November 20th as asked for by their Association, the B. C. Fishermen's Protective Association, but as that could not be done without an order-in-council, Major Motherwell, the Chief Inspector of Fisheries, used his discretionary powers and prolonged the season until November 15th. As the season was to have closed on November 6th, such extension gave the fishermen nine days extra fishing; the chum salmon running well and being in good condition.

The point taken by the fishermen was that fall fish may be caught anywhere outside of the Fraser River and adjacent waters until November 20, while Americans have always been willing to pay from a cent to three cents more for Fraser River fall fish than any other, because they are of better quality than any other fall fish caught along the coast.

T. H. JOHNSON LEAVES FOR THE OLD COUNTRY

T. H. Johnson, manager of the Canadian Fish and Cold Storage Co. Ltd., Prince Rupert, B.C., will leave for England about the end of December, expecting to sail from St. John, N.B. on the S.S. "Montrose" on December 21st. Though Mr. Johnson will combine business with pleasure on his trip to the Old Country, the chief reason for his visit is to be present at a very interesting event, i.e. the golden wedding of his parents in Hull, England. Mr. Johnson's father having been for many years in the fish business in England,

the former certainly has a good precedent for his choice of vocation.

VICE-PRESIDENT CANADIAN FISHERIES ASSOCIATION INJURED

The many friends of Mr. F. E. Burke, second Vice-President of the Canadian Fisheries Association, Secretary-manager of Wallace Fisheries, Ltd., and chairman of the B. C. Division, Canadian Manufacturers' Association, will regret to learn that, on November 1st. Mr. Burke suffered severe injuries in an automobile accident. Mr. Burke had been working late at his office in Vancouver on that day and took the street car to his home. As he alighted from the car he was struck by an automobile travelling at a high rate of speed, being dragged several feet and sustaining a broken knee on one leg and broken ankle on the other, together with severe gashes in the thigh, necessitating his removal to the hospital. Only the fact that an overcoat Mr. Burke was wearing caught on the front of the car and so prevented him from being dragged under the wheels saved him from fatal injuries. His injuries were considered so severe that with the exception of Mrs. Burke no visitors were allowed for weeks following his accident.

Though his condition is encouraging, it is not expected that he will be back at the office for many weeks yet, but all his friends wish him a complete recovery.

Herring and Pilchard Pack of Little Importance THIS SEASON

There will be a very small pack of canned herring and pilchard this year on the B. C. coast. On Barelay Sound, where most of the herring and pilchards are caught, the two packers there, the Wallace Fisheries, Ltd. Kildonan Cannery and the Gosse-Millerd, Ltd. San Mateo cannery report a very small pack. The San Mateo has packed practically no herring and no pilchards at all. The Kildonan cannery has packed about 2,500 cases of one pound oval tins herring in tomato, and about three hundred cases of kippered herring.

The Gosse-Millerd Company and the Canadian Fishing Co. Ltd. will operate their plants next February at Bella Bella and Work Channel for herring.

QUEEN CHARLOTTE ISLANDS SALMON PACK

But two canneries operated this season in the Queen Charlotte Islands, the Canadian Fishing Co. Ltd. operating its Lagoon Bay cannery for fall fish, and W. C. Splan operating the Lockport cannery. The catch was about 27,000 cases, almost entirely chums.

VALUABLE FOR CARGO

Prince Rupert, British Columbia.—Wireless reports from Nome state the Hudson Bay schooner, Lady Kindersley, is expected to reach Vancouver about October 15 with the richest cargo of furs ever brought out of the Canadian Arctic.

Say Dam May Destroy Spawning Area

(Special to Canadian Fisherman)

The executive council of the Hunters' and Anglers' Association of British Columbia, acting on recommendations contained in a report prepared by E. H. Peppar, based on his observations in the course of a thorough investigation of the effect of work being carried on by the B. C. Electric Ry. Co. at the head of Alouette river on the run of salmon to the spawning beds of these waters, have decided to petition the Department of Marine and Fisheries for Canada to take whatever precautions may be considered necessary to safeguard the spawning grounds. The Alouette Lake and River are tributary to the Fraser River system, and it is feared that the company in damming the head of the river in order to raise the level of the lake may be seriously affecting the area in point of its value for salmon spawning purposes.

