## DOMINION OF CANADA

## 42195

## FIRST

## ANNUAL REPORT

## OF THE

## DEPARTMENT OF FISHERIES

(SIXTY-FOURTH ANNUAL FISHERIES REPORT OF THE DOMINION)


OTTAWA
F. A. ACL.AND

To His Excellency Captain the Right Honourable The Earl of Bessborough, P.C., G.C.M.G., Governor General and Commander-in-Chief of the Dominion of Canaaia.

## May It Please Your Excellency:

I have the honour to submit herewith, for the information of your Excellency and the Parliament of Canada, the First Annual Report of the Department of Fisheries, being the Sixty-fourth Annual Fisheries Report for the Dominion.

I have the honour to be,<br>Your Excellency's most obedient servant, EDGAR N. RHODES, Minister of Fisheries.

Department of Fisheries,
Ottawa, April 6, 1931.

## CONTENTS

Page
Deputy Minister's Report, covering- -Review of the Fisheries for the calendar year 19306
Foreign Trade in Fisheries Products ..... 17
Market Survey. ..... 20
Inspection of Fish, Barrels, etc ..... 21
Inspection of Canneries and Canned Fish ..... 21
Instruction in Fish Curing, and Fishing Demonstrations ..... 22
Work of the Biological Board ..... 24
Fish Culture. ..... 25
Oyster and Scallop Investigations. ..... 26
The Lobster Fishery ..... 29
Fish Collection Services ..... 30
Fisheries Intelligence Service. ..... 31
Fishing Bounty. ..... 32
Pelagic Sealing ..... 33
Transfer of Prairie Province Fisheries. ..... 34
The North American Council on Fishery Investigations ..... 34
The International Fisheries Commission ..... 38
APPENDICES

1. Reports of Supervisors of Fisheries ..... 41
2. Report of the Biological Board of Canada ..... 131
3. Report of the Director of Fish Culture. ..... 142
4. Report of the Fisheries Engineer. ..... 225
5. Report of Scallop Investigations ..... 235
6. Summary of Oyster Investigations ..... 237
7. Statement of Revenue and Expenditure, 1930-31 ..... 239
8. Statement of Revenue and Expenditure, 1867 to 1930-31 ..... 254
9. Entries of United States Fishing Vessels (Atlantic) ..... 266
10. Entries of United States Fishing Vessels (Pacific). ..... 268
11. Summary of Licences Issued ..... 272
12. Return of Prosecutions. ..... 275Graphs showing the Production from Several Principal Fisheries and Certain FisheriesExport Trade, 1912 to 1930, appear after appendix No. 12.

## DEPUTY MINISTER'S REPORT

To the Hon. E. N. Rhodes, Minister of Fisheries.
Sir,--I have the honour to submit the First Annual Report of the Department of Fisheries, which is the Sixty-fourth Annual Report on the fisheries of Canada, and is for the fiscal year ended March 31, 1931. The following subjects are dealt with in the report:-

Fisheries Operations in the Calendar Year 1930.
Foreign Trade of the Dominion in Fisheries Products.
A Survey of Fish Marketing and Merchandizing Methods, which was instituted during the fiscal year.
Inspection of Fish, Barrels, Canneries and Canned Fish, etc.
Instruction in Fish Curing.
The Work of the Biological Board of Canada.
Fish Culture.
Oyster and Scallop Investigations.
Fish Collection Services.
Fisheries Intelligence Services.
The Lobster Fishery.
Fishing Bounty.
The Transfer to Provincial Control of the Fisheries of Manitoba, Saskatchewan and Alberta, respectively.
Results of the Pelagic Sealing Treaty.
The Work of the North American Council on Fisheries Investigations.
The Work of the International Fisheries Commission or Pacific Halibut Commission.

The appendices include:-
Reports of the Supervisors of Fisheries.
Report of the Biological Board of Canada.
Report of the Fish Culture Branch of the Department.
Report on Oyster Investigations.
Report on Scallop Investigations.
A Statement of Fisheries Expenditure and Revenue for 1930 and a Statement of Fisheries Expenditure and Revenue by Provinces for the Period 1867 to 1930.
Statements Showing, respectively, the Entries of United States Fishing Vessels on the Atlantic Coast and Entries on the Pacific Coast during 1930.

A Summary of Licences Issued in 1930.
A Report Showing the Prosecutions for Offences under the Fisheries Act.
There is also included in the report a series of graphs showing by years, in the period from 1912 to 1930 inclusive, the production from several of Canada's principal fisheries, and the exports of dried fish from Canada and various other countries.

## REVIEW OF THE FISHERIES, 1930

Fisheries operations in the calendar year 1930 resulted in a production having a marketed value of $\$ 47,804,216$, or $\$ 5,714,000$ less, in round figures, than in the year 1929. Landings were smaller than in 1929 in each of the three divisions of the fisheries-Atlantic Coast Fisheries, Inland Fisheries and Pacific Coast Fisheries-and for the Dominion as a whole the catch showed a decrease of approximately $53,000,000$ pounds. The major factor in causing a decrease in the marketed value of the year's production, however, was not the drop in landings, but the unsettled and depressed conditions prevailing in most of the markets where Canada's fisheries products are sold. Price levels declined and the industry had to face very many adverse marketing conditions.

