

Trade News



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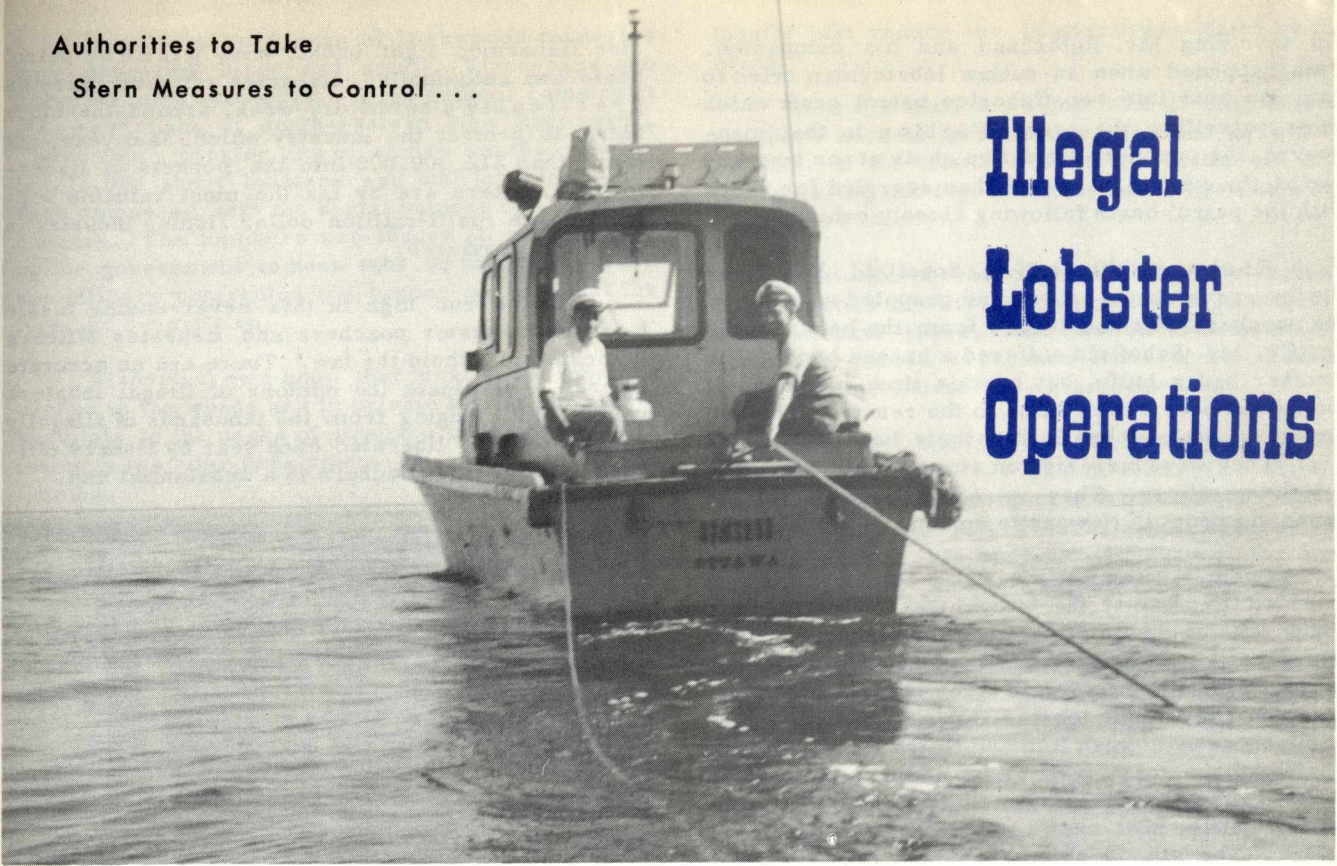
COVER PHOTOGRAPH: Lobstermen off the south coast of Prince Edward Island prepare to set their traps. Unlike these fishermen, a number who catch lobsters illegally are causing great concern. For details see article beginning on opposite page.

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Authorities to Take

Stern Measures to Control . . .

Illegal Lobster Operations



Department of Fisheries patrol boat "Osmerus" hunting for illegally set lobster traps in Miramichi Bay.

VIOLENCE on the lobster front along sections of Canada's Atlantic coast has made newspaper headlines recently in the Maritime Provinces where protection officers of the Department of Fisheries have been waging an around-the-clock battle against lobster poachers.

Gun-play, knife-wielding and attacks on fisheries patrol boats marked the resistance of some outlaw fishermen against enforcement of fishery regulations that safeguard the Maritimes' multi-million-dollar lobstering industry.

Boats have been damaged, at least two fishery officers have been hurt and others have been fired upon by gunmen in ambush in this guerilla war between poachers and government authority.

The seriousness of the situation was brought to public attention by Hon. J. Angus MacLean, Minister of Fisheries, who issued stern warning that his department would crack down relentlessly on cases of violence. Since the Minister made that announcement from Ottawa, the situation has moderated to a considerable degree.

Outbreaks of violence were not confined to any one district, although the more serious cases

occurred on sections of New Brunswick's eastern shore where lobster fishing was closed. Other cases were recorded in Passamaquoddy Bay and western Prince Edward Island.

Typical of the incidents of violence is the one reported by A. A. Robichaud, District Protection Officer, Moncton, whose territory of supervision at the moment covers the entire east coast of New Brunswick. Recently, accompanied by Fishery Officer M. A. MacDonald, Newcastle, Mr. Robichaud made a protection tour in Gloucester County. They spotted lobster poachers fishing in the Four Roads area -- a small community situated between Tracadie and Inkerman -- and Mr. Robichaud radio-telephoned fisheries patrol boats from his automobile to converge on the area. While he was directing operations from shore, a hidden gunman opened fire with a rifle. While bullets whizzed close to the vehicle, none of them struck the car. Returning to Tracadie, Mr. Robichaud and his companion were ambushed again. This time it was a shotgun blast which peppered the rear of his automobile. Mr. Robichaud thought that the car's radio equipment was the target.

Another violent episode occurred off Escuminac in Northumberland County following the incid-

ent involving Mr. Robichaud and his companion. This happened when an outlaw lobsterman tried to ram his boat into two fisheries patrol craft which were patrolling the area. Failing in that manoeuvre, the poachers fired five shots at one boat and two at the second boat and then scurried for shore with the patrol boats following closely behind.

Fishery Officer N.H. Schofield, Eel River Bridge, gave chase ashore and grappled with one of the poachers who had leaped from the boat. In the scuffle, Mr. Schofield suffered a broken hand. The poacher had a knife, but by this time members of the patrol boat crews came to the rescue. The two poachers made a break for their boat and put to sea. They were arrested on charges of obstructing a fishery officer. They were released on bail to appear in court in Newcastle on Oct. 27.

From Tignish Run, P.E.I., comes the report of an attack against the "Royal Oak", a patrol boat under charter by the Department of Fisheries. The "Royal Oak", skippered by P. J. MacDougall, put out of Savage Harbour to aid three other patrol craft dragging for illegal lobster traps in the stretch of water between Tignish Run and North Point. Shortly afterward the four craft came under a barrage of rocks thrown from the dock. So fast were the rocks falling that the boat crews had to take shelter in the cabins. The attack lasted for more than an hour, during which time all four boats were damaged. That day the boats had destroyed 233 illegally-set lobster traps.

Another attack on a fishery patrol boat occurred at Lord's Cove on Deer Island in Passamaquoddy Bay. The patrol craft, "Alosa", skippered by Capt. H.M. Calder, had put its patrol launch overside to grapple for illegally-set lobster traps in the area. After completing the operation, the launch was tied to the Lord's Cove dock near its mother ship. While it was moored there, some unknown fired a shotgun burst, at close range, into the boat and motor. Both were damaged.

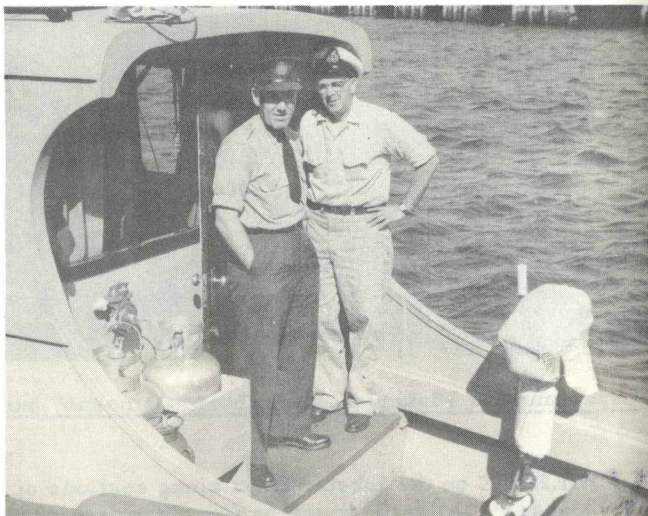
MANY PROSECUTIONS

Reports by fisheries officers to area headquarters in Halifax indicate an upswing in illegal lobstering operations. While complete figures will not be available until the end of the calendar year, the list of prosecutions and confiscations this year is almost level now with the total for all of last year. Last total prosecutions for violations of fisheries regulations -- most of them involving illegal lobstering -- came to 718. There were convictions in all but 12 cases. Fines levied in all convictions totalled more than \$12,000.

