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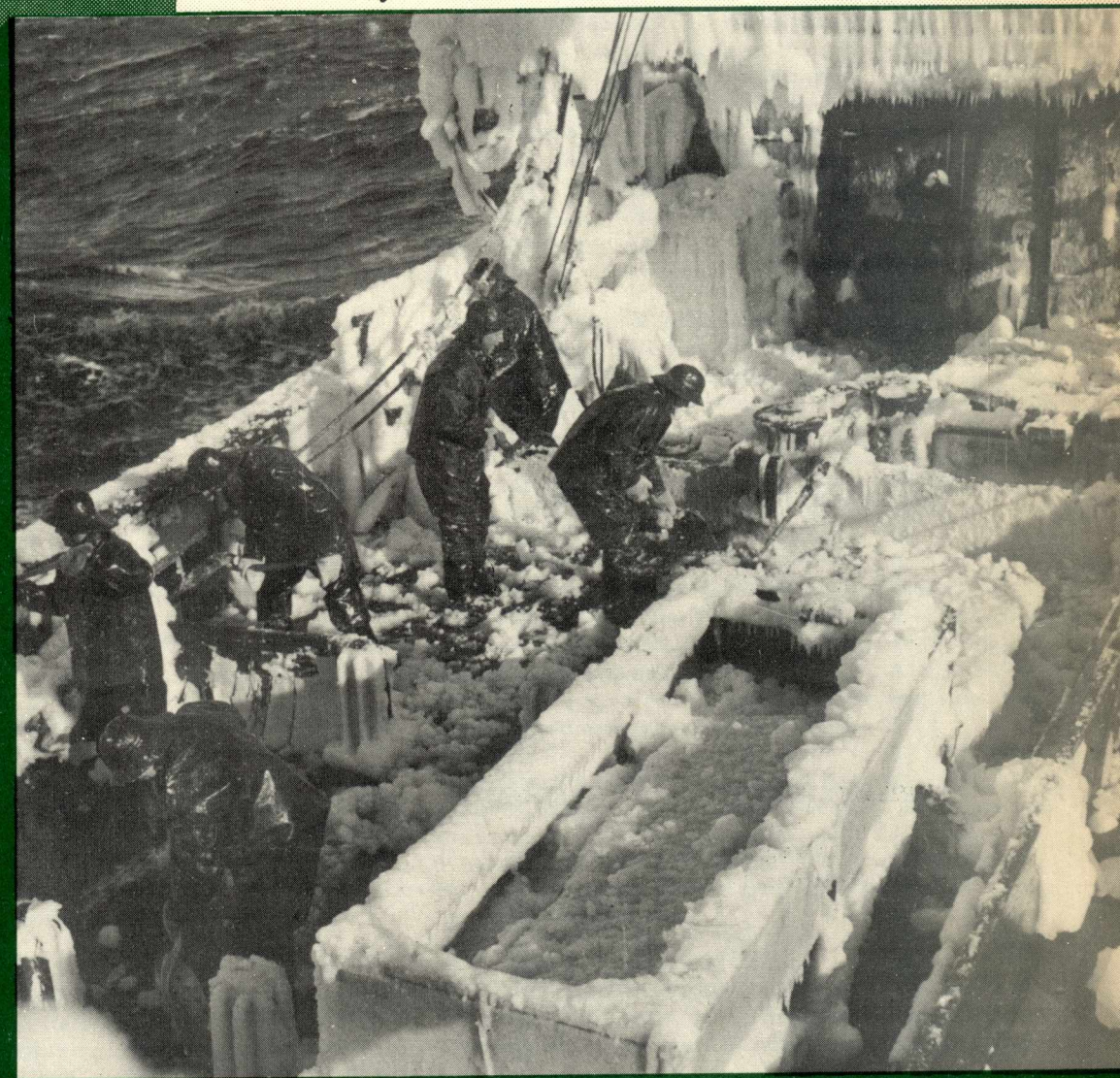

DEPARTMENT OF FISHERIES · OTTAWA, CANADA

TRADE NEWS

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JANUARY, 1954

FEATURES

CANADIAN FISHERIES NEWS

FISHERIES NEWS FROM ABROAD

THE SCIENTIFIC ARM. . .

of the Federal Department

of Fisheries is the

Fisheries Research Board of Canada.

THE Fisheries Research Board of Canada held its annual meeting in Ottawa early in January to review its activities during 1953 and to plan its programme of investigations for the coming year. Reports presented by the directors of the Board's stations across Canada showed considerable progress had been made in studies of the fisheries resources.

As the scientific branch of the federal Department of Fisheries, the Board conducts investigations to provide for the best possible management of the marine and freshwater resources, explores for new fishing grounds, and conducts experiments to improve methods of catching, handling, and processing so that top quality fishery products can be delivered by the industry to consumers at home and abroad.

Of recent years, Canada has become a partner with other countries in international agreements for the conservation of fishery resources of the high seas. Currently discussions, which are expected to lead to an international agreement covering the Great Lakes, are taking place between Canada and the United States. Pending this agreement an interim working committee has been formed between the province of Ontario and the Government of Canada, and a research programme has already been instigated on the Canadian side of the Great Lakes as well as a programme for control of the lamprey as a predator on usable food fishes.

As a result of this international activity, which has already brought about fisheries agreements in the North Pacific and Northwest Atlantic, the Board is gearing itself to meet the possible demand for additional fisheries research. This also applies to Canada's northern areas which have assumed new importance in recent years.

Last year the Fisheries Research Board Act was amended so that the Board might better cope with the scientific investigation of Canada's fisheries. Aimed at increasing the effectiveness of the Board, provision was made for the appointment of a full-time chairman and for more flexibility in the representation on the Board of scientists and members of the fishing industry in Canada.

Dr. J.L. Kask, the Board's first full-time chairman, presided over the Board's sessions. He welcomed the Board's three new members, Dr. Raymond Gushue, president, Memorial University, St. John's, Nfld.; Dr. T.W.M. Cameron of McGill University, director of the Institute of Parasitology, Macdonald College, St. Anne de Bellevue, Que., and Dr. Lucien Piche, University of Montreal.

The Board's new executive committee is composed of Dr. G.B. Reed, Queen's University, Kingston, Ont.; Dr. W.A. Clemens, University of British Columbia, Vancouver; Dr. J.R. Dymond, University of Toronto; Dr. P.E. Gagnon, Laval University, Quebec City; Mr. J.H. MacKichan, Halifax, N.S., and Mr. R.E. Walker, Vancouver, B.C. (Dr. Kask and Deputy Minister of Fisheries Dr. Stewart Bates are members ex-officio).

Previously the Board had appointed sub-executive committees to review periodically the work of its seven stations across Canada as well as the Board's investigations in the Eastern Arctic. These committees have now been changed to advisory committees and are made up as follows:

Eastern Advisory Committee: Mr. O.F. McKenzie, Halifax, N.S., chairman; Dr. C.W. Argue, University of New Brunswick, Fredericton; Dr. J.H.L. Johnstone, Dalhousie University, Halifax; Dr. Gagnon, Mr. McKichan, Dr. Piche, Dr. Cameron and Dr. Gushue.

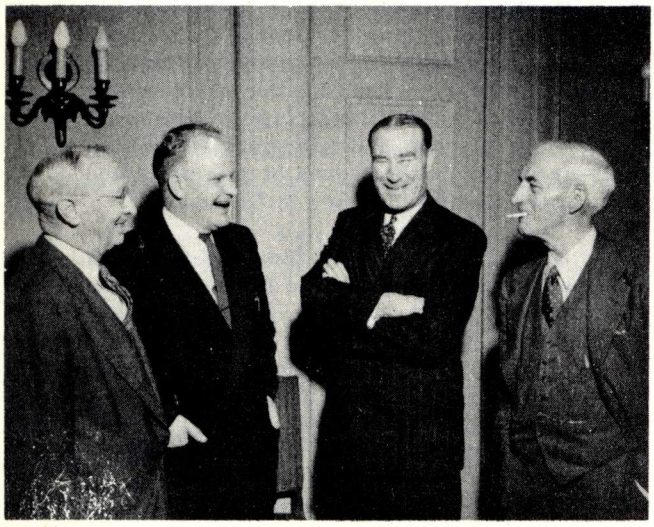
Central Advisory Committee: Dean I.M. Fraser, University of Saskatchewan, Saskatoon, chairman; Dr. A.L. Pritchard, Department of Fisheries, Ottawa; Dr. Dymond, Dr. Cameron, and Dr. Reed.

Western Advisory Committee: Mr. Walker, chairman; Mr. F.K. Harding, Prince Rupert, B.C.; Dr. Clemens, Dean Fraser, and Dr. Pritchard.

Significant advances have been and are being made by the Fisheries Research Board of Canada

in solving many of the problems affecting Canada's fisheries from Newfoundland to British Columbia. Many of the Board's investigations are of a continuing nature, and some idea of the scope of the Board's work may be obtained from some phases of the stations' investigations reported to the annual meeting.

The business of commercial fishing is becoming more and more stabilized as a result of the work



Left to right, Dr. J. R. Dymond, Dr. J. L. Kask, Otto C. Young, and Dr. C.B. Reed

of the fishery scientist. The fisherman is not forced to rely alone on his experiences and those of his forefathers to determine when fishing is going to be good.

There are several examples of this scientific approach to the problems of the fishermen, but one of the most outstanding on the Atlantic coast is associated with the scallop fishery off Digby, N.S. As a result of several years' investigations, Board scientists are able to forecast the abundance of catches for forthcoming seasons. They report that prospects for the 1953-54 fishery appear even better than 1952-53 which was one of the best years in the history of the fishery since 1937.