As compared with the returns for 1929 there were decreases in the marketed value of the fisheries production in all the provinces. Sea Fisheries output for the year had a marketed value of nearly $\$ 41,452,000$, but in the preceding year the total had been more than $\$ 44,928,000$. Inland Fisheries production, slightly more than $\$ 6,352,000$ was smaller by over $\$ 2,237,000$ than it had been in 1929. British Columbia continued first among the provinces in point of value of fisheries output, and accounted for about forty-eight per cent of the production value for the Dominion, as compared with thirty-four per cent in the case of the Maritime Provinces, seven per cent for Ontario, five per cent for Quebec, and four per cent for the Prairie Provinces and the Yukon Territory combined.

The marketed value of the year's production by provinces is shown in table I below, together with comparative figures for the four preceding years. Table II shows the marketed value of Sea and Inland production by provinces for the past year.

TABLE I

|  | 1930 | 1929 | 1928 | 1927 | 1926 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | \$ | \$ | \$ | \$ | \$ |
| Nova Scotia | 10,411,202 | 11,427,491 | 11,681,995 | 10,783,631 | 12,505,922 |
| New Brunswick | 4,853,575 | 5,935, 635 | 5,001,641 | 4,406,673 | 5,325,478 |
| Prince Edward Island. | 1,141,279 | 1,297, 125 | 1,196,681 | 1,367,807 | 1,358,934 |
| Quebec. | 2,502,998 | 2,933, 339 | 2,996,614 | 2,736,450 | 3,110,964 |
| Ontario | 3,294, 629 | 3,919,144 | 4,030,753 | 3,670,229 | 3,152,193 |
| Manitoba. | 1,811,962 | 2,745,205 | 2,240,314 | 2,039,738 | 2,328,803 |
| Saskatchewan. | 234,501 | 572,871 | 563,503 | 503,609 | 444,288 |
| Alberta. | 421, 258 | 732,214 | 725, 050 | 712,469 | 749,076 |
| British Columbia | 23, 103, 302 | 23,930,692 | 26,562,727 | 23,264,342 | 27, 367,109 |
| Yukon Territory | 29,510 | 24,805 | 51,665 | 12,090 | 17,866 |
| Total. | 47,804,216 | 53,518, 521 | 55,050,973 | 49,497,038 | 56,360,633 |

TABLE II

| - | Sea | Inland | Total |
| :---: | :---: | :---: | :---: |
| Nova Scotia. | 10,411,202 |  | 10,411,202 |
| New Brunswick | 4,819,396 | 34,179 | 4,853,575 |
| Prince Edward Island. | 1,141,279 |  | ${ }^{1,141,279}$ |
| Quebec. | 1,976,798 | 526,200 | 2,502,998 |
| Ontario... |  | 3,294,629 | 3,294,629 |
| Manitoba..... |  | $\begin{array}{r}1,811,962 \\ 234,501 \\ \hline\end{array}$ | $\begin{array}{r}1,811,962 \\ \hline 24+501\end{array}$ |
| Alberta. |  | 421,258 | 421,258 |
| British Columbia. | 23,103,302 |  | 23,103,302 |
| Yukon Territory.. |  | 29,510 | 29,510 |
| Total. | 41,451,977 | 6,352,239 | 47,804,216 |

Capital Investment and Personnel.-Notwithstanding that the fishing industry, in common with other industries, was seriously affected during the year by unfavourable general economic conditions, a substantial increase was made in the capital investment, which reached a new high level. In 1929 the investment amounted to slightly more than $\$ 62,579,000$, but by the end of 1930 this sum had increased by over $\$ 2,000,000$ and the capital in the industry amounted in all to $\$ 64,026,297$. There was a decrease in 1930 of something more than $\$ 700,000$ in the investment in vessels and boats and gear used in the primary operations of catching and landing fish, which amounted to $\$ 33,198,690$, but this was more than offset by an increase in the money invested in canneries and fish curing establishments, which reached a total of $\$ 30,827,607$. As has been noted in several previous reports, there has been a steady increase in capital investment in the fishing industry in the past few years. It may probably be taken for granted that this process of increase will be temporarily checked by the general adverse economic conditions at present prevailing throughout the world. Its occurrence has been significant, however, of the growing Canadian interest in the fisheries, and of the widening realization of the possibilities presented by the Dominion's remarkable fisheries resources, and it is reasonable to expect that investment will again increase when general conditions have again become more favourable for business expansion.

During the year the number of persons directly engaged in the industry was 79,558 , or 892 less than in the preceding year. The personnel employed in the primary operations numbered 63,836 , as compared with 64,083 in 1929 . In fish canning and curing establishments 15,722 persons were at work, or 645 less than in the year before.

Major Fisheries.-Outstanding among the features of the year's operations was the exceptional success of the salmon fishery so far as quantity of landings was concerned. In the Sea Fisheries of both coasts greatly increased landings of salmon were made, over $229,600,000$ pounds in British Columbia and nearly $6,500,000$ pounds in the Atlantic provinces. New records were established in catches; and, in marketed value, despite the unfavourable world conditions, the production of the fishery showed an increase of $\$ 2,700,000$ over the figures for the preceding year and reached a total of $\$ 17,697,655$. The lobster fishery, which is carried on in Atlantic coast waters only, was again second only to the salmon fishery in point of marketed value return. An increased catch was made, but the lobster industry, like all others, was affected by the unsatisfactory market conditions, and despite the gain in landings the marketed value of the production was about $\$ 481,000$ less than in 1929 , amounting to approximately $\$ 5,214,000$. The cod fishery ranked third in point of value, with a marketed return of $\$ 4,288,000$, in round figures as compared with approximately $\$ 5,395,000$ in the preceding year. There was a large decrease in the marketed value of the halibut catch, which was only $\$ 2,871,500$, as compared with more than $\$ 4,830,000$ in 1929. In the herring fishery there was a smaller return, or $\$ 2,623,000$ as against $\$ 3,186,670$. Whitefish, the most valuable of the Inland fishes, brought in nearly $\$ 1,819,000$, but that amount was less by over $\$ 600,000$ than the marketed value for 1929.