For years the Department of Fisheries has been waging a campaign to encourage compliance with and enforce lobster laws. With all the craft and cunning of hillbilly moonshiners, the outlaw segment of the Maritimes' more than 17,000 lob-

ster fishermen fight back. With planes, patrol boats and automobiles, fisheries officers carry on practically a seven-day-week, around-the-clock battle to protect the industry which, last year, put more than \$12,300,000 into the pockets of fishermen. Lobsters are by far the most valuable segment of the multi-million dollar fishing industry in the three provinces.

Stakes run high in this never-ending tussle between lobster poachers and fisheries officers dedicated to uphold the law. There are no accurate figures to estimate the number of illegal lobsters caught, but, judging from the thousands of illegally caught lobsters liberated each year by fishery officers, the take by poachers is a substantial one.



Fishery Officer M. A. MacDonald, left, and Captain Jack Groat, skipper of fisheries patrol boat Osmerus, on lobster patrol in Miramichi Bay.

Abetted by certain unscrupulous operators, poachers have built up a thriving black-market trade in poached and under-size lobsters. The bulk of the illegally caught lobsters usually end up in cans. Dozens of outlaw, makeshift canneries have been operated in isolated spots where poachers can their goods. However, some licensed canneries continue to contribute to the racket by handling illegal catches. What makes the lobster black market successful is exactly what made bootlegging of another kind flourish in the thirsty '20's; lobsters are in heavy demand all the time from Halifax to Vancouver. Most of that demand is met by the canned product.

Since without the co-operation of cannery operators black market lobstering would not be profitable, fisheries officers keep close tabs on canneries. Some of them are watched night and day. If a fishery officer finds a large number of lobsters under legal size in a cannery, he can seize the entire stock, including legal lobsters. That has scared many factory owners into accepting only meat that has been cooked and shelled.

In past years dozens of backwoods canneries have appeared, large and small. Five years ago fisheries men uncovered a large outdoor cannery at Pousett Lake in south-eastern New Brunswick. They found a packing line of women, crates containing 12,000 short lobsters and 600 tops for cans, each embossed with the serial number of a licensed cannery. The numbers are issued to each canner by the government to keep tabs on his pack. When the officers confronted the canner he said that the tops had been stolen.

Fisheries men know that most of the lobsters canned in the woods and in private homes ultimately gravitate to the packs of licensed operators but, in many cases, the department can only twiddle its thumbs.

For one thing a home cannery is entirely legal unless fisheries officers can prove that the canning is being done for export. Then, under the Meat and Canned Foods Act, the cannery would be operating without a license.

TWO METHODS USED

The Department of Fisheries is using a two-bladed weapon in its war against poaching -- law enforcement and education. By the latter, the department hopes to convince all fishermen that conservation laws are to protect fishermen and the industry. As one veteran fisheries official at Halifax put it: "Fishermen who fish lobsters illegally are robbing their neighbours; the lobsters they take il-

legally just reduce the legitimate catch by that much."

On top of that, the same official emphasized, poachers have to take a lower price for the bootleg product. If the lobsters were left in the sea to be fished during the legal season, the fishermen would make more money.

While the current rash of violence is serious, rough tactics are by no means new in the lobster war. In past years, fisheries officers have been assaulted, thrown overboard and shot at. Fortunately, the marksmen have been poor shots.

However, one fishery officer lost his life through violence. That was in 1926. One night in that year, Agapit LeBlanc, a Buctouche fishery officer, failed to return from a poacher hunt. A few days later his body floated ashore, the skull fractured. The murder remains unsolved to this day.

While officials of the department are not so naive to imagine that poaching can be eliminated completely, they feel that as fishermen became more aware of the need for conservation to protect their future, wholesale poaching will subside. Poachers comprise only a tiny minority of the mass of fishermen, and most legitimate fishermen are 100 per cent behind the government's effort to ensure the healthy state of the lobstering industry that leaves millions of dollars in these provinces every year. ✓

Samoan Long-Line Tuna Fishing

American Samoans are learning the long-line method of tuna fishing, which the Japanese have proved so successful. A former naval 50-foot tender has been made available for the project, and the Samoan fishermen have demonstrated their ability to catch big fish on a limited commercial scale.

The Samoan crew fishes off Tutuila, in sight of land, and disposes of its catch by selling tuna to the local cannery, and other types of fish are sold in Pago Pago direct to the local population for 10 cents a pound.

The Governor of Samoa takes a close personal interest in the possibility of developing commercial fishing as a major Samoan industry. He has arranged permission to appoint each year a candidate from American Samoa to the U.S. Maritime Academy in New York on a full scholarship basis with all travelling and tuition expenses paid. This programme should provide qualified Samoan masters of future fishing vessels.

Looking beyond the Samoan group, the Governor sees the possibility of Fijians, Tongans, and

other South Pacific Islanders joining in a large scale commercial-fishing operation, reaping direct benefit from the valuable fish which abound in their waters.

A substantial amount of fish is being caught by Japanese fishermen in South Pacific waters for sale to the American Samoa Pago Pago cannery operated on a lease basis by a large United States west coast canner. The Governor feels that the Samoan people should have an opportunity to share in this growing industry.

The fishing industry has been a great boon to American Samoa. The Pago Pago cannery employs between 350 and 400 local people in the processing and packing of the tuna which 30 to 40 Japanese fishing vessels deliver to the cannery regularly.

The cannery's payroll is estimated to contribute a quarter of a million dollars annually to American Samoa's national income. More than any other factor, the cannery operation gives back to American Samoa the prosperity it lost when the U.S. Navy closed down its base in Pago Pago in 1950.

The Department's Scientific Arm

LATEST developments in fisheries science ashore and afloat, particularly as it relates to Newfoundland, were outlined for representatives of the Newfoundland fishing industry at the first "open house" staged earlier this year at the St. John's Biological Station of the Fisheries Research Board of Canada, the scientific arm of the federal Department of Fisheries.

Led by Station Director Dr. W. Templeman, scientists of the St. John's Station, the Board's Technological Station at Halifax, N.S., and its Biological Station at St. Andrews, N.B., discussed a wide range of topics in both the biological and technological fields. These subjects covered generally the life histories and factors affecting the supply of species important to the fishing industry as well as processing methods in both the salt and quick-freezing phases of the industry. To accommodate the representative group from the fishing industry who attended, the discussion sections of the programme were held in the Lecture Theatre of the Memorial University of Newfoundland and these were followed by an all-day tour of the Biological Station.

Opening the three-day forum, Dr. Templeman welcomed the large representation from the industry and other special guests from the federal Department of Fisheries and representatives of the Newfoundland Department of Fisheries. Dr. Templeman explained that it would be impossible during the three discussion sessions to cover all the programmes of fisheries research that are being conducted on Canada's east coast. Scientific investigation was being carried out at a number of centres, some of them larger than the Station at St. John's. However, he said, in the final analysis the results obtained would be for the benefit of fishermen and industry alike in the entire Atlantic region.

Dr. J. L. Kask, Board Chairman, said that by means of the "open house" the Board and its scientists hoped to acquaint the fishing industry with the biological and technological investigations that are continually going on across Canada. Such meetings with industry were now standard practice at the Board's Stations in other parts of the country where they had proven very successful. He hoped that with the co-operation of the industry similar events at



Scientists and industry representatives discuss merits of salt cod samples.

the Biological Station in St. John's would have equally fruitful results.

Dr. Kask pointed out that this was an age of science and every day brought graphic evidence of the tremendous strides that are being made in many fields of human endeavour. Fisheries research was being pursued industriously, but to achieve the best results, the understanding and support of the industry was a requisite. Outlining the work being done at the Board's Stations throughout Canada, he emphasized that, although this was sometimes regional in character, yet in the main it was for the benefit of the nation's fishing industry as a whole.

SALTED FISH PROCESSING

Dr. Henri Fougere, Director of the Board's Technological Station at Halifax, discussed the basic principles involved in the curing process of salt fish. He said that while there are many different types of salted fish products, the principle of salting remains the same. He explained how the addition of salt alters the nature of the flesh of the fish, and added that salting is an art developed through practice and long experience.