A definite relationship has been found between temperatures and the number of scallops surviving the egg-stage in any given year. If water temperatures are high following spawning time, a strong year class of scallops is produced and six years later, when the molluscs have grown to fishable size, landings are high. Other factors, such as the intensity of fishing, which is related to market value and weather conditions, all enter the picture.

While the Board feels that its predictions are reliable, it is continuing its studies in an attempt to standardize them better and to follow any changes in the relationship between landings and population which may result from regulations introduced last season.

The Fisheries Research Board has long been trying to develop means whereby the commercial fishermen could take advantage of the large stocks of herring thought to be present in Atlantic waters. The present fishery is unsatisfactory since it is based almost entirely on spawning fish found close inshore during two short periods of the year.

In 1953 the Board's explorations for herring in offshore waters were expanded to include trawling with special bottom trawls of French and Dutch design as well as drift-netting. Sonic sounders were used aboard its experimental vessels to locate the roaming schools of fish. Next year herring will be trawled for in the more promising areas discovered in 1953, with the Board using a 60-foot dragger of the size now common in the southwestern Gulf of St. Lawrence. Scientists believe that prospects are bright for a new commercial herring fishery in this area. The fish, it is reported, are suitable for top quality food products.

Shifts in the location of populations of various fishes can be a major problem to Canada's fishermen, and as a result an important part of the work of the Newfoundland Fisheries Research Station at St. John's is to find out where fish are to be found in the greatest quantities and why.

One otter-trawling survey made by the research vessel "Investigator II" showed the presence and distribution of excellent supplies of cod on the Hamilton Inlet Bank off southern Labrador, a region only recently fished extensively by European vessels, but as yet not at all by Newfoundland trawlers. One part of the bank also yielded good catches of American plaice.

LONG-LINING IN NEWFOUNDLAND

The comparative efficiency of various methods of fishing also is a matter of continued investigation. With the decline to veritable extinction of dory fishing for cod, due mainly to lack of fishing crews, another type of long-lining operation is growing in popularity. In this method the fishermen work directly from boats, mostly 45 to 55 feet in length similar to those used by the research station in experimental work during the past few years. Using four of these long-liners, made available by the federal Department of Fisheries, the St. John's station during 1953 carried out experimental fishing for cod in southern Labrador, off Bonavista and the Baccalieu area off the east coast of Newfoundland, in Placentia Bay, Fortune Bay and the Ramea Burgeo Bank area off the south coast, and along almost the whole of the west coast of the island.

Among other things, these explorations showed good deep-water catches off Labrador in

July but not in August. They showed that successful long-lining can be carried on off Bonavista as early as the first week in May, as soon as the ice disappears, and that good fishing is possible in the deep-water Baccalieu area in June, with excellent long-lining in this region in October both in deep water and in the inshore area. On the west coast of Newfoundland, some long-lining grounds which may be further investigated were found off Port au Choix during the year. Excellent catches were obtained in the vicinity of the Port au Port peninsula.

Danish seining investigations were carried out by the "Matthew II," which was loaned to the station under nominal charter by the Government of Newfoundland. During the year the "Matthew II" covered a good part of the south coast and also areas on the Grand Bank and in the channels between the offshore banks. The offshore areas were more productive than the newly investigated inshore areas for this type of operation. The fish chiefly looked for was the witch flounder, of which several good catches were made on the southwest slope of the Grand Bank.

An attempt by the "Investigator II" to catch witch flounder by trawling on the commercial Danish seining grounds in Fortune Bay, on the south coast, made possible an interesting comparison. It showed

Front row, left to right, Dr. A.L. Pritchard, Dr. Stewart Bates; Dr. C.W. Argue, Dr. P.E. Gagnon. Back row, left to right, Dr. J.L. Kask, J.H. MacKichan, O. F. McKenzie, Dr. T. W. M. Cameron, and Dr. Raymond Gushue.

that a Danish seiner of considerably less size and power could outfish a trawler for this flatfish. The trawler was more successful for cod and redfish, however.

Commercial fishermen are now profiting directly from many of the discoveries of redfish in the North Atlantic made during investigations by the Newfoundland station. Commercial fishing now is being conducted over much of the redfish area discovered or explored by the station's boat "Investigator II" and by local trawlers. However, as fishing has been good in the southern part of this area, some of the northern sections discovered are still not exploited commercially.

The Grand Bank of Newfoundland, noted mostly for its wealth of cod, may also be a rendezvous for swordfish, it was reported at the meeting. Large numbers of swordfish were seen all along the southwesterly slope of the Grand Bank last July and became more numerous towards the southern tip of the bank.

Lobsters, which provide an important part of the yearly revenue to Atlantic Coast fishermen, are also the subject of continuing investigation. Experiments have revealed that lobsters can be held for seven months without food. This is of considerable interest to those who ship lobsters to distant places. In addition, fishery scientists are experimenting with more durable types of lobster traps made from steel rods. They hope to cut down the losses incurred by fishermen during heavy storms.

NEW DISCOVERIES

On both coasts the Board's biological and experimental stations carry out a wide range of investigations. The general public is unaware of many of these, although the Canadian fishing industry has been able to use the results to advantage. In 1952, the Board discovered large quantities of bait worm in New Brunswick and brought their findings to the attention of the industry. Last year some 3,000,000 worms were shipped, packed in seaweed, to the United States bringing a sum of $50,000 to diggers. This of course is only one of the minor accomplishments of the Board, but it is indicative of its activities in helping the commercial fishermen develop new industries based on fisheries resources in coastal areas.

One of the major investigations during the past year in British Columbia has been the work of fishery scientists to assess the success of the efforts of the federal Department of Fisheries to save the valuable runs of sockeye salmon, which spawn in the headwaters of the Babine River, following the almost disastrous rock slide into the Babine Canyon in northern British Columbia in 1951.

Although the complete picture of the effect of the slide will not be seen until later years, it is already apparent that quick action by the Department has aided the Babine sockeye in making a comeback.

The 1953 deposition of eggs in the Babine system was very satisfactory, it was reported. Observers estimated that there were 1.3 billion eggs,

six times as many as there were in 1951, the year of the slide.

Scientists evaluating the value of stocks during the past few years, by means of counting fences and tagging operations, have discovered a remarkable fact. This is that although the 1951 run of adult sockeye was reduced to one-third that of previous years, the number of smolts (young salmon) resulting is about two-thirds the smolt runs of pre-slide years. The scientists have come to a tentative conclusion that the natural resilience of salmon populations, when submitted to stress, is already tending to alleviate the effects of the slide.

The results of the Department's work also were evident when the Research Board's observers made the 1953 count of salmon on their way to spawn. The Babine run, before the slide, was about 500,000 sockeye. In 1951 and 1952 the runs were

Front row, left to right, Dr. W.A. Clemens, R.E. Walker, and Dr. J. L. Kask. Back row, left to right, K. F. Harding, Dean I. M. Fraser, Otto C. Young, Dr. Stewart Bates.

150,000 and 377,000. Last year, after the removal of the slide, the run not only assumed its regular pattern but surpassed the normal half-million total by 200,000.

Fishery scientists have long searched for some means, simple or otherwise, to help fish bypass high dams and stay away from diversion channels. The answer may be found in the fact that an active repellant, which alarms fish, is found in the skin of the sea lion and seal, and deer feet, as well as in the human hand. Board scientists believe that this active repelling agent introduced into the water may provide a means of deterring salmon from attempting to jump the dams and to lead them into the fishways.

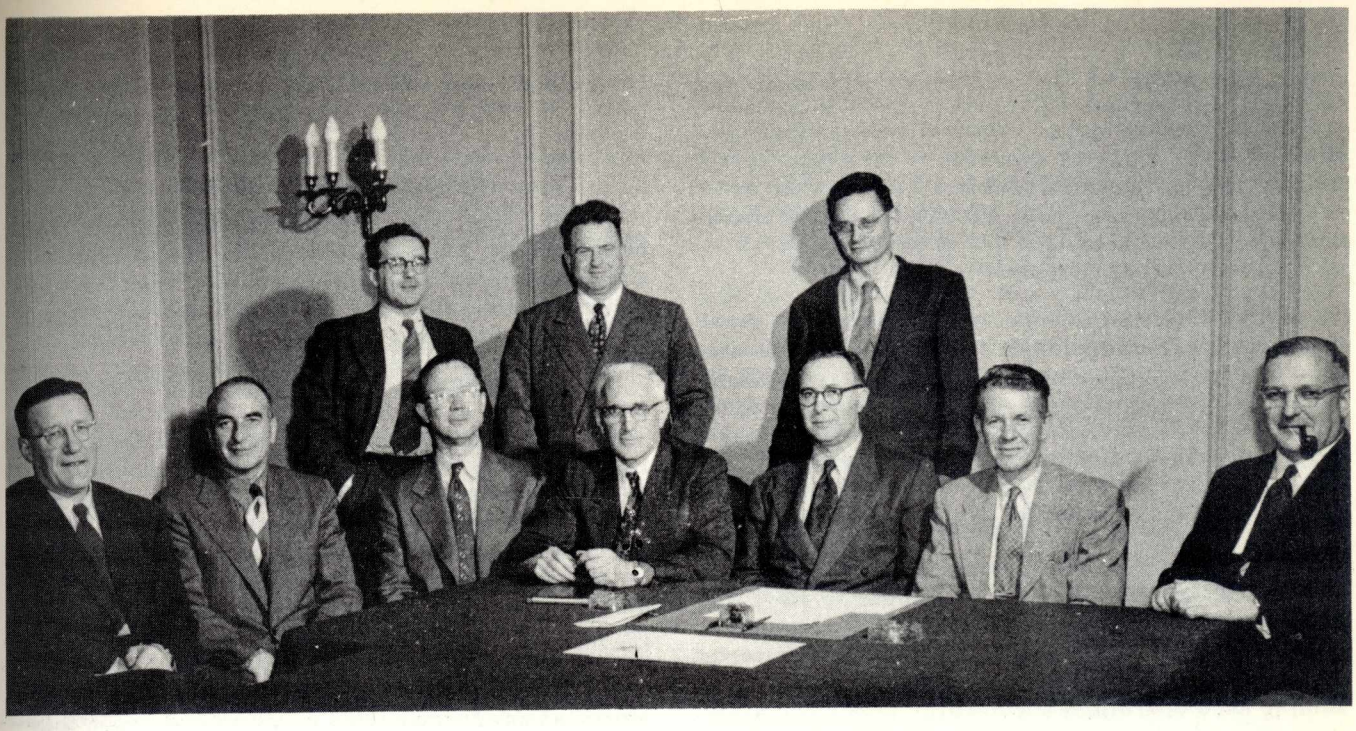
Other investigations on salmon are carried out in British Columbia to help the different species meet the many threats they face. The habits and reactions of the fish themselves, when known, help provide the answer to certain survival problems. Power dams particularly present an increasing potential hazard to the migration of salmon populations. An experimental trough has been placed in Lakelse River, B.C., so that smolts (young salmon) migrating downstream can be watched as they are submitted to tests. Some have been subjected to light of various intensities and colours. Others were met with screens of air bubbles or chains hanging in the water at intervals of from two to 10 inches.