## nova scotia

An increase of more than $1,800,000$ pounds in the lobster catch was a feature of 1930 operations in Nova Scotia, although lowered prices reduced the marketed value of the year's lobster production ( $\$ 3,046,084$ ), by about $\$ 165,000$. There were very large increases relatively in the catch both of salmon and swordfish; in each case the landings were almost twice as large as in the previous year. The mackerel fishery was also more successful than in 1929 , both in point of size of landings and marketed value. . There were larger catches of hake and cusk, flounders, skate, soles, alewives, smelts, tuna, eels, oysters, and of one or two
other varieties. On the other hand, the landings of cod fell off by more than $23,000,000$ pounds, and the marketed value of the cod production decreased by nearly $\$ 800,000$. Unfavourable market conditions in the dried fish trade operated to keep down the return from cod fishery operations. The total catch of fish made by the Lunenburg fleet, which operates chiefly for the dried fish trade, was much smaller than in 1929, or $14,078,000$ pounds as against $20,870,000$ pounds. The haddock, pollock, halibut, herring, scallop and clam and quahaug fisheries were less successful than in 1929, both as to catch and marketed value. All told the marketed value of the Nova Scotia fisheries production for the year was $\$ 10,411,202$, or $\$ 1,016,289$ less than in the preceding year.

## NEW BRUNSWICK

In New Brunswick the marketed value of the sea fisheries production, $\$ 4,819,000$ in round figures, was less by more than $\$ 1,000,000$ than the total for 1929, but the output from inland fisheries showed a slight increase in value on the market, or $\$ 34,179$ as compared with $\$ 31,452$. The lobster and sardine fisheries, together, accounted for about 47 per cent of the marketed value of the fisheries production of the province for the year. The catch in the lobster fishery, slightly more than $9,000,000$ pounds, was greater by 870,000 pounds than in the preceding year, but the marketed value showed a decrease. The sardine fishery, which in 1929 had been in first place among New Brunswick fisheries in point of value of production, was much less successful in 1930. The catch fell off sharply and marketed value decreased by $\$ 550,000$. The pack of canned sardines totalled 244,238 cases, as compared with 329,204 cases in the previous year, and there was a decrease of more than $\$ 340,000$ in canned sardine value. There were decreased catches and decreases in marketed value in the smelt, haddock, cod, herring, hake and cusk, mackerel, shad, oyster, and clam and quahaug fisheries. The pollock catch showed a large relative increase, and a gain of over $\$ 23,000$ in marketed value. The commercial salmon landings fell not very far short of being twice as large as in 1929, or $3,332,600$ pounds, as compared with $1,765,000$ pounds. The marketed value of the catch was $\$ 641,734$ as compared with $\$ 416,925$.

## PRINCE EDWARD ISLAND

The year's operations in Prince Edward Island were featured by an increase of nearly $1,610,000$ pounds in the landings of cod, which amounted in all to $6,625,500$ pounds. The lobster fishery was also more productive and over $8,000,000$ pounds were landed as compared with $7,359,000$ pounds in 1929 . In the case of the cod fishery, there was also some increase in marketed value, a condition probably chiefly attributable to improved processing methods employed in some parts of the province as a result of special instructional work carried on among the fishermen by the department's officers; but in the lobster fishery, which is the most valuable of Prince Edward Island fisheries, there was a decrease of over $\$ 100,000$ in the 1930 marketed return, notwithstanding the increase in catch. The mackerel fishery was more successful than in 1929 , both as to catch and marketed value, but most of the other fisheries showed decreases in landings and value, although so far as catch was concerned the clam and quahaug fishery was more productive than in the previous year. The oyster fishery was not quite as successful as in 1929.

## QUEBEC

In Quebec there was a decrease in marketed value both in the case of Sea fishery production and Inland fishery production. The products of the Sea Fisheries had a value on the market of approximately $\$ 1,977,000$, which was less by over $\$ 392,000$ than the total for 1929. Operations in the Inland Fisheries yielded a production valued on the market at $\$ 526,200$, or about $\$ 38,000$ less
than in the preceding year. There was again a substantial increase in the salmon catch in the Sea Fisheries, the landings amounting in all to $1,685,600$ pounds, as against $1,005,400$ pounds, and marketed value increased by about $\$ 55,000$. The mackerel fishery also showed a gain in catch and marketed value. Scallop landings increased and there was also an increase in marketed value. Practically all of the other sea fisheries, however, including cod and herring, yielded smaller catches and smaller monetary return than in the preceding year. The catch of lobsters increased slightly, but the marketed value fell off. Fishermen in the Inland Fisheries made larger catches of eels than in 1929, and increased their market return by a few thousand dollars. The herring fishery was slightly more successful than in the previous year, and this was true also of the whitefish fishery and one or two others. The pickerel catch was not as large as in 1929, although the decrease was not great. As in the Sea Fisheries the salmon fishermen engaged in inland operations did very substantially better than in the previous year, but the commercial catch of salmon in Quebec inland waters is not large.