Dr. Fougere outlined the problems that are encountered in the selection of the type of salt to be used, and the effects of impurities that are sometimes present in the salt. He described the results of various experiments into temperature and other factors that affect salted fish quality at different stages in the processing.

Provided that practical application is made of certain proven principles, he summed up, it is possible to produce a high quality, uniform product.

C.H. Castell, Chief of the Bacteriology Division of the Halifax Technological Station, spoke on the bacteriology of salted fish. He pointed out that the widely-held notion that all bacteria are harmful is a mistaken one; the actual truth of the matter is that without bacteria the human race could not survive. Bacteria are a compensating force in nature; they break down the organic matter that is continually being built up by all forms of life.

This breaking down, when an item of food is involved, is undesirable, Mr. Castell said, and many methods of preservation have been developed to slow down or halt this process. In the case of fish, salt is one of the agencies that will slow down the growth of bacteria. Mr. Castell described the red bacteria or "halophiles" which cause the condition in fish commonly known in Newfoundland as "pink". He outlined a series of research projects through which were found methods to cope with these harmful bacteria.

M.A. Foley, Chief of the St. John's Technological Unit, reviewed the changes that have taken place in the salted fish industry as a result of increasing mechanization in fish handling and processing. The advantages of various types of equipment were discussed, particularly with reference to mechanical dryers and washers. Mr. Foley referred to the steady expansion of mechanization in the Newfoundland fishing industry, and urged producers to introduce systematic maintenance programmes in plants where mechanical devices are in use.

HADDOCK BIOLOGY

V. M. Hodder, St. John's Biological Station scientist speaking on the biology, distribution and supply of haddock, said that fluctuation in stocks could well lie with the variable ocean currents which sweep the haddock spawning areas. Eggs and larvae may thus be carried off into areas of great depth and perish in millions. Although one female fish may release from 100,000 to two million eggs, the chances of their growing to an adult stage are full of risks.

"Perhaps only one egg in twenty or thirty thousand or more may actually survive," Mr. Hodder said. "Many are eaten by predators at various stages of growth, many eggs may not be fertilized



Shown in the upper photograph are members of the scientific team who gave talks at the "open house" (left to right): A.M. Fleming and E.J. Sandeman, St. John's Biological Station; Dr. J. L. Hart, Director, St. Andrews Biological Station; Dr. W. Templeman, Director, St. John's Biological Station and Dr. J.L. Kask, Chairman, Fisheries Research Board. In the lower photograph are other scientists who spoke. They are (left to right): V. M. Hodder and H.J. Squires, St. John's Biological Station; Dr. Henri Fougere, Director, Halifax Technological Station; M.A. Foley, Chief, St. John's Technological Unit; C.H. Castell, Halifax Technological Station.

and many more may drift off the grounds at the mercy of the ocean currents."

Fluctuations in the supplies of haddock on the St. Pierre and Grand Banks have for some years been accurately predicted by scientists at the St. John's Biological Station. At the present time the St. Pierre Bank is going through a period of low supply, but fishing continues to be fairly good on the

Grand Banks and there is evidence of a new "brood" coming along which could maintain the fishery at a satisfactory level. Both the St. Pierre and Grand Banks depend on new year classes of fish to replenish the populations and when, for various reasons, spawning is unproductive a decrease in the stock can be foreseen years ahead.

Mr. Hodder traced the life history of haddock and the development of the Newfoundland fishery for this species following the expansion of the frozen fish industry in that province. Haddock grow much more slowly on the Grand Banks than do their cousins on more southerly grounds, such as Georges Bank. For example, a 3-year-old haddock on Georges Bank averaged about two pounds while one of the same age on the Grand Banks weighed about one-half pound. Data such as this was vitally necessary for the conservation of the fish stocks being, in the final analysis, the evidence on which international regulations dealing with fishing activity are based.

Mr. Hodder explained how haddock and other fish actually give their life secrets away through tell-tale bands on their scales and otoliths. The latter are tiny bones in the ear of the fish and are actually a balancing device that helps the fish maintain equilibrium in the water. From such minute evidence, scientists can determine age and growth rates, requisites vital to conservation planning.

AREAS OF INVESTIGATION

Dr. John L. Hart, Director of the Board's Biological Station at St. Andrews, N. B., outlined the work being conducted by the scientific team at that research centre and its units in the Maritimes Area. While the St. Andrews Station was, in the main, concerned with the area south of the Laurentian Channel -- and the St. John's scientists with the area to the north -- yet the investigations sometimes spread over the whole region.

For example, Dr. Hart said, scientists at St. Andrews had done research in recent years on herring along the south coast of Newfoundland, and in the same period had discovered excellent scallop beds on the St. Pierre Bank. This was an instance, he felt, of the unity of the Board's work and the value of its findings to fishermen generally.

Dr. Hart said that the most important investigations at St. Andrews were those concerned with groundfish (cod, haddock, flatfish, etc.,). His scientific team had done extensive work on the effectiveness of mesh sizes in deepsea fishing which played an important part in the enactment of appropriate regulations. At the present time the Station was putting an increased effort into the study of "chafing gear", a protective covering for the cod-ends of otter trawls, so that suitable equipment could be devised that would preserve the intent of international regulations which Canada helped enact as a member of the International Commission for



Dr. Templeman (second from left) chats with representatives from the Department of Fisheries (left to right): J. P. Hennessey, Chief, Department of Fisheries Fish Inspection Laboratory, St. John's; L. E. Baker, Area Director of Fisheries, Maritimes Area, Department of Fisheries; A. R. Johnson, Chemist, St. John's Fish Inspection Laboratory.

the Northwest Atlantic Fisheries. Dr. Hart described research on cod populations carried out by his colleagues which showed that supplies exploited by Canadian fishermen were also fished by European nationals in separate efforts from the well-known Grand Banks international fishery.

Another important research project going on at St. Andrews was that connected with the proposed Passamaquoddy project in southern New Brunswick. This proposal visualizes the harnessing of tidal waters flowing in and out of the bay, by a joint U.S.-Canadian development. St. Andrews scientists are collaborating with their counterparts from the United States in a programme to determine the effect, if any, such a project would have on fish stocks in the area, particularly the herring.

Dr. Hart referred to the extensive research programme his Station has conducted for many years on Atlantic salmon and described the efforts being made to find ways and means of counteracting the damage caused to young salmon stocks by the aerial spraying of D.D.T. to control the spruce budworm in various parts of New Brunswick. He also told of the research programmes on lobsters and other shellfish, and of the efforts being made to introduce a new species, the European oyster, to Canadian waters. This project, if successful, could possibly be applied in Newfoundland as well, he added.

Mr. Castell, in his second appearance on the programme, discussed spoilage in fresh fish and methods of controlling it. Fish was a very perishable product, he pointed out, and considerable peri-

ods could elapse, particularly with catches made in distant waters, from the time it was caught until it reached the consumer. He described investigations carried out in the laboratory, in processing plants and at sea, and pointed out that differences could arise not only from fish caught in different seasons but also on different fishing banks.

Mr. Castell stressed the necessity of proper handling and said it was invariably the rule that careless skippers landed poor quality fish. He also referred to the problems involved in grading fish and said that considerable variation existed on this subject in various countries where fishing is an important industry.

REDFISH RESEARCH

E.J. Sandeman, who is responsible for redfish studies at the St. John's Biological Station, said that fisheries research scientists were not too happy about the future of the redfish fishery in areas where Newfoundland draggers, and others, now operate. This was due to the slow growth rate of this species and the poor survival rate of redfish larvae. However, he expressed the hope that further exploratory fishing based on knowledge already gained by the Fisheries Research Board would locate new fishing areas that would enable the fishery to continue on a profitable basis.

Research on redfish has been extensive in Newfoundland since that species became of commercial significance there in 1946-47, with the advent of the dragger fleet. Dr. W. Templeman began the studies that are now furthered by Mr. Sandeman. An extensive programme of exploratory fishing was conducted and redfish were found in commercial quantities in three comparatively nearby areas: the eastern and south-western slopes of the Grand Banks, the Gulf of St. Lawrence and in Hermitage Bay. These have continued to be the main source of redfish for the Newfoundland industry. Promising results had also been obtained through exploratory fishing north of the Grand Banks, at Flemish Cap and off southern Labrador but these findings had not yet been followed up by the Canadian commercial fishing fleet. At Flemish Cap large Russian factory ships are reported to be carrying out highly successful operations.

A.M. Fleming, Assistant Director of the St. John's Biological Station, reviewed the longlining experiments carried out by the Station for the federal Department of Fisheries over the period 1950-55, which covered all sections of the Newfoundland coastline. This type of fishing was introduced to Newfoundland to see if it were possible, with better boats and gear, to lengthen the season and increase the catch of cod. Experimental and exploratory fishing showed that longlining could be successfully applied to a number of Newfoundland fishing areas, and this fishing method has become established along several parts of the coast.