Commissioned by the council to investigate the river and the possible outcome of proposed development work, Mr. Peppar visited the stream and, in the report he prepared, states that he found it a spawning ground for all of the B. C. species of salmon, namely, springs, pinks, chums, cohoes, sockeye and steelhead.

"In ten minutes more than one hundred salmon passed me where I stood near the centre of the

stream," Mr. Peppar reported. "How many must pass here during the whole of the immigration of all the species, lasting nearly six weeks?"

"The value of this stream lake to the people of British Columbia in food and as a great natural asset cannot be too highly rated. It should be protected by every means possible in order to propagate and try to restore to B. C. and future generations a semblance of the runs that used to be."

Summarizing his report Mr. Peppar raises the question whether or not the increasing of the height of the lake to about 45 feet above normal by a dam would ruin the shallow spawning grounds.

If the turning of the water in another direction causes the Alouette river to be dried up and water is only released in emergencies, the deathblow has been struck to the river's spawning grounds, he declares. He recommends that a strong and efficient fish ladder be built in the event of the construction of a dam and that sufficient water be allowed to overflow to prevent the river from drying up.

The matter will be taken up with the Chief Inspectors of Fisheries, the department of Marine and Fisheries, fisheries associations and other interested bodies.

Questionable if Motor Boats Would Help

(SPECIAL CORRESPONDENCE)

The desirability or otherwise of motor boats for gillnet fishing in District No. 2 is a question which is causing considerable discussion as the time for preparing for next season draws near.

The Duff commission last year recommended that the regulation prohibiting their use in District No. 2 be withdrawn, and acting on their recommendation, the Department of Fisheries gave permission for their use in 1924.

The question, seemingly so unimportant, is really very important for many reasons. It is conceded that the motor boat will be able to make more drifts than the sail, and its mobility will allow it to "blanket" a competing fisherman who has no engine. The point yet to be proved is whether the increased catch will offset the heavy cost of operation, fuel oil, etc. There is another angle also worthy of consideration, viz. an increased catch will most probably mean an increase in the weekly close time, which again will practically nullify the increased efficiency of the motorboat gillnet without decreasing the operating cost. In other words, motor boats in District No. 2 will mean increased close time, and the increased efficiency with its increased catch will be counteracted by the shorter time allowed for fishing — but the increased cost of operation will still be there.

Another point of considerable importance is the claim of many practical men that the oil deposited on the water by motorboats will be exceedingly detrimental to young fish. It is well known to all familiar with fish culture that oil on top of the water will strangle the young fish; and as the young fish gather in eddies, where the oil is most likely to gather also, the results to the young fish will be far from healthy. The menace of oil on the water to fish has been recognized by the British Government which has passed regulations restricting the pumping out of oil on fishing grounds.

From the economic standpoint it is going to be difficult for the average fisherman to finance the buying of a boat and engine of sufficient power to buck the strong tides of the Skeena River. At present, outside trolling necessitates motorboats, and the possibility of these boats being converted to gillnet fishing is doubtful. There are from one hundred to one hundred and fifty of this type of boat around Prince Rupert, and it remains to be seen if they will be successful at the gillnet game.

The majority of fisherman fish "cannery gear," that is, they receive their boat and net from the company for whom they fish, and in such cases, the impracticability of the company supplying the men with motorboats and nets is obvious. The initial cost would be very great, let alone the cost of upkeep during the winter.

It is very plain to one acquainted with the fishing industry that should, say, 10 per cent of the fishermen have motorboats and the other 90 do not have them, the 10 per cent with engined boats will have a great advantage, and at the present time the ones in the best position to purchase powerboats are the Japanese. Should next season see the Japanese supplementing their natural ability as fisherman with powerboats

while the majority of white fishermen have sail, it is apparent that the Japanese catch of fish will entirely overshadow the catch of the white fisherman.

All in all, the desirability of the throwing open of District No. 2 to motorboats for gillnet fishing has yet to be proved.