## ONTARIO

In Ontario, as shown by figures supplied by the Ontario Department of Game and Fisheries, which administers the fisheries of the province, the year's commercial catch was greater by nearly $1,100,000$ pounds than the 1929 catch, or $34,950,700$ pounds as compared with $33,851,400$ pounds. The marketed value of the 1930 production, however, was only $\$ 3,295,000$, in round figures, as against a little more than $\$ 3,919,000$ in the preceding year. On the production side, the feature of 1930 operations was an increase of more than 100 per cent in the landings of blue pickerel which amounted, in all, to $5,928,400$ pounds. Herring catch also showed a substantial increase and pickerel landings were somewhat larger than in 1929. The catches of such fish as whitefish, trout, and pike were smaller than a year ago.

## MANITOBA

With all the principal fisheries showing smaller marketed returns than in 1929, Manitoba's production for 1930 amounted only to $\$ 1,812,000$ in round figures, or a decrease of more than $\$ 933,000$. The pickerel fishery yielded a catch with a marketed value of slightly more than $\$ 581,000$, while the return from 1929 operations amounted to more than $\$ 988,000$. The catch of whitefish increased, but marketed value fell off by some $\$ 80,000$. The tullibee catch, $4,750,000$ pounds, was very much smaller than in the year before, and the marketed value, $\$ 370,000$, showed a decrease of $\$ 218,000$. The eatch of goldeyes was not much more than one-half as large as in the earlier year. The trout catch also decreased.

## SASKATCHEWAN

The landings of pickerel, tullibee and mullets in Saskatchewan were larger last year than they had been in 1929, but the catches of whitefish and trout showed decreases. Taking all fisheries together, there was a decrease of about $1,433,000$ pounds in catch and of more than $\$ 338,000$ in marketed value, the total production value for the year being $\$ 234,500$ as compared with $\$ 572,871$. In the whitefish fishery, the most important of Saskatchewan's fisheries from the standpoint of market return, the catch for the year was approximately $3,152,000$ pounds as compared with $4,593,000$ pounds in the year before.

## ALBERTA

The whitefish and trout fisheries are the most important in Alberta, and in 1930 each was considerably less productive than in the preceding year. These
decreases chiefly explain the drop in total marketed value of fisheries production from $\$ 732,214$ in 1929 to $\$ 421,258$ in the year under review. The 1930 catch of trout was about $1,492,000$ pounds, but this was a decrease of over 800,000 pounds from the 1929 figures, while marketed value was $\$ 148,960$ as against $\$ 235,391$. The catch of whitefish was slightly more than $1,906,000$ pounds, as against some 2,809,000 pounds in the previous year, and had a marketed value of $\$ 187,751$, a decrease of over $\$ 138,000$. The catches of all other kinds of Alberta fish except mullets were less in 1930 than in the preceding year. The mullet fishery is relatively unimportant.

## BRITISH COLUMBIA

The marketed value of British Columbia's fisheries production in 1930, $\$ 23,103,302$, was less by some $\$ 827,000$ than the total for 1929 . This decrease was due in part to the decline in price levels, and in part to curtailment of operations in some fisheries because of unfavourable market conditions. The exceptionally large runs of salmon led to an increase of some $\$ 2,345,000$ in the marketed value of salmon production, but halibut marketed value decreased by more than $\$ 1,870,000$, herring marketed value by nearly $\$ 265,000$ and pilchard marketed value by some $\$ 600,000$. There were also decreases in catch and value in the case of a number of the other Pacific coast fisheries. The number of whales captured, for instance, was only 320, as against 407 in 1929, and the marketed value of whale products $\$ 227,993$, represented a decrease of nearly $\$ 160,000$.

## YUKON TERRTTORY

The marketed value of the catch taken in the Yukon Territory during the year was between four and five thousand dollars greater than the total for 1929, or $\$ 29,510$ in 1930 as compared with $\$ 24,805$. The salmon catch, 54,900 pounds was some 23,000 pounds smaller than the 1929 total, but the landings of trout were more than twice as large as in the preceding year, and that was true also in the case of whitefish and mixed fish.

## ATLANTIC COAST RESULTS

Catches of sea fish made during the year by the fishermen of Nova Scotia, New Brunswick, Prince Edward Island and Quebec, the four Atlantic coast provinces, amounted in all to $483,935,700$ pounds, as compared with $536,193,900$ pounds in 1929. The landings had a marketed value of a little more than $\$ 18,909,000$, which was approximately $\$ 1,090,000$ less than in the preceding year. The Prince Edward Island catch showed an increase of substantially more than a million pounds, but the landings in each of the other three provinces showed a decrease. The catch figures by provinces were as follows:-


Cod, Haddock, Hake and Cusk, and Pollock.-The landings of each of these varieties of fish were smaller, taking the coast as a whole, than they had been in 1929, and marketed value also showed a decline. Except in Prince Edward Island where, once more as in 1929, there were increased catches, the landings from the cod fishery fell off along the coast. In all three of the Maritime provinces the haddock catch decreased; no haddock landings were reported from Quebec, either in 1929 or 1930. The Nova Scotia catch of hake and cusk was larger than in the previous year, but the total catch from Maritime province
waters decreased; hake and cusk are not taken by Quebec fishermen. The pollock fishery was more productive in New Brunswick than it had been in the previous year, but less productive in Nova Scotia, and the net result of pollock fishing operations in these two provinces, the only provinces where pollock are taken, was a decrease of over 186,000 pounds in catch.

The total Atlantic coast catch of cod was $166,146,600$ pounds with a marketed value of $\$ 4,284,209$, as compared with the catch of over $197,883,000$ pounds and a marketed value of more than $\$ 5,391,000$ in 1929. The chief production of cod is in Nova Scotia, and the landings made during the year by the fishermen of that province were $106,513,000$ pounds in round figures, as against slightly more than $129,784,000$ pounds in the year before.