Coffee-break discussion between (left to right): H.R. Bradley, Area Director of Fisheries, Newfoundland Area, Department of Fisheries; E.A. Snow, Fishery Products, Ltd., and C. H. Castell, Scientist, Halifax Technological Station.

Mr. Fleming related the results of the experimental fishing to hydrographic data, pointing out that codfish normally follow the layer of water on the warmer side of 0°C ., and it is in this layer of water that most catches are made. He gave a thorough breakdown of the results gained in longlining in the various areas and pointed out that, while it had not been particularly promising in some sections of the province, longlining had been found extremely good in others, especially on the northeast coast and the fishermen had profited thereby.

H.J. Squires, St. John's Station scientist, gave an interesting discourse on biological factors that affect the marketability of fish. His remarks were concerned principally with cod and he outlined the problems with which the processing phase of the fishing industry is sometimes faced resulting from the environment and other factors relating to the fish.

On the forum's final day, those attending were invited to visit the Biological Station to see at first hand some of the activities and meet the staff. The scientists who had taken part in the discussion parts of the programme and the Station's staff were on hand throughout the day, and many of the industry representatives availed of the opportunity to discuss problems relating to their particular operations.

Representatives of the industry made it clear that they were keenly interested in the work of the St. John's Biological Station and that of the Fisheries Research Board generally, and expressed the hope that similar opportunities would be provided in the future to learn of the progress being made in fisheries science and to share their views with those of the scientists. ✓

Canadian Summer Fisheries, 1958

THE FIRST four months of the current fishing year in Canada, the May to August period of summer fishing, are reviewed in the following article. Total figures for the country as a whole show lighter but more valuable seafish landings than in the previous summer. However, the lighter landings were on the Atlantic coast and the more valuable ones on the Pacific.

Partly because of windy weather, the lobster catch dropped in the Maritime Provinces and lobstermen's gross income was \$0.6 million less than in the previous year. Atlantic herring were not as plentiful as in 1957 and the landed value of this species dropped by \$0.2 million. In Newfoundland a good cod trap fishery was cut short in August by sudden disappearance of the fish, which, together with acute scarcity of bait, caused failure in the trawl fishery which followed.

Meantime one of the biggest sockeye runs on record arrived on the Pacific coast and some other species appeared in unexpected abundance. Salmon fishermen sold their catch for upwards of \$9.0 million more than last year. At the same time halibut fishing was as good as last year and landed prices were twenty-five per cent higher. Both volume and value of British Columbia's catch were greatly in excess of last year.

MARITIME PROVINCES

In the Maritime Provinces landings of all species but lobster had been heavy throughout the preceding year but, as lobster is by far the most valuable species on the per pound basis, the average level of fishermen's incomes had dropped. Markets had been good and processors had been able to sell most of their expanding output of other products, leaving stocks low except in the case of frozen herring. There had been a phenomenal run of herring in the previous summer and considerable supplies of previous summer and considerable supplies of pickled herring and bloaters remained on hand. This was the situation when the new fishing season got under way in May in rough windy weather.

Dragger captains found cod scarce on the Grand and Nova Scotia Banks but the good run of large cod which returned to the Gulf of St. Lawrence last year after a long absence was there again this year. Haddock were scarce everywhere. Redfish were plentiful and in some areas so were pollock. The bad weather continued through May and most of June, hampering longlining and inshore fishing and interfering seriously with lobstering. Longlining produces most of the halibut catch, which dropped, not only on account of the weather but because markets and prices had not entirely recovered from last year's over-supply, so that there was limited in-

centive for fishing. Lobstermen had so much trouble hauling traps and the lobsters caught were so few and so small that processing was often interrupted for lack of supplies and fishermen rated results the poorest in years.

Landed prices dropped to summer levels in June as weather improved and the catch increased. Through July and up to about August 20 the weather was generally favourable for fishing. Then the season of Atlantic hurricanes began and, although it was the end of September before "Helene" appeared in person over Cape Breton, a series of ocean storms flung rough winds and seas toward the Maritimes.

Through July and August groundfishing was light. Draggers were laid up in relays for their annual refitting and most of the larger longliners were over the horizon swordfishing. They had an average season, with the total landed value of the swordfish catch topping a million dollars, as it usually does.

Meantime on shore groundfish processing plants were busier than they often are in the summer, trying to keep up with an unusually steady summer market and improvising to eke out their limited supplies of cod. Pollock fillets and even pollock blocks went on the market in increasing quantities and found ready acceptance. Salted and boneless fish were also in good demand. Landed prices, which usually remain at summer levels until about November, began to rise in July with an increase in offerings for cod at ports in the Gulf of St. Lawrence. Although landings at many ports were reduced by interrupted fishing, results were good enough and prices were high enough to make individual trips often highly profitable.

The lobster season had been open in the Bay of Fundy and southern Nova Scotia ever since the winter and in late April and early May it opened on the rest of the Atlantic shore and in the Gulf of St. Lawrence, except upper Northumberland Strait. Landings dragged consistently behind those of last year, which through May and June seemed attributable to the windy weather. Fishermen often could not get out to their traps for days together. The season closed in one area after another until from July 15 to August 10 there was no lobstering at all. With the opening on the latter date in upper Northumberland Strait a very active fishery developed and initial results were good; but they soon began to drop off steeply and had already reached a low level when storms called a halt around August 20. The May-August catch was three million pounds lighter and \$0.6 million less valuable than last year, although unit prices had been higher. The

combination of high prices and bad weather during most of the legitimate season tempted an unusually large number of men into fishing when the weather improved after the local season closed. Protection officers had to be mobilized to meet one emergency after another, warnings were issued from Ottawa and the penalties of the law invoked to keep poaching under control.

Processing plants operated at somewhat less than capacity for lack of regular supplies but in response to very active demand managed to export more fresh lobster even than last summer. Production and export of canned lobster was smaller.

The summer herring catch did not equal the very heavy landings of 1957 but exceeded those of most other years. By good fortune the herring were most plentiful just when bait was most acutely needed not only for the local lobster fishery but, even more urgently, for the cod trawl fishery of Newfoundland. Prices were consequently high. With stocks still on hand from last year's production, smoke houses were therefore slow to buy. Herring fishermen sold their May-August catch for \$0.2 million less than last year.

Mackerel were scarce but landed unit prices were high and the fishermen did well. Alewives were also scarce. The market for pickled fish was rather slow. Stocks of pickled herring were at lower and more normal levels than last year. Stocks of pickled mackerel and alewives were larger.

At the end of August swordfishing was ending, salt-fishing beginning; groundfish were scarce, the fishing effort light, landed prices rising, salting plants importing regularly from Newfoundland; demand was good for fresh, salted and boneless cod and for bait herring; lobster prices were steady at high levels; canned sardine production was normal, stocks adequate, shipments steady. The fishermen's gross income for May-August was \$0.8 million less than in the previous summer.

NEWFOUNDLAND

In Newfoundland it was \$1.7 million less than in the previous summer and \$2.3 million less than in the summer of 1956. Furthermore, it was divided among more men. The number of fishermen on the Island had increased by ten per cent during 1957 and there was a considerable further increase this year, caused mainly by reduction of alternative employment. The extra men were absorbed into the trap and trawl fisheries; offshore fishing continued its long decline. Preparations continued for drying more of the province's saltfish at home instead of sending it to Nova Scotia for final processing; but many of the large new modern dryers were going through the familiar process of having the "bugs" taken out of them. Both saltfish and frozen production had dropped in 1957-58 and stocks at May 1,

1958 were considerably lower than a year earlier. There was, however, a carryover of fish caught in 1957 and dried through the ensuing winter and spring for which market prospects were not good. Total landings and total fishermen's income had declined through 1957-58. Average individual income had declined even more.

Bays had been open all spring and both groundfishing and lobstering started at least a month earlier than their ice-bound opening of the previous year but, as in the Maritimes, the weather was rough and windy. It was immediately apparent that haddock were scarce both offshore and inshore but cod seemed to be plentiful so fishermen waited hopefully for the capelin run which usually signals the opening of profitable trap fishing. Another reason for delay was that they were loath to risk their traps in the loose ice north of Cape Freels or in the windy weather south of that point.

Capelin failed to appear and rough weather continued to mid-June, when it culminated in a storm which raged over the whole Island and was most severe on the east coast. Favourable weather followed and, although capelin still failed to appear, the cod trap fishery got into full swing. Except on the south coast, catches were good and more and more men were drawn into the fishery. Offshore landings also were fairly heavy. Owners of the new dryers were building up supplies. West coast fishing expanded to meet new plant development at Curling. During May and June cod landings more than doubled those of last year. Fresh fish plants were in full operation and markets were so good that little surplus fish remained in the fishermen's hands for them to salt. Then in July as usually happens the cod moved to deeper water and the men brought in their traps and got out their trawl gear.