FRESHWATER BIOLOGY

The Central Fisheries Research Station, Winnipeg, Man., is the only one of the seven stations of the Fisheries Research Board of Canada primarily concerned with freshwater biology. Investigations by the station biologists have revealed that there are no signs of recent depletion of fish stocks in Lake Winnipeg such as reported by some fishermen.

Projects carried out by the Central station's staff in Great Slave Lake, N.W.T., and Lake Winnipeg, are primarily concerned with the determination of the general principles regarding the best methods to manage lakes so that they will produce maximum fish crops. Great Slave Lake was first opened to commercial fishing in 1945 as the result of recommendations made following a biological survey. It is the only lake of its size which has been under constant biological investigation since commercial fishing started in its waters. To draw their conclusions biologists are continuously conducting a detailed study of the Great Slave Lake fishery. Fishermen are interviewed daily and as a result of the interviews, supplemented by information from fish buyers, data are recorded on the amount of fish caught, the exact place where they are caught, amount of gear used, how long the gear is fished, and similar relevant data. Not only is the amount of fish that is actually landed recorded, but an estimate is also made of the species from Great Slave Lake which are thrown back as useless, as well as the amount of commercial fish discarded because of spoilage. From this information the catch per net can be calculated.

The Central station scientists last year tried out experimentally in Lake Winnipeg near Elk Island a flounder drag or otter trawl, such as is used in the Atlantic by fishing vessels. This is believed to be the first time that an otter trawl has been used in fresh water in Canada. Although results so far do not indicate the flounder drag would be a successful way of taking commercial fish in Lake Winnipeg, the gear proved quite successful for getting specimens for experimental purposes.



Directors of the seven stations of the Fisheries Research Board of Canada and other senior scientists. Seated, left to right, H.B. Hachey, oceanographer-in-charge, Atlantic Oceanographic Group, St. Andrews, N.B.; Dr. H. Fougere, acting director, Gaspe Fisheries Experimental Station, Grand Riviere, Que.; Dr. J.L. Hart, Director, Pacific Biological Station, Nanaimo, B.C.; Dr. S.A. Beatty, director, Atlantic Fisheries Experimental Station, Halifax, N.S.; Dr. W. Templeman, Director, Newfoundland Fisheries Research Station, St. John's, Nfld.; Dr. N.M. Carter, director, Pacific Fisheries Experimental Station, Vancouver, B.C.; and Dr. A.W.H. Needler, Director, Atlantic Biological Station, St. Andrews, N.B. Standing, left to right, Dr. M.J. Dunbar, McGill University, Montreal, senior scientist in charge of the Board's Eastern Arctic investigations; Dr. W.A. Kennedy, acting director, Central Fisheries Research Station, Winnipeg, Man., and Dr. W.E. Ricker, editor of the Board's publications, Nanaimo, B.C.

Recently Aureomycin was found by the Pacific Fisheries Experimental Station to be the most effective of 15 antibiotics tested for preserving fish. Tests made with flaked ice containing Aureomycin resulted in a marked improvement in the keeping quality of the catch, as compared with keeping quality in ice alone. Further work on antibiotic preservation is to be carried out using Aureomycin and tetracycline, a more stable derivative of Aureomycin.

During another experiment fish were treated in an Aureomycin solution in tanks aboard two British Columbia salmon trollers. This method was developed because it was felt that ice containing the chemical might not always be readily available. The temperature of the tanks was maintained by mechanical refrigeration at about 30°F., slightly lower than that provided by ice. These tests also showed that a much better landed product resulted than when the dressed fish were stored in ice alone. This work on new methods of preserving fish is being watched with interest by major fish producing countries of the world.

The station also experimented with other methods of keeping fish sea-fresh. Refrigerated sea water was used with considerable success on a small scale. Later, because of the interest shown by fishermen and the fishing industry in the results, tests were made on a larger scale in order that the necessary engineering information on the new equipment could be made available. These tests are being continued with equipment installed on the Board's Pacific Biological Station's research vessel "Investigator No. 1", while engaged in a shrimp prospecting survey on the B.C. coast. Care was taken to use equipment and materials suitable and economically feasible for application by commercial fishing boats. Already some British Columbia fishing boats are making preparations to employ this method for holding their catch.

Considerable work has also been done by the Pacific Fisheries Experimental Station on brine freezing fish at sea, which would result in faster freezing with less salt penetration into fish flesh. If this method proves practical it could provide a very compact and efficient freezing system for small fishing craft.

The Atlantic Fisheries Experimental Station at Halifax, N.S., has discovered a cheaper method

of extracting d-glucosamine hydrochloride, a chemical which inhibits the growth of certain tumors in mice. The chemical is extracted from lobster shells. Experiments were carried out to produce sufficient quantities for research with cancer patients, and to obtain an estimate of the cost of production on an industrial scale. The station processed 13,500 grams with a purity of 99 per cent, and this is now being used for medical research at the Montreal General Hospital.

The Halifax station, by combining the most attractive parts of methods known for the preparation of crude chitin, has developed a procedure by which the crude material can be prepared in good yields from lobster shells. From the limited experiments the station was able to perform, it was concluded that chitin threads can also easily be produced from lobster shells.

The Board's Gaspe Fisheries Experimental Station at Grande Riviere, Que., hopes to show the fishing industry how to mechanize its Gaspe Cure light-salted fish plants with the object of eliminating some of the back-breaking labour and time consuming hand operations involved.

The Gaspe cure salt fish is salted in deep tubs, the salter usually carting both the fish from the splitting table and the salt from the salt bin to the tubs. He must also bend over into the tub to salt the fish, a tedious job which few men are able to carry out for any length of time. The tubs are emptied by hand, another time-consuming operation.

It is the belief of the Gaspe station that a modern light-salt fish plant should consist of a properly designed splitting table equipped with a conveyor to carry the fish to the salter. The salted fish should be mechanically transferred to the curing tanks which in turn should be emptied by mechanical means.

LIGHT-SALT FISH PLANT

During 1953, successful experiments were conducted by the station with the result that it is now possible to design a mechanized light-salt fish plant where the fish are conveyed from one stage to another in containers picked up by an overhead conveyor. A scale-size model of such a plant is now being designed at the station.

Gaspe fishery scientists have also developed a light-salted fish fillet of cod with some of the charachteristics of the Gaspe cure for which Quebec has long been famous.

The fillets, cut from green Gaspe Cure and desalted for 30 minutes in cold water have the same physical qualities as those of fresh fish. They may be kept in a good state of preservation for ten days at 35°F. They may be quick frozen or otherwise, stored at any freezing temperature and, upon thawing in water, will turn out to be like fresh fillets with an additional quality resulting from the cure.

Numerous samples were distributed in a community where fish of excellent quality is usually consumed and the reaction was very favourable. The general realization of such a product will depend a great deal upon the uniformity with which it can be cured, a problem which, in the light of the several experiments already carried out, may be solved. ✔

Shipping Container Tested

Fresh unfrozen haddock and cod fillets arrived in Ottawa in top quality condition after a 100-hour trip from Newfoundland by boat and rail last month. This is believed to be the first time that fresh Newfoundland groundfish fillets have arrived in such prime flavourful condition after being shipped for such a distance without being frozen.

The test shipment was made by the Canadian National Railways using the recently developed CNR "Canex" fish shipping container. Plant-chilled prior to shipment after being caught in the inshore waters adjacent to Isle aux Mortes on the south coast of Newfoundland, the fillets were landed at Port aux Basques for delivery to Ottawa.

The fillets were held in the containers at a constant temperature of 29°F. in transit. Both the haddock and cod fillets were moist and firm and tests showed them to be perfect in condition, colour, taste and freshness.