All of the annual catch of haddock, except a relatively small quantity, is taken by the fishermen oí Nova Scotia, and their operations in 1930 yielded a catch of nearly $47,164,000$ pounds out of a total catch for the Atlantic coast of $48,634,400$ pounds. As compared with the results in the fishery in 1929, the total catch for the coast showed a decrease of over $5,900,000$ pounds, and the Nova Scotia catch a decrease of about $4,450,000$. The New Brunswick haddock landings, approximately $1,320,000$ pounds, were not quite one-half as large as the 1929 catch. In Prince Edward Island, where the haddock landings are never large, the 1930 catch was slightly smaller than the catch of the previous year. Taking the coast as a whole the marketed value of the haddock catch was about $\$ 1,852,000$, a decrease of $\$ 100,000$.

Nova Scotia's catch of hake and cusk, a little more than $19,000,000$ pounds, was about 550,000 pounds larger than the catch in 1929. In New Brunswick and also in Prince Edward Island, however, the catch decreased, and the combined catch for the three provinces, $29,437,000$ pounds, was $4,500,000$ pounds under the figures for the previous year. Marketed value was something more than $\$ 431,000$, as against $\$ 517,296$.

New Brunswick fishermen landed $1,289,400$ pounds of pollock during the year, and Nova Scotia fishermen $3,942,200$ pounds, or a total of $5,231,600$, as compared with $5,417,900$ in the year before. The New Brunswick catch increased by some 443,000 pounds, but Nora Scotia landings fell off by more than 600,000 pounds. The total pollock marketed value for the two provinces, $\$ 80,662$, was about $\$ 4,300$ less than in 1929.

The quantity of fish marieted fresh and in the form of fresh fillets from the catch of cod, haddock, hake and cusk, and pollock, increased by nearly $1,800,000$ pounds, amounting to more than $36,053,000$ pounds. On the other hand the production of the dried and boneless products from the catches of these fish was only $42,561,800$ pounds, or about $12,435,000$ pounds less than in the year before. The production of smoked fish and smoked fillets from this group also fell off, and amounted to $8,191,600$ pounds, as against $10,453,100$.

Herring, Mackerel, and Sardines.-The total Atlantic coast catch of these varieties of fish in 1930 amounted to a little more than $134,108,000$ pounds, or some $25,700,000$ pounds less than in 1929. Marketed value totalled $\$ 2,785,942$, a decrease of about $\$ 752,000$. The returns from the herring fishery, both catch and marketed value, decreased. This was true, also, as regards the sardine fishery. The mackerel fishery showed increase in catch, and increase in marketed value.

The herring fishery was less successful in all four provinces than it had been in 1929. Altogether the catch was $90,370,000$ pounds in round figures, with a marketed value of $\$ 1,113,436$. For 1929 the figures were $94,757,700$ pounds and $\$ 1,375,310$.

The mackerel catch amounted in all to more than $17,846,000$ pounds, or approximately $2,500,000$ pounds more than in 1929. The marketed value, $\$ 598,019$, represented an increase of nearly $\$ 62,000$.

The sardine catch, all of it save a few thousand pounds to be credited to New Brunswick, was $25,891,800$ pounds, or nearly $24,000,000$ pounds less than the total for 1929 . The catch had a marketed value of $\$ 1,074,487$, as compared with over $\$ 1,626,000$ in the year before. Only some 244,000 cases of canned sardines were put up, a decrease of more than 84,900 cases.

Flounders, Halibut and Swordfish.-The swordfish fishery, which is carried on in Nova Scotia waters only, was very much more successful in 1930 than it had been in the preceding year. The catch amounted to more than $1,193,000$ pounds, an increase of over 559,000 pounds. On the market the fish had a value of $\$ 214,806$, as against $\$ 98,241$. Halibut landings decreased in Nova Scotia, the principal producer, Quebec and New Brunswick; halibut are not usually taken in Prince Edward Island areas. There was also a decrease in halibut marketed value. The Nova Scotia catch was nearly $2,726,000$ pounds, but this was about 370,000 pounds under the 1929 figures. Quebec's catch was only 45,100 pounds as against more than 73,000 pounds. The New Brunswick landings-the halibut. catch in New Brunswick is never large-were about 10,000 pounds, or only a little more than about one-half as large as in 1929. The flounder fishery is carried on in Nova Scotia and New Brunswick only, and in the year under review it was substantially more successful than it had been in 1929. The catch landed in all about 641,000 pounds, an increase of over 178,000 , while the marketed value of the catch was over $\$ 27,940$, as compared with $\$ 19,243$ in the year before.

River Spawning Fish.-A very large increase in the salmon catch was recorded during the year, and there was a substantial increase in the catch of alewives. On the other hand there was again a decrease in the landings of smelt. In 1929, the salmon catch was upwards of $3,529,000$ pounds, but in 1930 it increased to $6,448,600$ pounds, and notwithstanding disturbed economic conditions the marketed value showed an increase of over $\$ 375,000$ and totalled $\$ 1,086,821$. There was gain in the salmon catch in all four of the Atlantic coast provinces, but the landings in Prince Edward Island are never large. In New Brunswick $3,332,600$ pounds were taken as compared with $1,765,000$ pounds in 1929. The Quebec catch was $1,685,600$ pounds, an increase of nearly 680,000 , and in Nova Scotia $1,419,800$ pounds were landed, as against 755,600 pounds in the preceding year. The Prince Edward Island catch totalled 10,600 pounds, or about four times as great a quantity as was landed in 1929.