But they had no bait. Squid were overdue but had not appeared. There was almost no capelin or mackerel. The extreme scarcity of bait seriously curtailed trawl fishing through July and reduced it to almost negligible proportions in August while the weather remained ironically excellent for both fishing and drying from mid-June to late August. This Department gave aid in locating, transporting and distributing bait from other provinces and from the United States but little could be found except frozen herring, which is not particularly effective for summer and fall cod fishing.

Offshore captains found that cod had disappeared from the Banks, where most of their catch was flounders; and suspicion grew that even if bait had been available trawl fishing would have yielded little. This proved to be true in September, when squid began at last to appear. Meantime August ended with the cod fishery at a virtual standstill and no other work available for the bulk of Newfoundland's fishermen. Many had not even sold enough fish to qualify as "fishermen" and become eligible for unemployment relief during the winter.

Canada's total summer catch of Atlantic groundfish was fourteen per cent smaller than in 1957, with the cod catch down twenty per cent and the haddock catch about halved but with somewhat heavier landings of pollock and redfish.

Lobstering in Newfoundland is second in importance to cod fishing. It was very active through May and until the mid-June storm mentioned earlier put an end to it before the legal season had closed. Landings were heavy, however, buying competitive and prices good.

PACIFIC

The drop of \$2.5 million in Atlantic fishermen's May-August income was more than offset in the total for all of Canada by increases on the Pacific coast. Value of the salmon catch was sixty-four per cent greater than in the previous summer, the halibut market improved and herring fishing was excellent. Total Pacific landings were twenty-two million pounds heavier than in the summer of 1957 and more valuable by \$10 million.

The 1957-58 season had been a year of over-supplied markets and fishermen's strikes. Stocks of frozen salmon and halibut had been unwieldy with prices consequently low. More than half the salmon pack had been pinks, a low-priced species. After a record summer herring fishery the fleet had gone on strike and the relatively much more important winter fishery had been non-existent. The 1958 summer season opened in an atmosphere of optimism, however. The fresh fish market had improved, salmon and halibut stocks were dropping to normal levels and by May prices for both species were well above the low levels of last year and still rising. At the same time the troll fishery for spring salmon had yielded well. Groundfish production and marketing were steady. There were good prospects of an early end to the herring strike. It was a peak year in the sockeye cycle and there were high hopes that the famous Adams River run, due in August, would yield heavy and valuable landings.

All these expectations were more than realized. It was a hot dry summer with rough seas but although windy weather reduced troll fishing through May and June and all species of salmon except springs seemed rather scarce in those months, August brought the biggest sockeye run in many years, together with an excellent coho troll fishery on the west coast of Vancouver Island and a good run of pink salmon to the northern area.

The Adams River run approached its home tributary of the Fraser not only by its usual route around the south end of Vancouver Island through the Strait of Juan de Fuca but also around the north end through Johnstone Strait and the Strait of Georgia, where it was soon realized that this was one of the heaviest Adams runs on record. Northern sockeye runs were also heavy. Weather was favourable,

fishing energetic and the total of summer salmon landings was built up to a total in excess of 117 million pounds, 21 million more than last summer. The salmon fishermen's gross income was \$10 million higher. Canneries operated around the clock and it was apparent that the pack would be not only very large but, with the predominance of sockeye, extremely valuable.

On September 18 the United Kingdom lifted currency controls from its salmon imports and on the following day bought the entire sockeye pack, with the exception of 300,000 cases reserved for the domestic market, for \$26 million.

Meantime in May the halibut season had opened to a slow start in rough and windy weather. High tides caused some serious losses at bait pounds and, in the general uncertainty over future supplies, stocks on hand were in good demand and prices rose. The smaller boats were seldom able to operate but vessels which could cope with the weather found the fish very plentiful. The catch almost equalled that of last year and its landed value was higher by \$1.0 million.

The herring strike was settled early in June and the summer fishery started just after mid-month. This fishery is normally continuous until October, when the vessels tie up, usually for a two-week period, and then start the winter fishery, which produces about ninety per cent of the catch. The record summer fishery of 1956 produced 63 million pounds, which was twelve per cent of the year's catch. Of this amount 38 million pounds had been taken by the end of August. A new record was established in 1957, when the summer fishery produced 85 million pounds, 42 million pounds by the end of August. This year at the end of August landings had exceeded 44 million pounds. Most of the Pacific catch goes to reduction plants. Markets for both herring meal and herring oil were rather slow.

FRESHWATER FISH

Most of the catch of freshwater fish is exported to the United States. The main products are fresh or frozen whitefish, pickerel and pickerel fillets. Value of the summer's exports of unfilleted fish increased. There was a drop in exports of pickerel fillets but an overall increase of about two per cent in the total. ✓

The use of lighting under water to attract lobsters has been attempted experimentally in East Fife, Scotland. A small battery-powered torch is used with a waterproof-wrapping to keep the battery dry while under water. This light is inserted in the creel, which thus becomes an illuminated trap. Initial tests with such illuminated traps have shown good returns; one trap took two lobsters, one of 3½ pounds, and the other 2 pounds, within a three-hour period.

Canadian Fisheries News

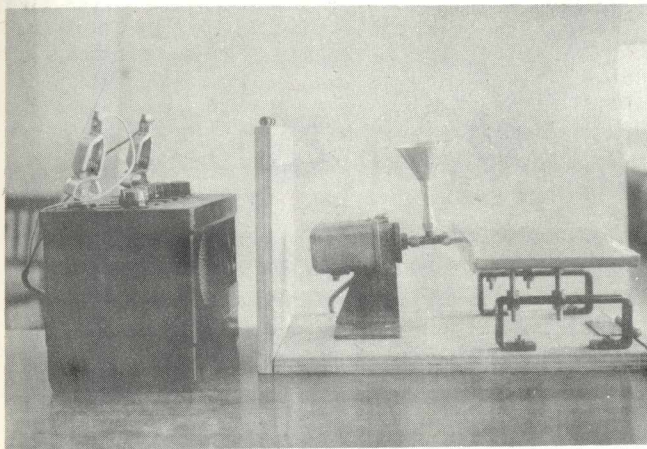
Greater Whale Catch, B.C.

Canada's catch of whales in the North Pacific showed an increase in the 1958 season, 774 as against 635 last year. Six whale catchers operated out of Winter Harbour, near the north end of Vancouver Island. The whaling season off the coast of British Columbia normally lasts from April 1 to September 30, but it finished on September 18 this year because of bad weather.

More than 500 of the whales taken were fin whales of the baleen type, which feed on plankton. One hundred and fourteen were sperm whales, which are bottom feeders. Only eight blue whales, the largest species, were caught. Other species found off the B.C. coast are the sei and humpback.

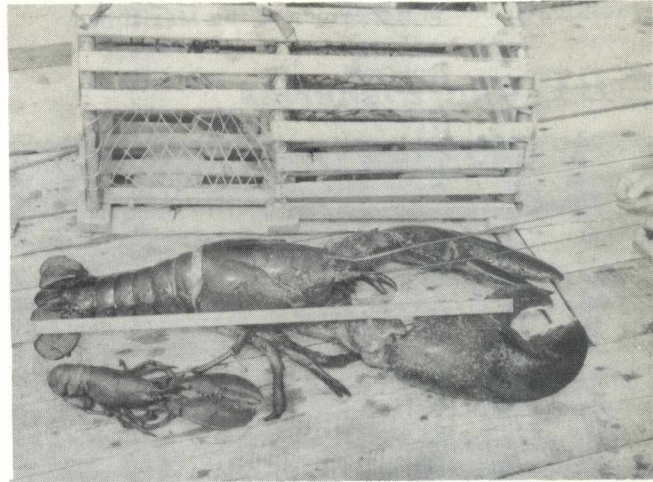
The carcasses of the baleen whales are used chiefly for animal feed and fertilizer.

Tattooed Salmon



Tattooing is one of the latest techniques used in fisheries research. The above apparatus, now being used by Department of Fisheries biologists in Vancouver, B.C., is a portable fish tattooing set. Powered by a six or 12 volt battery a small motor, centre, motivates a set of needles to mark fish which are placed on the flat slab at right. Inorganic dyes are fed to the needles from the container seen above the motor. A series of dots in various colours mark salmon smolts and fry, which are afterwards liberated in their natural habitat. The movements of these fish can thereafter be traced and recorded during early stages of their lives. The tattooing operation does not hurt the fish. They are first anaesthetized by being placed in a tank containing a solution of chloro-butanol; on the tattooing table they remain quiet as the marks are placed in the space of about one second.