WITH THE FISH CULTURISTS

The Department of Marine and Fisheries announces a record collection of 221,000,000 whitefish eggs this season in the Bay of Quinte, Lake Ontario, which exceeds all previous collections in this area. A gratifying increase in the collection of whitefish eggs in this area has been made every year since 1914, when the total collection was 52,000,000. Each season since then the collection has been greater than that of the preceding year.

The commercial fishery has also improved to a great extent during the same period. During the last twenty-five years the commercial catch of whitefish has increased twenty fold. In 1895 it was only 1,266 cwts. and in 1921 it was 21,885 cwts.

Ninety-eight million whitefish eggs have also been collected at Bad River, Georgian Bay, for the Collingwood Hatchery. This collection is the second largest that has been made in this field and was only exceeded by a small margin in 1922.

A record collection of whitefish eggs was made this season in Lake Winnipegosis when 145,000,000 eggs were obtained, which exceeds the best previous collection by 36,500,000. The Whitefish Hatchery, located on Snake Island, Lake Winnipegosis, was filled to capacity with 89,500,000 eggs, and of the remainder 48,000,000 were transferred to the hatchery at Gull Harbour and 8,000,000 to the hatchery at Fort Qu'Appelle, Sask.

A collection of fifty-four million whitefish eggs has been made in the waters of the Lake of the Woods for incubation in the Kenora Hatchery. The Kenora Hatchery was first operated in 1914, with a collection in local waters of slightly over ten million eggs. The current season's collection exceeds that of any previous year by several million.

The Lake of the Woods is the third area in which all previous collections of whitefish eggs have been exceeded this season. The other areas are the Bay of Quinte operated from the Thurlow Hatchery and Pelce Island operated from the Kingsville Hatchery.

FOUR FISHERMEN DROWN

Four fishermen belonging to Meadow Portage, Man., were drowned in Lake Manitoba on November 26. The dead are George Sabiston and his two sons, Robert and William, and Alexander Spence.

The victims are all residents of northern Manitoba. The accident occurred about 16 miles east of Lake Winnipegosis. The men had gone out on the ice to set their nets. The ice, which had been softened by the recent warm weather, gave way beneath them, throwing them into the water.

Two of the local detachments of the provincial police here have left for the scene of the accident to assist in recovering the bodies.

News of Northern British Columbia

Not too Much at That

It is believed that the American halibut boat *Majestic*, Captain P. Pederson, holds the record for the distribution of the most money among the crew of a boat for a certain period. It is claimed that for less than three months' fishing the *Majestic* has divided the sum of \$2,740 to each man.—Ketchikan Chronicle.

Man Swept Overboard

When a mountainous sea swept the decks of the steam halibut boat *Andrew Kelly* on November 13 it swept overboard the mate, Jack Robins who was lost, cleaned gear and everything else off the decks, smashed in the skylights and the cabin windows and for a short time it seemed as if the staunch little craft must go under. However, the crew got busy and repaired the steering gear which had gone wrong, shifted the coal back into place and made her shipshape so that she rode out the storm and arrived home Sunday morning at nine o'clock.

B. C. Herring Fishery

In spite of the Fordney tariff and former strong competition from the United States Alaska herring fisheries, there are splendid prospects that the winter herring fisheries in the Nanaimo and the Barker Sound districts of Vancouver Island, will prove highly lucrative, according to a report issued by the Marine and Fisheries Department.

In the Canadian districts mentioned, preparations have been made this year for the handling of fish, which in the past were usually salted and shipped to China. Many of the curing places have enlarged to three times their capacity, and, in addition, there has been an important revival in the curing of a better quality of fish in the Scotch style for the United States market.

A shortage in the Alaska supply has turned attention of American buyers to British Columbia, and it is reported that for suitable quality Scotch herring \$15 per barrel f.o.b., Barclay, Sound is being offered. This price, it is stated by the department, exceeds by far any offer since the high wartime prices.

Two Drowned at Sea

Thomas Wilson, 195 College street, Toronto, and S. Spence Allen, a Nova Scotian, were drowned when washed overboard from the fishing vessel *Thelma*, which arrived at Yakutat, Alaska, November 21.