The following table shows the year's results by fisheries in this group:-

| - | Alewives | Salmon | Smelts |
| :---: | :---: | :---: | :---: |
|  | lb. | lb. | 1 l . |
| Catch. | 7,099,600 | $6,448,600$ | 5,748,900 |
| Marketed value. | 111,160 | 1,086,821 | 778,284 |

New Brunswick is by far the largest producer of smelts, but the 1930 catch in the province was considerably smaller than the total landings in 1929 -or $3,838,500$ pounds as compared with $5,102,300$ pounds-and the marketed value was $\$ 551,000$, in round figures, as compared with $\$ 816,000$. The Prince Edward Island smelt fishery produced a smaller catch than in the previous year, and this was true also of the fishery in Quebec, but in Nova Scotia there was some gain.

Practically all the Dominion's catch of alewives is taken in New Brunswick and Nova Scotia. In 1930, the New Brunswick catch of $4,079,000$ pounds (including landings in inland waters) was less by 300,000 pounds than the catch in 1929. In Nova Scotia, on the other hand, the catch was $3,071,900$ pounds as compared with $2,418,300$ pounds in the preceding year. In both provinces, however, there was a decrease in marketed value.

Lobsters.-There was again a substantial increase in the catch of lobsters in the four Atlantic provinces. In 1929, the lobster landings were greater by more than $5,000,000$ pounds than they had been in 1928, and in 1930 there was a further gain of approximately $3,500,000$ pounds. There were gains in all four of the provinces in 1930, although the increase in Quebec was small. The marketed value of the combined production of the provinces, $\$ 5,214,643$, however, was less by some $\$ 482,000$ than in the preceding year.

The following tables show the catch by provinces for 1930, 1929 and 1928, as well as the forms in which the catches were marketed each year and the marketed value of the several forms of production:-

CATCH


## QUANTITY SHIPPED IN SHELL

|  | 1930 |  | 1929 |  | 1928 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cwt. | \$ | Cwt. | \$ | Cwt. | \$ |
| Nova Scotia. | 85,885 | 1,645,812 | 73,582 | 1,593,128 | 66,239 | 1,525,674 |
| New Brunswick | 33,592 | 574,456 | 26,995 | 664,042 | 24,384 | 583,833 |
| Prince Edward Islan | 4,574 | 48,205 | 7,595 | 109,639 | 6,791 | 99,137 |
| Quebec. | 1,085 | 15,335 | 2,202 | 30,574 | 492 | 6,708 |
| Totals. | 125,136 | 2,283,808 | 110,374 | 2,397,383 | 97,906 | 2,215,352 |

QUANTITY CANNED


TOMALLEY

|  | 1930 |  | 1929 |  | 1928 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cases | \$ | Cases | \$ | Cases | \$ |
| Nova Scotia. | 2,089 | 20,215 | 3,151 | 34,803 | 3,226 | 38,322 |
| New Brunswick................... | 624 | 4,784 | 155 | ${ }^{970}$ | 197 | 2,197 |
| Prince Edward Island............. | 506 | 5,261 | 695 | 9,127 | 799 | 10,759 |
| Quebec.. | 42 | 409 | 515 | 6,004 | 645 | 7,616 |
| Totals. | 3,261 | 30,669 | 4,516 | 50,904 | 4,867 | 58,894 |

Other Shellfish.-The quantity of clams and quahaugs taken, 40,722 barrels was less by 8,760 barrels than in 1929. In Prince Edward Island the landings were greater than in the previous year, or 4,921 barrels as compared with 4,275 . In Quebec, with 2,668 barrels landed, there was a decrease of a few barrels from the figures for 1929. In New Brunswick, the biggest producer, there was a drop of some 5,600 barrels, or 22,450 barrels as against 28,065 barrels. Nova Scotia produced 10,683 barrels, compared with 14,462 barrels in the year before.

Over 700 barrels more scallops were taken than in 1929, or 18,636 barrels as compared with 17,921 .

The landings of oysters, were 20,745 barrels. There were decreases in Prince Edward Island and New Brunswick, but a gain in the Nova Scotia production.

## INLAND FISHERIES

Operations in the Inland Fisheries, which are the fisheries carried on in Ontario, the Prairie Provinces, and the Yukon Territories, and in the freshwater areas of Quebec and New Brunswick, produced a smaller catch in 1930 than had been landed in the previous year, and marketed value was $\$ 6,352,239$, as compared with $\$ 8,589,779$. The landings of all the principal varieties of fish taken in the Inland Fisheries, except herring, eels and blue pickerel, were smaller than in the year before. The blue pickerel catch, all of which is made in Ontario, was not far short of being twice as large as in 1929. The following table shows the landings of the chief varieties in 1930, 1929 and 1928 respectively:

|  | 1930 | 1929 | 1928 |
| :---: | :---: | :---: | :---: |
| - - | 1 b. | 1 b. | 1 b. |
| Whitefish. | 16,974,700 | 19, 638,600 | 18,069,500 |
| Pickerel (or dore). | 10,314, 600 | 12,850,000 | 14,261,000 |
| Tullibee........... | 6,204,100 | 9,766,900 | 10,414,500 |
| Trout. | 6,967,000 | 9,065,600 | 9,007,500 |
| Pike.. | 5,646,400 | 8,254,600 | 6,270,100 |
| Herring | 6,511,300 | 5, 456,200 | 5,999,300 |
| Perch... | 4,202,900 | 6,482,700 | 5,175,100 |
| Eels. | 1,391,400 | 1,265,700 | 2,324,000 |
| Blue pickerel | 5,928,400 | 2,583,100 | 2,149,600 |
| Mullets. | 1,318,900 | 1,992,600 | 1,606,500 |
| Carp. | 1,203,400 | 1,345,100 | 1,349,700 |
| Goldeyes. | 580,900 | 1,115,100 | 1,071,300 |

Ontario continued to be the largest producer of whitefish, although its landings for the year, $5,543,300$ pounds, were less by 615,000 pounds than in 1929. Manitoba's catch of whitefish was somewhat larger than in the year before. Landings in Saskatchewan and Alberta, respectively, were smaller.