A test group of senior officials of the Department of Fisheries examined the fish and sampled it after it was cooked in the Department's home economics kitchen. Uncooked samples were also delivered to a selected number of people in Ottawa, who all reported that the quality was excellent and equal in freshness and flavour to when taken from the water.

B.C. Herring Catch

At the beginning of the year the British Columbia fisheries spotlight centred on the second phase of the 1953-54 herring season. The year ended with the usual Christmas layoff, when 60 seiners and their attendant packers and service boats put into port for a brief spell, with a record catch of 138,000 tons marked up for the fall operation. Pre-Christmas fishing had ended in the Northern area, where the 30,000-ton catch limit had been taken in brief but intensive fishing. When the fleet set out again on January 4 about half went to the west coast of Vancouver Island, with the balance mostly scouting in the central area.

Newfoundland Fisheries – 1953

THE YEAR 1953 saw many significant happenings on the Newfoundland fisheries scene. Outstanding among these was the completion early in the year of the Newfoundland Fisheries Development Committee Report, which provided a framework for the development and modernization of the fisheries of the province.

A second feature of the year was the introduction by the federal Government of a plan for the protection of fishermen covering losses arising from damage to, or destruction of, fishing boats and certain types of catching gear. This plan, known as the Fishermen's Indemnity Fund, is applicable to all Canadian fishing areas. It represents an important step toward the alleviation of the capital risks inherent in the industry.

The year also reflected the industry's gradual change toward new methods of catching and processing marine resources. This was represented by continued capital investments in processing establishments and in mechanized fishing vessels and equipment.

On the output side, the 1953 results were somewhat less rewarding than those of 1952. This was mainly attributed to the decline in the production of salted codfish, combined with the lower prices received by fishermen.

SALTED CODFISH

Estimates made at the end of November placed the year's catch at approximately 460,000 quintals of light salted and 270,000 quintals of heavy salted fish. In terms of equivalent light salted dry weight this represents a decline of some 115,000 quintals, or about 17 per cent from the 732,488 quintals produced in 1952.

There being no substantial reduction in the fishing force in 1953 the drop in salted codfish production was not, as happened during the previous year, principally ascribable to the movement of fishermen to other forms of employment. Rather, it was due in large measure to smaller average catches.

Sole marketing rights for salted codfish remained with the Newfoundland Associated Fish Exporters, Limited, and were, in fact, extended for three years from March 31, 1954. However, in order to broaden the opportunities for inter-provincial trade, provision was made to permit sales of saltbulk and wet pickled fish without the intervention of NAFEL, between Newfoundland exporters (including fishermen or groups of fishermen) and buyers from the Canadian mainland and Continental U.S.A., provided sales in the form of contracts were arranged before April 30. This deadline was later extended to May 31 for 1953.

Another modification in the marketing system was the establishment of a consultative committee which makes a continuous review of NAFEL'S operations in the marketing of salted fish, the state of markets, relative prices, costs, production and other matters associated with marketing. This committee consists of representatives of the fishermen, of NAFEL and of the Provincial Government.

AGREEMENT REACHED

Arising out of discussions in September with the Hon. James Sinclair, Minister of Fisheries, and subsequent meetings between fishermen and the fish trade, a firm agreement was reached upon the principle of sharing the returns from the market. Advance payments to the fishermen based on anticipated market returns were agreed upon with the provision that the fishermen would receive the major share of any higher returns from the market.

The federal Government's decision to purchase about half a million dollars' worth of salted codfish on the mainland and a further half-million dollars' worth in Newfoundland, for relief purposes in Greece and in Korea, had a beneficial effect on returns to fishermen.

One new fresh fish processing plant was completed during the year, making the fourteenth in operation, and construction was begun on two others. The dragger fleet increased from 21 to 25 vessels. However, production of groundfish fillets estimated at 34 million pounds, was nearly eight per cent below that of 1952.

Contributing to this reduction were the decline in the "inshore" fishery, the fact that several freezing plants were inoperative for a good part of the season and the turnover of personnel on some of the largest draggers which adversely affected off-shore landings.

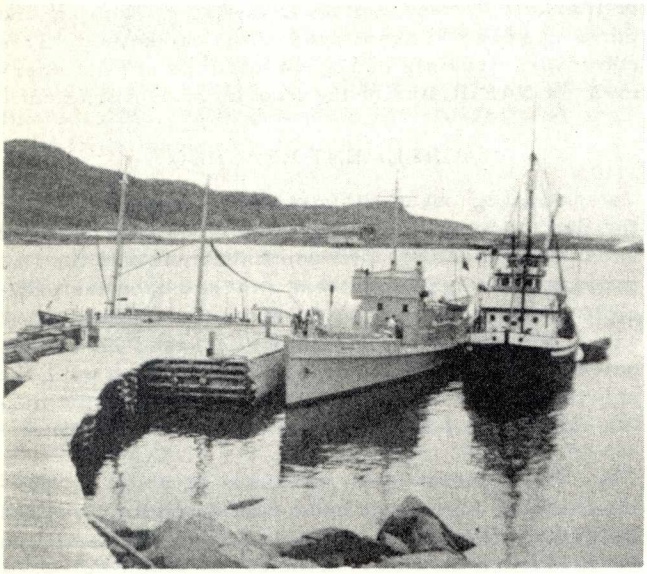
Increases were recorded in the production of certain species, such as haddock and greysole, but these were outmatched by reductions in others such as cod which alone registered a drop of three million pounds.

As in previous years, the United States was the main outlet for Newfoundland frozen fish. In this market, prices were somewhat depressed during the first part of the year, but as the season progressed prices became stabilized at improved levels.

(Continued on next page)

Herring: production of pickled herring, other than "Scotch" cure, was estimated at 40,200 barrels during 1952-53, a drop of about six per cent below the previous year. The "Scotch" cure pack, which some years ago was quite large, was of little consequence, amounting to but 1,125 barrels compared with 2,869 in 1951-52.

Lobster: in spite of a late opening season on the North East coast, overall exports of lobsters in the live state was 4.1 million pounds compared with 3.5 million pounds in 1952. The U.S. was the main



"Marvita" and "Western Explorer" at Quirpon.

market and returned prices to fishermen averaging approximately 26 cents per pound, three cents more than in the previous year. Production of canned lobster was estimated at 588 cases compared with 727 in 1952.

Salmon: production was about the same as in 1952. Landings totalled approximately 3.4 million pounds of which the bulk was marketed in fresh and frozen state. The remainder was canned, pickled or consumed at home. The quantity of canned salmon was estimated at 3,760 cases, over 2,000 cases less than in 1952.

Squid: there was a notable improvement in the supply of squid in 1953, with total landings estimated at 8.1 million pounds. Supplies for bait purposes were more plentiful in all areas of the province while production of dried squid was again insignificant due to a limited market.

Seals: while the sealing fleet of seven ships was four less than in 1952, the total catch of these vessels, 80,336 seals, was only 5,000 below that of the previous year. However, the net value of $163,000 was markedly below the $262,000 of 1952. Over 26,000 seals were taken by landsmen in 1953 compared with 20,000 in 1952.

Whales: there was little whaling carried on in 1951 with two of the factories still closed and the other confining operations principally to "pothead" whales.

Fish Meal: production was estimated at 16 million pounds, a drop of about 20 per cent from that of 1952. Declines were registered in all categories of meal products with the exception of white fish which showed an increase of about two million pounds. The greatest drop occurred in homogenized fish which approximated four million pounds.

Marine oils: production declines were registered in all types of products with the possible exception of herring oil. No caplin oil was produced and the drop in cod liver oil exceeded 100,000 gallons.

BAIT SERVICE

This service, which was inaugurated in 1934, became a division of the federal Department of Fisheries following the union of Newfoundland with Canada in 1949. Twenty-one bait depots are now in operation on the South, Northeast and Northwest coasts of Newfoundland, together with the refrigerated carrier, M.V. "Arctica".

In addition to maintaining adequate supplies of bait for fishermen at all times, the depots are used for the freezing and storage of meat and fish for local consumption, blueberries for export, mink feed and other commodities.

During 1953 two of the depots were leased to a commercial firm but, in addition to being used for other work, they will continue to provide bait to fishermen on the same terms and conditions as others operated by the Department. Construction was also begun of another depot on the lower Northeast coast.

The M.V. "Arctica" had a busy year, freezing bait supplies and transferring frozen stocks to the various depots when required. Another of the Department's vessels, the M.V. "Eastern Explorer", assisted in distribution work during the early spring. The "Arctica" was also assigned for a period to patrolling a section of the south coast when foreign draggers were reported to be fishing within territorial waters.

A total of 3.5 million pounds of bait was frozen during the year compared with four million pounds in 1952. Total sales amounted to 2.7 million pounds compared with slightly under four million in the previous year.

Another result of confederation was the changeover of protection and conservation of anadromous fish from provincial to federal responsibility. The province retains authority in certain

respects such as, for example, the issuing of licenses to anglers.

In general, spring weather came to Newfoundland earlier in 1953 than for a number of years, the result being that in some areas salmon had already entered the rivers when the angling season officially opened on May 15. Sport fishing maintained a fair average, the estimated number of salmon taken on rod and line, 15,740, comparing remarkably with the 15,836 in 1952. Average size was rather small but certain rivers, as in the past, produced quite large fish.

Of the total 1953 catch, 15.6 per cent were salmon, i.e. exceeding six pounds in weight, the rest being grilse. The largest fish taken weighed 34 pounds. The protection staff of 127 included 91 seasonal employees. In addition to these, other groups carried out a programme of river improvements.

An extensive survey was also made during the year of most of the major salmon rivers in Southern Labrador.