Giant Lobster



Shown above is the giant lobster caught recently near Campobello, in New Brunswick. It measured 45 inches and weighed 37 pounds, and was caught by Earling Green, who saw it during a diving operation made for the purpose of repairing a herring weir. The exact weight of the lobster was 37 pounds, four ounces. It measured 21 inches around the body and its claw length was 17 inches. Its legs measured 12 inches. Lobsters exceeding 15 pounds are a rarity. In 1951, a 21-inch, 23-pound lobster was taken in the Bay of Fundy, while a 23-inch, 24-pound lobster was caught off Yarmouth County in 1953.

Tagged Scallops

Thousands of scallops with price tags on them are scattered along the sea bottom on Georges Banks, about 200 miles off the southwest tip of Nova Scotia. Already about 30 Nova Scotia fishermen have collected nearly \$400 for tagged scallops, which bring one dollar each when returned to Department of Fisheries offices anywhere in the Maritime Provinces. The shells are then forwarded to the United States Fish and Wildlife Service, which pays the dollar for each one if it is accompanied by data stating the location and date of its recapture.

While hundreds of tagged scallop shells have been recovered, there are still about 12,000 waiting to be picked up. The tagging was carried out by the U.S. Fish and Wildlife Service, Woods Hole, Mass. The scallop research programme is a joint effort, with the U.S. organization and the Fisheries Research Board of Canada participating.

The tagged shells are measured when they are released and again when they are recaptured.

This shows how fast they grow, and the location of the recapture shows whether or not the scallop beds move. The number of recaptures in relation to the number tagged shows how heavily the tagged beds are being fished.

Last year the scallop fishery was worth more than \$1,270,000 to fishermen of the Maritimes.

CBC and Fisheries



Mutual problems involved in keeping the fishing industry fully abreast of fisheries developments came in for top level discussions when the Minister and senior officials of the federal Department of Fisheries met recently with the CBC Farm and Fisheries Broadcast team from across Canada. The discussions formed part of the CBC group's annual conference in Ottawa which included a luncheon in the Department's Test Kitchen. Seen discussing the luncheon menu are (left to right): R. G. Knowles, Supervisor of Farm and Fisheries Broadcasts, Toronto, Hon. J. Angus MacLean, Minister of Fisheries; Tom Leach, Regional Supervisor, Fisherman's Broadcast, Vancouver, B.C.; Fisheries Deputy Minister George R. Clark; Jack Watts, Regional Supervisor, Fisherman's Broadcast, St. John's, Nfld.; Keith Russell, Regional Supervisor, Fisherman's Broadcast, Halifax, N.S.

Tribute to Fisheries Director

An island in Black Birch Lake, 250 miles northwest of Prince Albert, Saskatchewan, has been named MacDonald Island after the late George Cameron MacDonald, who spent 29 years in fisheries work. Black Birch is one of Saskatchewan's most important commercial fishing lakes.

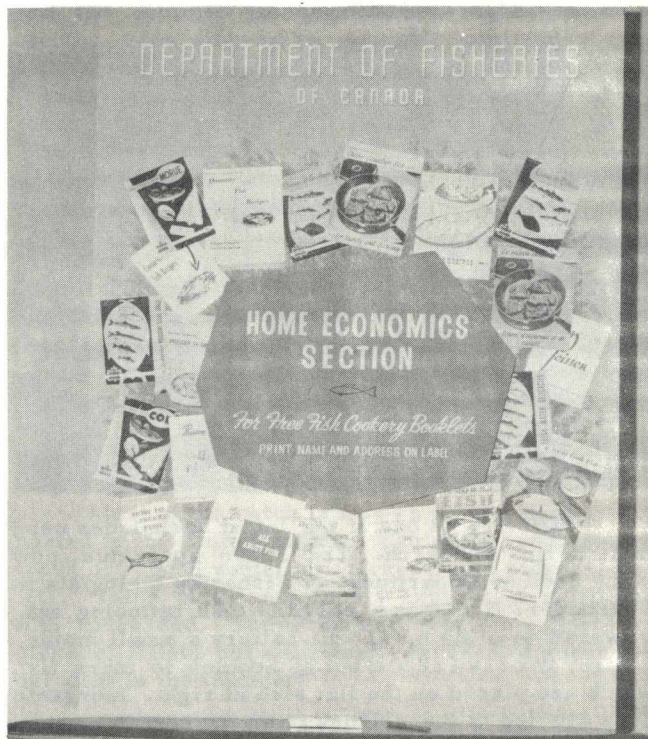
Mr. MacDonald, a former federal Fisheries Officer, was transferred to the Saskatchewan Department of Natural Resources when the management of commercial fisheries was taken over by

Half a Century of Research

This year marks the fiftieth anniversary of the Nanaimo, British Columbia, Biological Station of the Fisheries Research Board of Canada. To celebrate this event, an "Open House" will be held on November 25 to which members of fishery research and associated organizations will be invited. Exhibits illustrating the research carried out by the Station will be prepared, and opportunity will be afforded to inspect the buildings and facilities. The Station will be open from 10 a.m. to 9 p.m. and a formal programme is being arranged in the afternoon, commencing at about 2.30 p.m. On the following day, November 26, the Open House will be extended to the general public.

the provincial government in 1931, and became the first Director of Fisheries of the province, serving until his retirement in 1941.

Fish Cookery Booklets



A wide variety of fish cookery booklets has been prepared and published by the Home Economics Section of the Inspection and Consumer Service of the federal Department of Fisheries, in conjunction with the Department's Information and Educational Service. A display of these booklets, which contain a wide variety of recipes and much useful information about the cooking of fish and shellfish, is shown above.

Fishery Figures For August

SEAFISH: LANDED WEIGHT AND LANDED VALUE

	May - August 1957		May - August 1958	
	'000 lbs	\$'000	'000 lbs	\$'000
CANADA - TOTAL	1,020,616	49,842	919,832	57,498
ATLANTIC COAST - Total	845,638	30,105	723,317	27,635
Cod	459,959	10,378	374,863	8,557
Haddock	40,503	1,279	22,176	883
Pollock, Hake & Cusk	40,764	774	47,907	860
Rosefish	26,558	562	36,422	868
Halibut	3,231	647	2,741	629
Plaice & Other Flatfish	42,220	1,269	45,171	1,383
Herring & Sardines	125,583	1,514	102,921	1,309
Mackerel	13,437	439	11,123	487
Swordfish	4,376	1,085	4,058	1,060
Salmon	2,813	989	3,322	1,170
Smelts	82	11	84	9
Alewives	11,007	151	8,725	122
Other Fish	32,148	343	28,629	380
Lobsters	32,280	9,786	29,354	9,141
Clams & Quahaugs	4,583	208	3,101	145
Scallops	1,575	587	1,640	601
Other Shellfish	4,519	83	1,080	31
PACIFIC COAST - Total	174,978	19,737	196,515	29,863
Pacific Cods	6,288	446	4,740	306
Halibut	20,887	3,399	20,827	4,289
Soles & Other Flatfish	3,751	205	4,173	208
Herring	42,760	715	44,668	756
Salmon	95,929	14,612	117,437	23,951
Other Fish	1,880	47	1,039	31
Shellfish	3,483	313	3,631	322
BY PROVINCES				
British Columbia	174,978	19,737	196,515	29,863
Nova Scotia	227,803	11,319	213,614	11,048
New Brunswick	102,092	3,830	88,595	3,549
Prince Edward Island	28,950	2,712	23,907	2,499
Quebec	102,617	2,776	82,518	2,783
Newfoundland	384,176	9,468	314,683	7,756

MID-MONTH WHOLESALE PRICES, Aug., 1958

	Montreal	Toronto	Halifax	PRICES PER CWT. PAID TO FISHERMEN (Week ending Aug. 16th)	
				1957	1958
	\$	\$		\$	\$
Cod fillets, Atl. fresh, unwrapped lb.	.290	.320	Cod steak	3.25	3.75
Cod fillets, Atl. frozen, cello 5's lb.	.253	.272	Market Cod	3.25	3.25
Cod fillets, smoked lb.	.313	.352	Haddock	4.00-5.00	5.00
Haddock fillets, fresh, unwrapped lb.	.386	.417	Plaice	3.25	3.25
Herring kippered, Atl. lb.	.250	.272	<u>Yarmouth</u>		
Mackerel, frozen, round lb.	.182	.198	Haddock	4.00-4.50	5.00
Lobsters, canned, Fancy case 48- $\frac{1}{2}$ s	38.82	39.71	<u>Black's Harbour</u>		
Sardines, canned case 100- $\frac{1}{4}$ s	9.04	9.09	Sardines	2.00	2.00
Halibut, frzn., dr. lb.	.390	.380	St. John's, Nfld.		
Silverbright, frzn., dr. lb.	.458	.437	Cod	1.75	2.00-2.25
Coho, frozen, dr. lb.	.613	.575	Haddock	-	-
Sockeye, canned, gr. A case 48- $\frac{1}{2}$ s	22.30	22.02	Rosefish	-	2.00
Pink, canned, gr. A. case 48- $\frac{1}{2}$ s	12.81	12.32	<u>Vancouver</u>		
Whitefish, fresh lb.	.392	.303	Ling Cod	8.00-10.00	8.00
Lake Trout, frozen lb.	.443	.425	Gray Cod	4.00- 5.00	3.50- 5.00
			Soles	6.30- 9.00	6.00- 9.00
			Salmon (Rdspg.)	28.00-44.00	36.00-58.00