Manitoba was first among the pickerel producing areas in point of size and catch, although the fishermen of the province landed only slightly more than $6,905,000$ pounds, or something like two and one-half million pounds less than in 1929. Ontario, with approximately $2,091,000$ pounds, and Sackatchewan with 338,700 pounds, showed increased landings. The Alberta catch dropped from more than 741,000 pounds to 595,800 .

Although Manitoba landed more pike than any other province, its catch of $3,402,700$ pounds was less by over $2,000,000$ pounds than the 1929 total. Landings of these fish were also smaller than in the previous year in Saskatchewan, Alberta, Ontario end Quebec.

Catches of catfish, salmon, maskinonge, saugers and shad increased in 1930, taking the Inland Fisheries as a whole, but fewer alewives, bass and smelts were taken.

The Prairie Provinces.-Unfavourable market conditions sharply checked during the past year the fisheries expansion which had been in steady progress in the Prairie Provinces for several years past. Marketed value of the output for 1930 was slightly more than $\$ 2,467,400$, or some $\$ 277,000$ under the marketed value for Manitoba's production alone in 1929. The check in expansion is not to be taken, however, as any indication of the depletion of the Prairie Province fisheries resources. It was due entirely to the unsatisfactory conditions in various markets. There is no depletion of the stocks of fish in Prairie waters which have already been exploited commercially, and there are numerous fish bearing areas where development waits only on a more favourable season. As indicating the expansion possibilities it may be noted that despite adverse circumstances commercial fishing operations were carried on during the year in a number of waters in northern Manitoba which had not previously been the scene of fisheries production, and in some cases substantial catches were made.

Manitoba's catch in 1930 had a marketed value of $\$ 1,811,662$ as compared with something more than $\$ 2,745,000$ in 1929 . The value of the Alberta catch, which had amounted to over $\$ 732,000$ in 1929 , decreased to $\$ 421,258$. In Saskatchewan the 1930 catch had a value on the market of $\$ 234,500$, which was less than one-half as great as the total for the previous year.

The total capital investment in fisheries in the three provinces was not much less than in the year before, and amounted to more than $\$ 1,936,000$, as compared with $\$ 1,986,000$ in round figures. The number of persons engaged in the fisheries in these provinces totalled 6,911, or a decrease of about 600, although the Manitoba personnel, $(4,787)$, showed an increase of 100.

As was perhaps to be expected in view of unsettled economic conditions there was rather less interest in angling than in the previous year, although in Saskatchewan the number of anglers showed an increase. In all three provinces further fruits of the fish cultural activities of the department were seen in the improvement of the angling resources. In several cases, especially in Alberta and Saskatchewan, excellent angling was found in waters which had been barren of sport fish prior to action taken by the department to introduce different species of trout:

## PACIFIC COAST FISHERIES

The remarkable success of the salmon fishery, from the standpoint of size of runs and quantity of production, over-shadowed all else in British Columbia fisheries operations in 1930. So large were the runs, indeed, that had it not been for the restraining influence upon production which was exerted by the unsatisfactory economic conditions obtaining in virtually all markets, the output of British Columbia's salmon industry for the year would have mounted to figures substantially higher than the record-breaking total which was actually reached. These market conditions were so extremely unfavourable, however, that not only was there greatly lessened incentive for the salmon interests to take advantage of the exceptional size of the runs but the year was made one of very serious difficulty for the industry. In this connection it may be added, moreover, that the present outlook is that operations in the salmon industry in 1931 will continue to be attended by a good deal of difficulty because of the depressed and unsettled market situation.

The appearance of the great runs of salmon in 1930 was a reason for much satisfaction, especially since it indicated that the steps taken in recent years to regulate and conserve the fishery have been sound and that there need apparently be no apprehension that the stocks of the several varieties of salmon cannot be successfully maintained for the future. In this connection it is illuminating to look at figures showing the annual production of canned salmon
in British Columbia since 1916 as averaged for five-year periods. From 1916 to 1920 , both years inclusive, the average yearly pack was $1,349,895$ cases. In the next five years the annual average was $1,340,735$ cases, but this period included a time of market depression and it may reasonably be assumed that had it not been for this market condition the average canned salmon production would have exceeded that for the previous five years. For 1926-1930 the yearly average was $1,816,754$ cases, or an increase of more than 465,000 cases over the figures for either of the earlier five-year periods. This growth in pack indicates clearly that the salmon runs have not been undergoing depletion, although it is properly to be noted that the size of the growth is explained, in part, by greater cannery activity in processing pinks and chums because of an enlarged demand, in more recent years, for these varieties of canned salmon.