INSPECTION

The continued expansion of the fresh fish processing industry, together with considerable activity in the salt cod fishery, combined with other factors to make this another busy year for the Inspection Service. Salt fish inspection required the attention of the branch throughout the year, as the new season's catch became ready for inspection while the last of the previous year's production was being inspected.

In general, the quality of the 1953 production of light salted codfish was substantially higher than that of 1954. This is attributed, at least in part, to better drying conditions.

Other duties of the inspection staff included the inspection of all premises where fish or fishery products are processed, the inspection of dried squid, marine oils and pickled fish, the inspection of cooperages and packages used for export of fishery products, the enforcement of lobster regulations with emphasis on lobster conservation, and the collection of fisheries statistics.

Special emphasis was also placed on the training of new members of the inspection staff, who filled vacancies created by the retirement or resignation of experienced inspectors.

The year also saw the introduction of a programme designed to establish fisheries officers in larger fishing centres throughout the island.

New space was acquired for the Newfoundland Fish Inspection Laboratory, which functions as the scientific arm of the Department's Inspection Service in Newfoundland as distinct from the biological and experimental station of the Fisheries Research Board of Canada.

The Fishermen's Indemnity Fund, a plan set up by the federal Government to provide low cost protection for fishermen's boats and catching gear, was applicable only to boats in Newfoundland during 1953. In the coming season, however, it will be extended to lobster fishing equipment as it has already in other areas.

A programme aimed at acquainting fishermen with the details of the Fund and the benefits to be derived from it was intensively pursued with good results. At the end of November, over 700 boats had been covered with a total appraised value of over one-half million dollars.

INDUSTRIAL DEVELOPMENT

The past year saw a continuance of the development surveys which began two years ago. The programme of experimental long-lining which was begun in 1950 and which has resulted in the accumulation of a vast amount of valuable data and the discovery of rich new fishing grounds was also continued.

At Bonavista, one of the foremost fishing centres on the northeast coast, the Department of Fisheries, in co-operation with the Bonavista Cold Storage Company Limited, built a drying plant to experiment with the processing of light salted fish. The purpose is to ascertain whether artificial drying is a commercially feasible operation when the fish is purchased from the fishermen either in round or gutted-head-on state. Secondary considerations are the production of other types of salt fish products so as to benefit from the economies of diversification. ✔

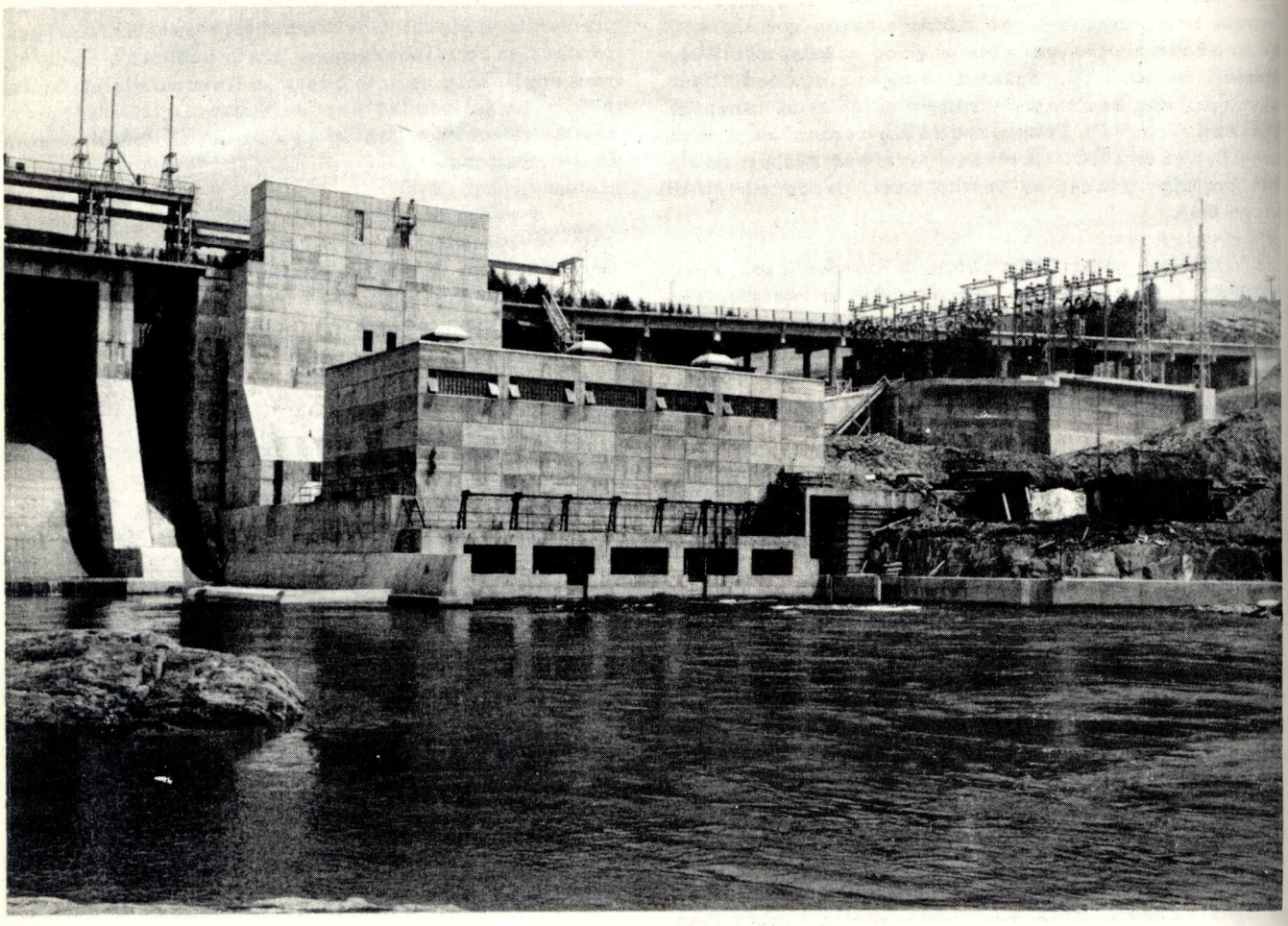
B.C. Fisheries Notes

Following a recommendation of the Fisheries Research Board of Canada the Department of Fisheries in British Columbia authorized trawl net fishing in Satellite Channel from December 1 to January 31. Catches from this fishing effort will be checked and studied by the Board's Pacific Biological Station as part of an overall survey of the flatfish populations of this coast.

* * *

The largest government confiscation of fish in many years was recorded on the Pacific coast in November, when federal fishery officers seized 41,000 pounds of salmon, landed in two shipments on the Vancouver waterfront. Pacific coast Departmental officials claim the fish had been caught or shipped from Vancouver Island or gulf islands points, where all commercial fishing had been closed for more than two weeks.

Canada's Highest Fishway



Power house at Tobique Narrows, N.B. showing fishway gallery at power house face.

CANADA'S highest fishway is located on the Tobique river, a tributary of the Saint John in Victoria County, New Brunswick.

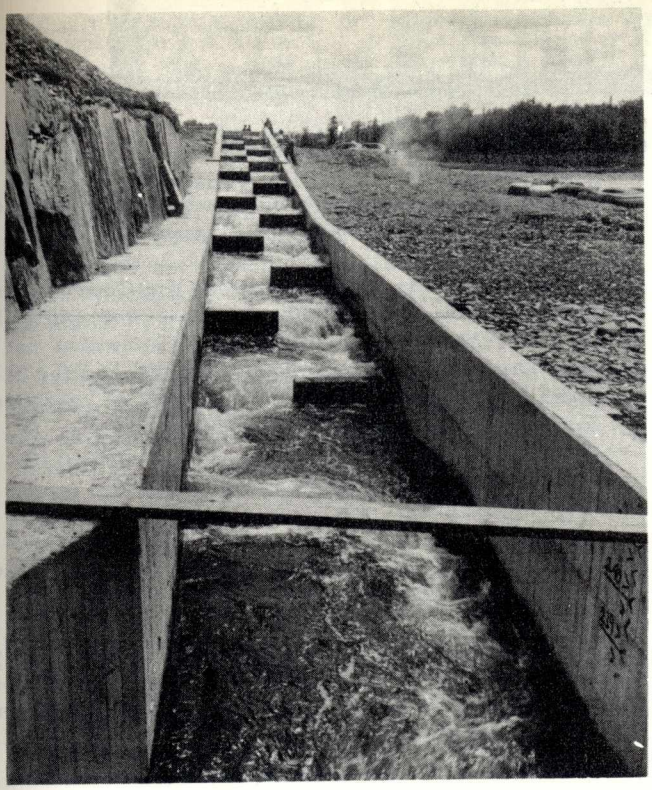
The 1,170-foot fishway rises 80 feet over a zig-zag course allowing Atlantic salmon to by-pass successfully a power dam to spawn in the upper reaches of the Tobique, an internationally famous salmon fishing stream.

The Tobique flows into the Saint John river about 200 miles from the sea, and is recognized as the main spawning tributary for the Atlantic salmon populations in the drainage basin. It supports also much of the commercial fishery in Saint John Harbour and the angling in the main river.