Fishery Figures For August

STOCKS AS AT END OF AUGUST

	1957 ('000 lbs)	1958 ('000 lbs)
TOTAL - Frozen Fish, Canada	80,041	65,635
Frozen-Fresh, Sea Fish - Total	54,120	46,982
Cod Atlantic, fillets & blocks	14,276	10,196
Haddock, fillets & blocks	2,310	1,570
Rosefish, fillets & blocks	2,578	2,316
Flatfish (excl. Halibut), fillets & blocks	2,517	2,430
Halibut Pacific, dressed & steaks	10,812	10,479
Other Groundfish, dressed & steaks	2,203	2,278
Other Groundfish, fillets & blocks	4,413	3,033
Salmon Pacific, dressed & steaks	8,341	7,799
Herring Atlantic & Pacific	1,017	2,193
All Other Sea Fish, all forms	4,312	3,395
Shellfish	1,341	1,293
Frozen-Fresh, Inland Fish - Total	7,082	5,689
Perch, round or dressed	634	3
Pickerel (Yellow), fillets	253	192
Sauger, round or dressed	207	5
Tullibee, round or dressed	275	280
Whitefish, round or dressed	2,368	1,678
Whitefish, fillets	429	651
Other, all forms	2,916	2,880
Frozen-Smoked Fish - Total	3,202	1,940
Cod Atlantic	1,680	804
Sea Herring, kippers	728	762
Other, all forms	794	374
Frozen for Bait and Animal Feed	15,637	11,024
Salted and Pickled Fish, Atl. Coast		
Wet-salted - Total	39,683	35,543
Cod	27,590	23,528
Other	12,093	12,015
Dried - Total	8,637	8,808
Cod	7,661	7,673
Other	976	1,135
Boneless - Total	460	552
Cod	449	466
Other	11	86
Pickled - Total (barrels)	26,113	31,827
Herring	11,835(1)	9,739
Mackerel	3,544(1)	6,143
Alewives	10,734	14,941
Turbot	(2)	1,004
Bloaters (18 lb boxes)	327,542	227,470
Boneless Herring (10 lb boxes)	9,231	11,092

CANADIAN EXPORT VALUE OF FISHERY PRODUCTS, MAY - JULY

(Value in Thousands of Dollars)

	1957	1958
Total Exports	33,593	40,018
By Markets:		
United States	26,791	31,164
Caribbean Area	4,339	4,559
Europe	1,714	3,405
Other Countries	749	890
By Forms:		
Fresh and Frozen	23,254	27,691
Whole or Dressed	7,107	9,204
Salmon, Pacific	1,517	2,495
Halibut, Pacific	1,043	1,499
Cod, Haddock, Pollock, etc.	185	187
Swordfish	491	504
Other Seafish	1,033	1,160
Whitefish	1,296	1,345
Pickerel	583	702
Other freshwater fish n.o.p.	959	1,312
Fillets	8,226	10,283
Cod, Atlantic	2,448	4,182
Haddock	1,887	954
Rosefish, Hake, Pollock, etc.	297	878
Flatfish	1,306	1,927
Pickerel	1,186	881
Other	1,102	1,461
Shellfish	7,921	8,204
Lobster (Alive & Meat)	7,219	7,619
Other	702	585
Cured	5,266	4,903
Smoked	314	380
Herring	195	279
Other	119	101
Salted, Wet or Dried	4,417	4,006
Cod	3,889	3,438
Other	528	568
Pickled	535	517
Herring	288	273
Mackerel	138	114
Other	109	130
Canned	2,405	5,521
Salmon, Pacific	745	3,722
Sardines	455	617
Lobster	1,111	1,073
Other	94	109
Miscellaneous	2,668	1,903
Meal	1,526	673
Oil	143	133
Other	999	1,097

(1) Excluding Newfoundland (2) Not available

Fisheries News From Abroad

How New England Buys Fish

BOSTON is often called the marketing headquarters of the United States fisheries and there are impressive facts and figures to support this claim. When the Yankee clipper ships braved the offshore waters of the Atlantic Ocean in colonial days, the New England fisheries were established as an important commercial enterprise in the United States. Because of its proximity to one of the world's most productive fishing banks, New England became the principal supplier of fish for human consumption and industrial use in the United States. Although landings have levelled off in recent years, Boston still claims the title of a leader in the fishing trade because most imports for sale throughout the country are bought and processed here.

REGIONAL PRODUCTION

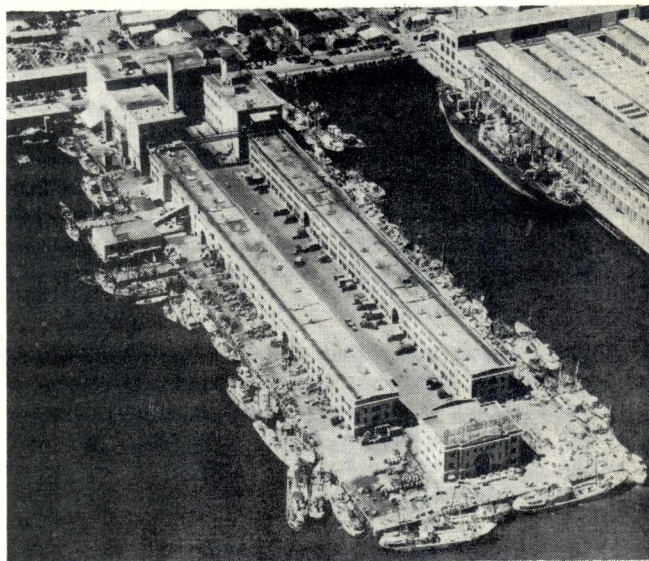
In order of importance, based on both quantity and value, about 95 per cent of the commercial fishing operations in New England are carried on from ports in Massachusetts, Maine and Rhode Island. Over 50 per cent of the fish landings at Maine ports by volume are herring, followed by ocean perch and whiting. Maine also contributes most of the New England lobster catch.

Rhode Island landings are primarily menhaden, an oily fish of the herring family used for fish oil, meal and solubles. Scup, a tasty pan fish, is a Rhode Island specialty with an annual average catch of five million pounds.

In Massachusetts, most of the whiting and ocean perch hauls are directed to the port of Gloucester for sale to local processors. Boston receives the big share of cod and haddock, and farther south, New Bedford, with 20 per cent of the total state receipts, handles most of the flounder caught and is the main port for the scallop fleet.

An unique feature of the Boston fishing scene is the famous old million-dollar fish pier, where many of the fish processors, importers, and brokers are located. The Fishing Exchange, situated on the pier, handles cargoes of fish on an auction basis. Although it deals with a very different commodity, it is similar in operation to a stock exchange. During 1957, 135.6 million pounds of fish

This article was written by F.B. Clark, Canadian Consul and Trade Commissioner, Boston, Mass., for "Foreign Trade," published by the Department of Trade and Commerce.



The Boston Fish Pier.

worth \$11.2 million were sold through the Exchange.

1957 LANDINGS DOWN

Provisional statistics for the New England States in 1957 show a decline of about two per cent in fish landed compared with the record catch of over one billion pounds in 1956. Smaller menhaden and haddock landings were mainly responsible for this decrease. The menhaden catch was slightly better than half of the 78 million pounds recorded for 1956.

Haddock, one of the favourite groundfish species for fillets, was 35 million pounds less than the 1956 total of 152 million pounds. Among the other species that were caught in smaller quantities in 1957 were cod, hake, pollock and clams.

Landings of industrial fish (other than menhaden) showed the largest increase in 1957. These fish useful for bait, animal food and reduction, recorded a 28 per cent gain over 1956, an increase of 70 million pounds. Whiting returned to the New England shores as vessels unloaded 25 million pounds more than the 1956 haul of 90 million pounds. There were modest increases in the catch of herring, lobster, flounder and scallops.

PRODUCTION REMEDIES

To meet the growing demand of the domestic market, New England fishermen have gradually extended their fishing area. Boats that were used for

daily trips must now be replaced by vessels with modern gear and navigation equipment. Until most of the fleet meets these requirements, fish production, especially of the desired groundfish species, is not expected to improve.