Want No More Jap Reduction

The policy of gradual exclusion of Japanese fishermen from the fisheries of British Columbia is working very well, stated Hon. Ernest Lapointe, minister of marine and fisheries on his return to Ottawa from British Columbia, when asked how he found it operating on his recent visit to the West. He added that the canners had represented that it was an injury to them, as the white fishermen were not working as hard as the Japanese did.

Mr. Lapointe said that he had been waited upon by the canners while in British Columbia, and that the remedy for which they were asking was the readmis-

sion of the Japanese fishermen to full privileges.

Last year a reduction of 40 per cent. was made in the number of licenses issued to Japanese fishermen, but so far no further reduction has been decided upon.

Mr. Lapointe intimated that the canners had made strong representations against any further reduction being made this year.

Speaking of the halibut fishery and of the fact that there would be no close season for the present year, the minister expressed his confidence that at the coming session of Congress the United States would pass legislation to bring the agreement between Canada and the United States upon that subject into force.

Fish Day Dinner

There was a large attendance of local business men at the fish luncheon on the afternoon of Oct. 31 by the Prince Rupert branch of the Canadian Fisheries Association to mark the occasion of National Fish Day. T. H. Johnson, president of the Association, occupied the chair and an appropriate address was given by Fred Stork, M.P. Those in charge of making arrangements for the affair were T. H. Johnson, president, John Dybhavn, vice-president, and James L. Lee, secretary of the Prince Rupert branch of the Canadian Fisheries Association.

Poor Halibut Results

Unfavorable fishing weather prevailing during almost the entire month of October, caused the total halibut landings at Prince Rupert to be lower than usual at 1,844,100 pounds. Seventy-three American boats landed a total of 1,470,900 pounds and seventy-six Canadians, 373,200 pounds. The total was 320,000 pounds less than that for October last year, 2,164,100 pounds, and 270,500 less pounds than the total for September, which was 2,114,600 pounds.

The highest price paid during the month went to the American schooner *E. Neilson* which marketed 6,500 pounds on October 20 for 23.1c and 12c. The lowest price 13c, and 9c, was paid for two small Canadian catches yesterday.

Season Extended

The season for fishing on the Queen Charlotte Islands was this year, extended until October 26. The fishing season there had been poor. Three salteries, McMillan's at Queen Charlotte City, Woodley's at Pacific, and the Moresby Island saltery at Jedway, have done very little and the two canneries Lagoon Bay and Lockeport, while still operating, had put up poor packs. The Jedway saltery quit operating early. The pack of the canneries was well below last year.

There has been a prosperous whaling season at Rose Harbor this year 193 whales having been taken at that station, a good percentage of them have been sperms.

N. S. FISHERMAN DROWNED

Raymond D. Bouehie, one of three brothers from the Nova Scotia fishing schooner *New Dawn*, was drowned when a great sea swept over the vessel, caught in a storm thirty-miles outside Portland light ship, on October 30.

PROTESTED TARIFF RULINGS

In view of recent United States treasury decisions affecting import duty on a number of fishery products, arrangements are being made for a hearing before the Board of General Appraisers in New York city at which all protested items will be heard on a single day. The items it issues are:

Frozen Smelts — Protest to treasury decision of March 29, 1923 making frozen smelts dutiable at 1c. per pound.

Frozen Herring — Protest to treasury decision No. 39492 making frozen herring dutiable at 1c. per lb.

Frozen Halibut & Salmon — Protest to treasury decision No. 39822 making dutiable all products of American fisheries landed in foreign territory and sold, unless immediately shipped to the United States without undergoing a process of preservation.

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Grit your teeth, but smile, don't frown,

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WHO'S THE THIEF?

A Scotsman, attended by his collie, was walking through a fish market when he stopped to inquire the price of some fine looking fish. While he was conversing with the fishmonger the collie's tail dropped for a moment over a basketful of live lobsters, and one of the largest of them instantly clamped claws on it, causing the collie to go dashing off through the market homeward, yelping with pain while the crustacean lunged grimly.

"Mon, mon!" the fishmonger appealed after one speechless moment of tense indignation, "whistle to yer dog!"

"Hoot, mon," the other retorted complacently, "whistle to yer lobster!"

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