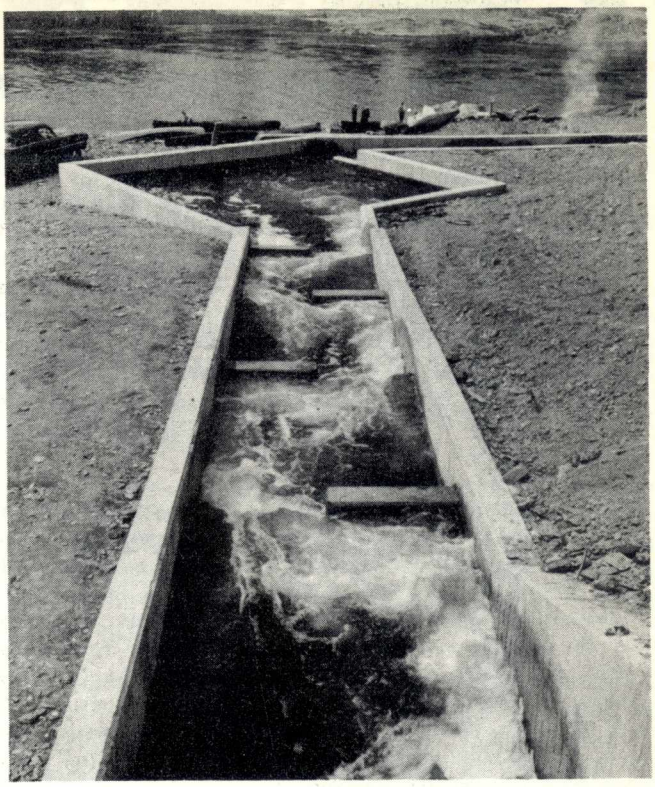
The concrete fishway starts at the very face of the powerhouse of the New Brunswick Electric Power Commission, and leads the fish in easy stages up a winding course to the water above. As well as being successful in passing fish safely up-river to the spawning beds, the fishway has also been an example of the marked co-operation between industrial engineers and the federal Department of Fisheries. Representatives of the New Brunswick Power Commission first met with representatives of the Department three years ago in the planning stages of the then proposed power development in The Narrows of the Tobique river.

MODEL DAM TESTED

Through arrangement with the Federal authorities the National Research Council in Ottawa built, at the request of the New Brunswick government, a model of the Tobique dam and from this design determined the conditions of the flow which could be expected at various water levels. The Power Corporation of Canada, which designed and built the power plant, then designed the fishway aided by the engineering division of the Conservation and Development Service of the federal Department of Fisheries. These plans were later submitted to and approved by the Minister of Fisheries.



First leg of zig-zagging fishway.



Lower resting pool for salmon.

Four manually-operated entrance gates are located at the lower end of the fishway, and water conditions in the tail race determine which gate should be opened to provide easiest access. Partitions along the eight-foot wide fishway break the force of the water creating pools to help the fish in their ascent. Large pools are located in each of the four turns of the fishway, and here the fish can rest in a minimum of five feet of water.

EASY ASCENT PROVIDED

The workability of the long "fishway-detour" was assured shortly after it was opened in the latter part of April even though the run of Atlantic salmon had not yet reached the Tobique. As suckers, a sluggish and lazy fish, passed readily up the fishway when it was opened on April 28 last year it was assumed that the salmon, a fighting game fish, would not encounter any trouble whatsoever. This proved to be the case.

A counting trap was installed at the head of the fishway, and three fishery officers kept a 24-hour vigil while the 1953 run of Atlantic salmon was in progress. The first salmon reached the fishway on May 25, 1953, and by the middle of June the fishway was reported operating excellently. Over 4,600 fish found their way safely to the spawning grounds during 1953.

Fishery biologists, and of course the angler and the commercial fishermen, are watching with interest the results of both the upstream and downstream migration of the fish. British Columbia fishery engineers and biologists are hoping that the Tobique project will furnish additional data to augment the information they are collecting with regard to the study of the upstream migration of fish past high dams. ✔

B.C. Fisheries Forum

Representatives of the fishing industry and the Department of Fisheries in British Columbia listened to the scientific point of view when members of the staff of the Pacific Biological Station of the Fisheries Research Board of Canada presented papers at an "open house," held in the station at Nanaimo, B.C. in December.

In a comprehensive review of main activities carried on throughout the year, 19 biologists and technologists spoke on subjects which covered a wide range and included studies and surveys of most of the important commercial fisheries on this coast. After each group of papers had been read, informal discussions were held on their contents.

Approximately 50 fisheries men made the trip across the Gulf of Georgia from Vancouver to Nanaimo to attend the meeting. They included representatives of the fishing industry, the federal Department of Fisheries, the B. C. Provincial Fisheries Department, the fishermen's union, fishermen's co-operative associations, the vessel owners' association, the press and radio.

Canadian Fisheries News

British Columbia Salmon Closures

The success of the 1954 sockeye salmon fishery on the Fraser River, British Columbia, will depend almost entirely on the Adams River run. This statement, made by Loyd Royal, Director of the International Pacific Salmon Fisheries Commission, at its annual meeting with the B.C. fisheries industry in Vancouver, was the highlight of an address which covered the vagaries of past salmon runs and gave a scientific estimate of what might be expected in the coming season.

Looking back at the past season Mr. Royal said the surprise of last year's runs was the large number of Chilco fish, which were unexpected. It had been determined, however, that a large percentage of these fish were five-year-olds produced by the heavy spawning in 1948. Another feature of 1953 was the welcome rejuvenation of the Quesnel runs. From an original brood year escapement of 20,000 fish, the run this year amounted to approximately 500,000, of which 105,000 escaped the fishery to successful spawning.

Mr. Royal voiced his confidence that this formerly great sockeye run was definitely on its way to permanent rehabilitation. The rapid rebirth of the Quesnel run, said Mr. Royal, completely justified the stand of the Commission when the possibilities of the Quesnel as a potential sockeye producer had been challenged by hydro-electric power interests.

LARGEST ESCAPEMENT SINCE 1913

As a whole the 1953 Fraser River sockeye run was the largest since 1917 and the escapement to spawning grounds was the largest since 1913. The spawners were well distributed and should provide an increased run in 1957, although the overall escapement picture was not without its disappointments. Approximately half of the large escapement on the late Stuart run died without spawning, Mr. Royal said. This was due principally to its early arrival when water temperatures were too warm. Mr. Royal could not say whether Hell's Gate, past regulations or nature had been responsible for the unusually early timing of the late Stuart migration.

Mr. Royal pointed out that early 1954 June and July races of sockeye will be at their lowest ebb of annual production in the four-year cycle period, and may not produce more than 1,000,000 fish. Such a run, divided between the fishermen of two countries, and allowing one out of five to escape, will not permit profitable fishing. The industry must rely on August and September fishing and fortunately the Stellako and Adams River runs migrating at that time give every indication of an increase in volume over the runs of these races in 1950.

However, Mr. Royal warned, the Commission would require from 1,000,000 to 1,500,000 fish from the 1954 Adams River run for spawning purposes. After this number had been assured for reproduction the remainder, regardless of the size of the run, could be taken by the fisheries.

REGULATIONS DRAWN UP

To assure the necessary 1954 spawning escapement the following regulation proposals had been drawn up and tabled by the Commission:

For United States fishermen, 48-hour weekly closures beginning at June 25 and extending to September 6, and the termination of sockeye salmon fishing on September 30.

For Canadian fishermen, in areas 19, 20, 21 and 23: weekly closures of 48 hours beginning June 25 and extending to August 30. In areas 17 and 18 and District No. 1 various fishing restrictions were tabled. From June 25 extending to August 4, weekly closures of 78 hours. From August 4 extending to August 25, weekly closures of 96 hours. Following August 25 a week-end closure of 78 hours. From September 1 and extending to September 16 weekly closures of 48 hours, and on September 16 closure until adequate escapement is assured. In these areas the Commission proposed to terminate sockeye fishing on October 14.

In support of these suggestions Mr. Royal explained that basic considerations were maintenance of an even fishing pressure each year on the June and July races; the desired catch-escapement ratio being 80 and 20 percent respectively. No exceptions to these principles were expected to apply in 1954.

Furthermore, said Mr. Royal, it was desired to ensure increased protection on August runs to offset seasonal increase in efficiency of nylon gillnets in the Fraser River, and to permit slight increase in the escapement ratio of the late mid-season runs.

When the desired escapement of from 1,000,000 to 1,500,000 fish to the Adams River had been secured from sockeye running in the peak period it was biologically desirable, Mr. Royal said, to harvest late running Adams River fish remaining in the fishery after the closure period beginning September 16.

Mr. Royal listed possible modifications of the proposals earlier stated. For the United States, a short closed season after August 22 if the estimated Adams River run consists of significantly less than 5,000,000 fish. An increase in fishing time after August 22, if the estimated Adams River run consists of significantly more than 5,000,000 fish; possible closure of the Point Roberts area after September 1 if equal division of the catch between Canada and the United States is jeopardized by periodic "blowbacks" of Adams River sockeye lying off the mouth of the Fraser River.

For Canadian fishermen a possible modification was the closure of District No. 1 and Areas 17 and 18 prior to September 16 if equal division or escapement is jeopardized by the increased efficiency of nylon nets. Such a closure, Mr. Royal said, would not interfere with the biologically desirable harvest of late run fish after specified escapement is secured.

Inaugural Meeting INPFC

Representatives of Canada, the United States and Japan are holding the first meeting of the International North Pacific Fisheries Commission in Washington, D.C., beginning February 1.

The establishment of the International North Pacific Fisheries Commission is provided for in the International Convention for the High Seas Fisheries of the North Pacific Ocean, which was signed in Tokyo on May 9, 1952, by Canada, the United States and Japan, and came into effect on June 12, 1953, upon the exchange of ratifications in Tokyo by the three governments.