To solve this problem and others that affect the fishing trade, the Government is extending its assistance. A federal loan fund has been established to finance vessels and gear. The Bureau of Commercial Fisheries carries out explorations to locate new fisheries resources, and officials of this organization are testing various methods of fish storage and freezing for the ship-to-shore haul. The Bureau is also working on the cost of insuring the vessel and the crew against personal injury; this is estimated to take 15 per cent of the fishermen's dollar.

In Boston and other New England fishing ports, modern handling and processing equipment is gradually being installed. New plants to convert inedible fish into animal foods and fertilizer encourage the fishermen to catch these species when others are scarce.

IMPORTS NEEDED

The Canadian Atlantic Provinces are by far the principal foreign supplier to the New England market; in 1957 they shipped four per cent more fish products to New England than in 1956. Cod, haddock and perch, lobsters and fishmeal were the leaders, although fishmeal exports tumbled 10 per cent because of increased production in New England.

The New England fish-stick industry continued to rely on Canada as the main supplier of groundfish blocks and slabs. Regular orders were also being received from Scandinavian suppliers. Imports from Canada of ocean perch, haddock, hake and pollock were down slightly in 1957. There was no significant alteration of imports from Canada of fresh and frozen lobster; in fact, the demand exceeded the quantity offered in this market.

DISTRIBUTION CHANNELS

A certain share of the imports from Eastern Canada consists of orders placed by New England fishing corporations with their Canadian Affiliates. A number of the big fish-packing companies in this area purchased packing plants and contracted fishing fleets on the Canadian side to assure a steady supply for their processing plants in New England. Some of these companies have the finances and facilities to follow the fish from boat to final buyer; their own organization attends to the distribution and sales promotion of well-advertised fish brands.

If a Canadian fishing company prefers to sell direct to a single account, there are a number of independent importers located along the Boston Fish

Pier who are anxious to consider offers from new suppliers. These firms can arrange cold storage facilities to take care of heavy supply periods. The importer accounts for all sales and reports cold-storage holdings on a pre-arranged periodic basis.

Most of the fish brokers who handle imports are located in Boston. These small firms sell on commission to institutions, supermarkets, the corner stores, and the few remaining fish markets. Sales arrangements with foreign suppliers are non-exclusive and the sales territory contracted is governed by the supply. Most of the Boston brokers can provide national coverage if required.

Choosing a fish broker on the basis of experience and activity is considered a wise approach to sales in this market. A strong and steady New England demand for shellfish and groundfish fillets is usually enough to take care of the supply offered. Should production increase beyond the capacity of this regional market, the Boston broker has a densely populated area to canvass farther south along the Atlantic seaboard. Customers like to have a local representative on call to handle claims, expedite deliveries and check on retail displays. Supermarket space is scarce, particularly refrigerated space, and after a broker succeeds in placing his line, regular calls are helpful to ensure that the products remain within reach and view of the shopper.

SALES SUGGESTIONS

The United States is an enormous market for any food product that appeals to the consumer but it is wise for the exporter to enter it progressively, one region at a time. Then supply and demand can remain in balance. A huge advertising budget should not be necessary to sell a quality fish product but attractive packaging is important. Supermarkets are by far the principal outlets for fish fillets and shellfish, and colourful containers greatly influence the housewife's selection.

Although New England fish production is expected to improve with the fleet modernization programme, the growing local and national market will still need the present flow of imports and possibly more. The food value and easy preparation of fish are becoming better known through advertising and public relations programmes sponsored by government and trade organizations. Canada can maintain her present favourable sales position and even increase exports for certain species with a rise in supply. Thanks to the expanding demand, sales prospects for both domestic and foreign suppliers are promising.

The federal Department of Fisheries is continuing to pay a bounty on hair seals killed on the Pacific Coast. The bounty rate per seal is continued at the rate of \$5.00 for each animal killed.

Current Reading

"The Investigation of Fish-Power Problems,"

H.R. MacMillan Lectures in Fisheries. A symposium held at the University of British Columbia, Edited by P. A. Larkin, Institute of Fisheries, University of British Columbia, Vancouver, B.C.

Of the ten papers which made up this symposium, three were under the general heading "Fish Power Problems in British Columbia," two under the heading "Ecological Changes and Power Development", and five under the heading "The Physiology and Behaviour of Fish in Relation to Power Development."

In the first section, the papers were titled "The Fraser River salmon in relation to power development," by W.A. Clemens; "Power development on lakes in British Columbia," by E.H. Vernon, and "Power development and anadromous fish in British Columbia," by W.R. Hourston.

In the second section, D. S. Rawson's paper was titled "Indices to lake productivity and their significance in predicting conditions in reservoirs and lakes with disturbed water levels," and F. Neave's was titled "Stream ecology and production of anadromous fish."

Papers in the third section were: "Energy stores and metabolism in relation to muscular activity in fishes," by E. C. Black; "Implications and assessment of environmental stress," by J.R. Brett; "The measurement of performance of salmon in fishways," by G. Collins; "Approaches to the measurement of performance in fish," by F.E.S. Fry, and "The analysis of the behaviour of fish," by W.S. Hoar.

"Good Food," by Helen Gougeon. The Macmillan Company of Canada, 1958 Cloth. Pp. 236. Price \$3.50.

"Good Food," is not a basic cook book but a collection of over 400 recipes including some excellent fish dishes. Many of the recipes are annotated with the author's comments or description. As the author explains, "I have tried to put together a collection of information, opinions, and less-usual recipes which the woman, who has some cooking experience and who shares my interest in food, will find enjoyable and stimulating". In this endeavour it would seem that she has succeeded admirably.

The content of the book is divided into ten chapters. It opens with a chapter entitled "Simmering Soup" and concludes with "The Perfect Ending", a chapter on desserts. Each chapter has an inter-

esting and informative introduction. For fish lovers, there are about two dozen seafood recipes, some of regional interest such as a Lunenburg Fish Chowder, Old Quebec Salmon Pudding, and Filet of Sole Chateau Frontenac.

The print and format of this book are well chosen and it is cleverly illustrated throughout.

"FAO Directory of Institutions Promoting Fish Consumption," (Food and Agriculture Organization of the United Nations, Rome, Italy).

This directory has been prepared as a first practical step intended to provide information on the organization and activities of institutions concerned with the promotion of fish cooking and, thereby, to facilitate the exchange of information and materials used and experience acquired in such work.

It thus forms part of a broader project within FAO's approved programme of work, envisaging more extensive and intensive efforts to encourage the consumption of fish products as one important means of achieving prosperity and stability in the fishery industries.

The institutions represented in this publication are public or private organizations specifically responsible for the promotion of fish consumption, which have been actively engaged in such work during 1958, and which have supplied relevant information to FAO. This information is to be brought up to date from time to time.

"English Translations of Fishery Literature. Additional Listings, 1958," by Leslie W. Scattergood. (Special Scientific Report, Fisheries No. 264, U.S. Fish and Wildlife Service, Washington, D.C.).

This report is a continuation of a series begun by W.M. Chapman during his association with the Washington State Department of Fisheries. The series was initiated to provide fishery investigators with information on the amount and availability of English translations of fishery literature.

The first two sections of this series were issued by the Washington Department of Fisheries, Fishermen's Terminal, Seattle 99, Washington. The third, fourth, fifth and sixth reports, undertaken with the co-operation of the above agency, were published by the U.S. Fish and Wildlife Service as Special Scientific Reports, Fisheries Nos. 35, 72, 176 and 227.

PACIFIC FUR
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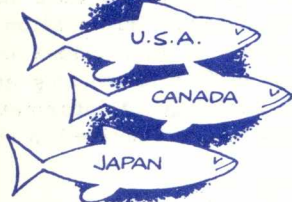


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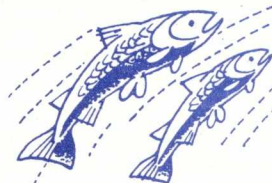


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INTERNATIONAL WHALING COMMISSION

INTERNATIONAL CO-OPERATION means wise use of fishery resources

Canada has been a pioneer in the establishment of international commissions, the aims of which are to conserve and develop stocks of fish, sustaining their productive level whenever this is threatened by human and natural causes.

This country is a party to three bilateral fishery agreements with our neighbour to the south, and is also a member of four inter-

national conventions which include other countries in addition to the United States.

Fish populations renew themselves if given the chance. The purpose of international co-operation is to make sure that they *are* given this chance . . . through practical programmes of scientific research and by common sense fisheries regulations.



DEPARTMENT OF FISHERIES
OTTAWA, CANADA

HON. J. ANGUS MACLEAN, M.P., MINISTER

GEORGE R. CLARK, DEPUTY MINISTER