Invitations to send observers to the Washington meeting were extended to the Food and Agriculture Organization of the United Nations, the International Pacific Halibut Commission, the International Pacific Salmon Fisheries Commission, the International Commission for the Northwest Atlantic Fisheries and the Inter-American Tropical Tuna Commission.

The purposes of the meeting are to decide matters of organization of the Commission, to prepare co-ordinated programmes of research on stocks of fish that are of common concern to the three countries, and generally to carry out the commitments of the Convention.

Canadian Members of the Commission in attendance are: Stewart Bates, Deputy Minister of Fisheries, Ottawa; J. M. Buchanan, Vancouver, B.C.; R.G. Hager, Vancouver, B.C.; and James Cameron, Pender Harbour, B.C. In addition Dr. J.L. Kask, Chairman of the Fisheries Research Board, Ottawa; A. J. Whitmore, Chief Supervisor of Fisheries, Vancouver, B.C.; Dr. J.L. Hart, Director of the Pacific Biological Station, Nanaimo, B.C.; and Dr. A.W.H. Needler, Director of the Atlantic Biological Station, St. Andrews, N.B., and P.G.R. Campbell of the Canadian Embassy, Washington, will attend the meeting as advisers. Mr. Kunio Shimizu will act as interpreter and translator of Japanese for the Canadian group.

Indemnity Fund

Although introduced only six months ago 1,369 fishing vessels, valued at $1,767,928, were insured as of January 15 this year under the Fishermen's Indemnity Fund, which is being administered by the Federal Department of Fisheries.

Fifteen claims, totalling $13,515, have been paid. Of these ten were for total loss and five were for partial damage. The largest of the claims paid to date was for the loss of the long-liner, "Edward Humby" of Grand Bank, Newfoundland which went ashore at High Beach, Lamaline, Nfld.

When a vessel covered by the Fund is declared a total loss, indemnity payment is 60 per cent of its appraised value. In the case of the "Edward Humby", the appraised value was $7,400, and the claim paid was $4,440. The vessel was covered by the Fund in November at a cost of only $74 to its owner.

The number and valuation by areas of the vessels covered by the Fund are as follows: Newfoundland, 809 vessels, valuation $588,688; Maritimes, 316 vessels, valuation $571,580; Quebec, 100 vessels, valuation $81,290, and British Columbia, 144 vessels, valuation, $526,370.

Gillnet Regulations

Fishery Regulations for 1954 will permit general use throughout the British Columbia salmon fishery of gillnets having a maximum depth of 60-meshes.

Special representations were made to the federal Department of Fisheries, in December, 1953, for bringing into effect immediately a regulation limiting the depth of salmon gillnets to not more than 50 meshes. In addition to a substantial saving in the cost of nets, it was urged that in view of the current changeover from linen to nylon gillnets and the greater efficiency of the latter, nets of the lesser depth would be the means of bringing about less restrictive measures in the interests of conservation in the way of weekly close season, etc. However, it was explained that a large number of 60-mesh nets had been ordered and were already made up and any change of depth measurement for 1954 would obviously work considerable hardship on many gillnetters who had 60-mesh nets on hand or who had placed orders for them.

Fishery Figures For November

SEAFISH: LANDED WEIGHT AND LANDED VALUE
(Newfoundland Not Included: See Next Page)

	Five Year Average Jan.-Nov. 1947-51		Jan.-Nov. 1952		Jan.-Nov. 1953	
Atlantic Coast	'000 lbs	$000	'000 lbs	$000	'000 lbs	$000
Cod	222,081	6,413	224,435	7,150	176,134	4,911
Haddock	41,502	1,904	49,660	2,410	53,389	2,329
Pollock, Hake, etc.	42,330	712	52,289	971	55,219	848
Halibut	5,373	1,167	3,938	962	4,072	975
Plaice & Other Flatfish	12,797	361	38,834	1,325	42,545	1,212
Herring	131,894	1,339	176,988	1,756	149,815	1,421
Sardines	75,233	1,373	54,290	873	37,111	608
Mackerel	26,554	948	22,046	964	17,218	666
Swordfish	2,099	752	3,185	883	3,320	1,078
Salmon	2,050	654	1,599	716	1,446	589
Smelts	5,457	750	3,374	589	5,637	818
Alewives	18,656	154	38,170	291	26,020	180
Other Fish	8,513	282	17,132	564	27,781	755
Lobsters	34,210	8,768	38,346	10,892	36,665	12,570
Clams & Quahaugs	18,694	436	16,617	670	14,800	653
Other Shellfish	10,039	680	9,097	909	9,452	1,046
Total Atlantic	657,482	26,693	750,000	31,925	660,624	30,659
Pacific Coast						
Pacific Cod	9,085	655	10,441	697	7,379	460
Halibut	20,043	3,404	23,112	3,825	24,062	3,527
Soles & Other Flatfish	8,602	423	14,286	822	5,869	279
Herring	261,209	3,394	186,378	3,150	218,193	2,672
Salmon	167,920	21,120	142,816	19,063	184,885	21,549
Other Fish	3,091	364	2,873	178	3,159	109
Shellfish	9,379	498	11,686	793	11,682	802
Total Pacific	479,329	29,858	391,592	28,528	455,229	29,398
Total Both Coasts	1,136,811	56,551	1,141,592	60,453	1,115,853	60,057
By Provinces						
British Columbia	479,329	29,858	391,592	28,528	455,229	29,398
Nova Scotia	323,712	15,889	364,906	19,213	344,087	18,889
New Brunswick	210,893	6,238	242,722	7,294	183,581	6,494
Prince Edward Island	28,515	2,059	30,791	2,522	30,998	2,788
Quebec	94,362	2,507	111,581	2,896	101,958	2,488

PROCESSING OF ATLANTIC CATCH
In Per Cent of Total Catch Jan.-Nov., 1953
(Newfoundland Not Included)

	Fr & Fz Fillets	Fr & Fz Wh or Dr	Cured	Canned	Non-Food
Cod	32	5	63		
Haddock	81	14	5		
Pollock, etc.	6	17	66	10	1
Rosefish, etc.	98	1			1
Halibut	5	95			
Plaice	96	4			
Herring		28	34	2	36
Sardines		36		52	12
Mackerel	1	34	42	4	19
	Shell	Meat			
Lobsters	52	22		26	
Clams	31	41		27	1
Oysters	94	1		5	

PRICES PER CWT. PAID TO FISHERMEN NOV. 15

	1952	1953
Halifax		
Cod Steak	$4.50-5.00	$4.00-4.50
Market Cod	3.50-4.00	3.50-4.00
Haddock	5.75-6.00	5.00-6.00
Halibut (medium)	28.00	18.00-28.00
Yarmouth		
Haddock	6.50	5.50
Black's Harbour		
Sardines	2.00-3.00	2.00
St. John's, Newfoundland		
Cod	2.25	2.50
Haddock	3.75	3.00
Rosefish	2.00	2.00
Vancouver		
Ling Cod	10.00	8.00-12.00
Gray Cod	5.00	5.00
Soles	6.00-9.00	7.00-8.00
Salmon Redspring	-	33.00

MID-MONTH WHOLESALE PRICES, NOV.1953

		Montreal	Toronto	Winnipeg
Fresh Cod Fillets	lb	.275	.294	-
Fresh Haddock Fillets	lb	.382	.410	.490
Kippered Herring	lb	.231	.249	.253
Frzn. Halibut, Dr.	lb	.350	.347	.330
Frzn. Salmon, Coho, Dr.	lb	.478	.492	.430
Fresh Whitefish	lb	.383	.350	-
Lobster Fancy	case	43.00	42.80	42.38
Sardines, Smoked	case	8.44	8.16	8.80
Sockeye, Salmon, A	case	18.00	17.18	16.90

NEWFOUNDLAND LANDINGS
January - November 1953

	('000 lbs)	($'000)
Cod	317,609	6,905
Haddock	12,188	380
Rosefish, Pollock, etc.	27,237	565
Halibut	372	66
Other Flatfish	22,270	545
Herring	39,343	314
Smelts	104	11
Lobsters	4,331	1,109
Other	34,357	1,298
Total	457,811	11,193

STOCKS AS AT END OF NOVEMBER

	1952 ('000 lb)	1953 ('000 lb)
Fresh Fish (Incl. Newfoundland)		
Dressed Halibut	8,086	11,004
Groundfish Fillets	12,957	8,195
Herring	7,677	7,194
Salmon	11,553	12,763
Other	8,582	9,638
Total Fresh Sea Fish	48,855	48,794
Whitefish, Dressed or Filleted	1,802	938
Tullibee, Round or Dressed	1,640	649
Pickerel, Dressed or Filleted	1,204	1,425
Other	3,865	2,642
Total Fresh Inland Fish	8,511	5,654
Total Fresh Fish	57,366	54,448
Smoked Fish (Incl. Newfoundland)		
Cod and Haddock Fillets	1,538	633
Other	1,782	1,283
Total Smoked Fish	3,320	1,916
Salt Fish (Excl. Newfoundland)		
Wet Salted Cod	14,227	18,792
Other Wet Salted	2,897	4,054
Dried Cod	5,757	4,203
Other Dried	1,276	1,974
Boneless	439	797
Pickled Alewives (Barrels)	18,136	24,686
Other Pickled (Barrels)	11,117	21,136
Bloaters (18 lb Boxes)	255,576	351,844
Salt Fish (Newfoundland only)		
Shore	35,415	36,037
Bank	1,008	5,591
Labrador	9,299	8,988
Total Salt Fish (Newfoundland)	45,722	50,616

CANADIAN FISH EXPORTS

Total Value in Thousands of Dollars to End of Nov.

(Including Newfoundland)

	1952	1953
Fresh and Frozen Fish	49,808	47,316
Whole or Dressed	30,101	27,844
Filleted	19,707	19,472
Cured Fish	22,477	20,594
Smoked Fish	1,828	1,205
Bloaters and Kippers	1,166	812
Other	662	393
Salted and Dried Fish	17,058	16,201
Cod	15,556	14,230
Other	1,502	1,971
Pickled Fish	3,591	3,188
Herring	1,705	1,628
Other	1,886	1,560
Canned Fish	10,882	15,547
Salmon	7,628	14,079
Sardines	2,933	1,322
Other	321	146
Shellfish	15,815	16,626
Fresh Lobster	12,559	12,929
Other	3,256	3,697
Miscellaneous	9,355	5,331
Oil	4,056	1,298
Meal	2,923	1,550
Other	2,376	2,483
Exports to United States	81,651	75,950
Exports to Other Markets	26,686	29,464
Total Value	108,337	105,414

Whale Has Six Foetuses

Six foetuses, characterized by biologists as an abnormal number have been found in a fin whale which was being processed aboard a Norwegian factory ship.

The fin whale, which has a gestation period of about 11 months, normally bears a calf every other year. Very rarely does a fin whale give birth to a calf in two successive years. Twin foetuses do not occur as frequently among whales as among humans.

Two of the foetuses were males measuring 11 feet 7 inches and 7 feet 10 inches. The other four were females and measured 10 feet 4 inches, 9 feet 6 inches, 9 feet 3 inches and 7 feet 3 inches.

COVER PHOTOGRAPH: Fishermen clearing the deck of an "iced-up" Newfoundland trawler just in from the Banks.

Fisheries News From Abroad

Norwegian Production

Landings of Fish by Species, 1949-1953
Quantities in millions of pounds
(For the Years 1947-48 see "Trade News" for January 1952)

	1949	1950	1951	1952	1953[1]
Herring - Winter	1,251	1,701	1,958	1,809	1,478
Fat	48	65	175	120	178
Small	223	161	460	667	344
Fjord	5	3	3	2	4
North Sea	7	8	3	5[2]	5[2]
Iceland	57	25	38	52	65
Brisling	21	12	20	15	29
Total Herring	1,612	1,975	2,657	2,670	2,103
Cod - Spawning	200	239	329	269	156
Finnmark	49	50	48	86	95
Banks	76	98	130	112)	166
Fjord	62	45	43	46)	
By-Products	46	58	80	65	44
Total Cod	433	490	630	578	461
Saithe	135	149	127	140	172
Haddock	46	40	40	50	68
Ling	7	14	12	12)	28
Cusk	9	11	15	19)	
Catfish	6	12	12	11	10
Rosefish	5	7	8	10	7
Mackerel [3]	30	23	41	43	32
Tuna	6	4	12	25	18
Other Fish	76	81	108	107	125
Lobster, Crabs and Shrimp	26	13	17	16	14
Grand Total	2,391	2,819	3,679	3,681	3,038

(1) Preliminary figures (2) Also referred to as "trawl herring" (3) Including "young mackerel"

West German Landings

Landings of Fish by Principal Species[1]
(Quantities in million of pounds)

Landed by:	Deep Sea Trawler Fleet			Other Deep Sea & Coastal Fleet			Total Landings		
	1951	1952	1953	1951	1952	1953	1951	1952	1953
	(January - September)			(January - September)			(January - September)		
Herring	251	246	238	57	71	94	378[2]	383[2]	401[2]
Cod	97	89	103	15	19	16	112	108	119
Haddock	29	21	19	-	-	-	29	21	19
Saithe	138	134	86	-	-	-	138	134	86
Rosefish	173	202	242	-	-	-	173	202	242
Crabs and Crayfish	-	-	-	44	44	63	44	44	63
Other Species	47	53	57	40	51	50	87	104	107
Total	735	745	745	156	185	223	961	996	1,037

(1) These figures do not include condemned fish, or fish landed specifically for reduction
(2) Including landings of 70, 66, and 69 million pounds of herring from the "Principal Herring Fishery" in the years 1951, 1952 and 1953 respectively.

Current Reading

"Whaling in Newfoundland and Labrador Waters," by David E. Sergeant, (an article in the December, 1953, issue of The Norwegian Whaling Gazette, published at Sandefjord, Norway).

This is an excellent account of modern whaling in the Northwest Atlantic. The history of whaling in Newfoundland and Labrador waters goes back to the fifteenth century, when Basque fishermen and whalers crossed the Atlantic to these important grounds, but there are practically no written records of early whaling. The modern Norwegian methods were introduced to these waters in 1893, and by 1904 there were thirteen land stations in Newfoundland and one in Labrador. That was the peak year, with a catch of 1275 whales. Since then the catch has fluctuated greatly, with no whaling operations at all in some years, and latterly the only stations to operate have been those at Hawke's Harbour on the mid-southern Labrador coast and at Williamsport on the northeast coast of Newfoundland. A recent development of interest has been the catching in large numbers of the small blackfish whales, also known as potheads.

"Fishing," by Bernard Venables, (Clarke, Irwin and Company Limited, Toronto. $3.35).

One of the series "British Sports: Past and Present," this is a distinguished book, notable not only for the excellence of its literary content but also for the many beautiful black and white illustrations, which are by the author. Mr. Venables appears to be an authority on all kinds of angling practised in the United Kingdom, and in some manner manages to convey a sense of the queer magic that fishing holds for so many people. He has gone deeply into the history of the art, tracing its development from ancient times, and he has dipped often into the voluminous literature that has grown up around it. The author retells many of the legends so dear to anglers. It is certain that at a very early stage in the development of civilization, men, with lines and primitive hooks, have attempted the capture of fish. For instance, while the origins of fly fishing in Britian are lost in the obscurity of the dark ages, it was already long established and with an abundant lore as early as 1496, when the first book on fishing in the English language was printed. This was "A Treatyse of Tyshynge wyth an Angle," by Dame Juliana Berners. Mr. Venables, of course, deals in detail with the methods and equipment used, but parts of the book are about the broader aspects of fishing and fishing waters. He mentions the threats to fish such as pollution of rivers and the increase in fishing effort. Much of the latter he thinks is due to the need for people to escape from the tensions of the times. He writes: "The inevitable corollary of the increasingly irksome pressure on mind and spirit that life provides, following two world wars, is that there has been an enormous increase in the number of anglers. If there had been a matching increase in the number of angling waters all would have been well, but such is far from being the case."

"Denizens of the Deep," by Philip Wylie, (Clarke, Irwin and Company Limited, Toronto. $3.25).

For those who study the habits of fish, for the sea or freshwater angler and even for the non-fisherman, this series of essays makes informative and delightful reading. Mr. Wylie has been a fisherman for forty years and has hunted the big ones in deep water for the past twenty. He has written extensively on the subject, mostly about the tropical fish found off Florida, is an official of the International Game Fish Association, and is generally accepted as one of the top authorities on deep sea fishing for sport. His book proves the theory that reading about fishing is the next best thing to doing it. He disproves many fallacies believed for years by the general public; for instance, he says, and quotes records and tells of incidents to prove it, that sharks and barracuda are not nearly as dangerous to human beings as most people think. The book is divided into three parts: fish; fishermen and fishing spots, and the art of fishing. The author explains the intricacies of the tackle used for all kinds of tropical fish, mostly the kind caught from charterboats in the Gulf Stream, but he also devotes much space to the least expensive means of catching fish along the shore and in bays, creeks and swamps. One interesting chapter tells how a fishing captain went to Ascension Island in the South Atlantic during the war, when it was an important air base, and showed the men of the garrison there how to catch tuna and other fish in order to improve their diet.

"1950 Landings of Fresh Groundfish by Offshore Vessels at Nova Scotia Ports," by George Sullivan, (Statistical Series No. 4, Fisheries Research Board of Canada, Atlantic Biological Station, St. Andrews, N.B.).

This circular presents data for fresh groundfish landings by offshore vessels at Nova Scotia ports for 1950. Statistics of catch by species and size categories commonly culled are recorded by months in relation to fishing method and fishing effort. Special reference is made to flounders, with a graphic presentation of the long term increase in total landings by all countries from the Gulf of St. Lawrence and the Nova Scotia and Newfoundland Banks.

Since Before Columbus

Years before Christopher Columbus made his famous voyage in 1492, intrepid Breton fishermen dared the Atlantic to reap the rich harvest of cod on the Great Banks of Newfoundland.

That was the beginning. Today cod fishing flourishes from Labrador along the whole Eastern Canadian coastline. Using modern catching vessels equipped with the most up-to-date devices, Canadian commercial fishermen take about 450 thousand tons of cod a year. The bulk of the catch is dry-salted for export but progress in refrigeration and rapid transportation is increasing the market for fresh and frozen fillets that are highly palatable and rich in protein. Valuable by-products are cod-liver oil and fishmeal for cattle feed.

The work of the Department of Fisheries of Canada includes membership in ICNAF*, an international body concerned with protecting and developing the rich fishery resources of the northwest Atlantic, of which cod is one of the most important. Canada is proud to play her part in assuring that the peoples of the world shall continue to reap and enjoy the rich harvests of the sea through generations to come.

*International Commission for the Northwest Atlantic Fisheries. Signatory nations are: Canada, the United Kingdom, the United States, Iceland, Denmark, Spain, France, Italy, Norway and Portugal.

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