The sockeye runs in 1930, especially to the Naas, Skeena, and Fraser areas, were gratifyingly large, and in the case of the late runs to the Fraser sysiem the individual fish were of bigger size, speaking generally, than in most preceding seasons. The year's pack of canned sockeye, 477,678 cases, was the largest since 1914. As compared with the production in the last preceding sockeye cycle year (1926), the 1930 pack represented a gain of nearly forty-two per cent. These figures are useful as giving some indication of the size of the sockeye runs but any estimate of the measure of sockeye abundance during the year must take into account the fact that, in order that there might be no doubt that sufficient fish would be able to make their way to the spawning grounds, the department enforced various "closed times ", in addition to those specifically set out in the regulations, when no fishing was permitted. In the Fraser river, for instance, fishing was stopped completely from September 20th to October 20th. As a result of the enforcement of these extra "closed times" in different areas the catch of salmon was, of course, considerably curtailed and production figures, therefore, do not give a true indication of the actual size of the runs. At the same time, the evidence given by the increased volume of canned sockeye production was quite sufficient to show that these fish were running in much greater abundance in 1930 than for years past.

The runs of chums, springs, and cohoes were all satisfactory but it was the abundance of pinks which was the outstanding feature of the salmon fishery, apart from the sockeye showing. The pink salmon is a two-year fishthat is, the run of any year is the product of the spawning of two years pre-viously-and such large quantities of pinks were taken in 1928 that there had been some apprehension that the 1930 runs might show diminution. Events showed that fears of this kind were without foundation. "Enormous runs of this variety of salmon arrived at practically every area to which pinks were due in the even-number years," the Chief Supervisor for British Columbia reported, " and, in addition, streams which in the past had been unknown to contain this species received abundant quantities of spawning fish." So great was the abundance of pinks in some parts of the province that the canners found it necessary to place a limit on the quantity of fish which they would take from the fishermen. The pack of pinks went nearly 320,000 cases above the previous record for annual production, which was established in 1928, and altogether $1,111,937$ cases were put up for market.

Despite the fact that such large catches of salmon were taken, making possible the record output of $2,221,783$ cases of canned salmon, the spawning grounds, generally, were exceptionally well seeded. The size of the year's runs made for this condition, and the departmental action in stopping the fishing from time to time had the effect of ensuring greater certainty that parent fish would reach the spawning areas in adequate numbers. Barring extraordinary circumstances, the result should be very satisfactory runs in the forthcoming cycle years, the cycles, of course, differing with the several varieties of salmon.

As was to be expected, in view of world economic conditions, the export of canned salmon from British Columbia to foreign markets fell off very substantially. Sales to the United Kingdom increased but to most of the markets where Canadian canned salmon is sold the exports were much smaller than they had been in 1929. The shipments to Italy stood up fairly well to the figures for the year before but in the case of the business done in such important markets as Australasia, France, and Belgium there was sharp decline.

Decrease in halibut landings during the year and in the pack of drysalted herring and the output of canned pilchards were reflexes of the adverse conditions in world markets rather than indications of scarcity of fish. Halibut prices were unsatisfactory throughout the halibut fishing season. Market conditions in the Orient, where virtually all of British Columbia's drysalted herring are sold, were so unfavourable that the drysalting industry curtailed its operations. Pilchards were abundant but the market for these fish in canned form was in such a depressed state that there was no incentive toward quantity production. Under the circumstances it is not at all surprising that there were large decreases in output. Halibut landings were smaller by more than $4,950,000$ pounds than they had been in 1929. The pack of drysalted herring decreased substantially. The production of canned pilchards was only slightly more than 55,000 cases as compared with 98,000 cases in the previous year, when a record pack was processed.

Like those engaged in other branches of the fishing industry the British Columbia producers of fish meal and oil, and the fishermen who supplied the reduction plants with raw material, were seriously affected by the unsettled and depressed situation in the markets. 'Somewhat less oil was manufactured than in 1929 , or $3,872,600$ gallons in all, and prices were very low. The total output of meal (the figures including also some fertilizer) was about 3,000 tons less than in the preceding year, or 18,123 tons as against 21,084 tons. The major production of meal and oil in British Columbia is from pilchards but there is also large production of oil and some production of meal and fertilizer from whales and herring. Greyfish and fish offal are also used in operations of this kind. The expansion of such operations on the Pacific coast of the Dominion has been very rapid in the past few years, and while world conditions are temporarily checking expansion it is reasonably to be expected that when the economic situation is once again normal there will be renewed development in this field, and, indeed, greater development than has been seen so far. Experimentation and scientific investigation have been widening the range of uses for the output of reduction plants, and the discovery by research workers that the oils in fish tissues, and not only fish livers, are especially rich in such elements as vitamins may probably be regarded as certain to lead to an increasing utilization of fisheries by-products in different forms.

## FOREIGN TRADE IN FISHERIES PRODUCTS

With unfavourable economic conditions prevailing in most markets during the year, and price levels generally much lower than in 1929, it was to be expected that the Dominion's foreign trade in fisheries products would show a decrease in value in 1930. The calendar year's exports, as shown by records made up by the External Trade Branch of the Dominion Bureau of Statistics, had a value of $\$ 31,845,000$, as compared with $\$ 37,437,000$ in 1929 , and imports were worth $\$ 3,275,000$, as against $\$ 4,069,000$, round figures being quoted here in each instance. Total foreign trade in fish and fish products in 1930 amounted to $\$ 35,120,000$, or $\$ 6,380,000$ less than in the year before. Although there was this decrease in total trade, it is noteworthy that the ratio of export business to import business was fractionally higher in 1930 than it had been in 1929, when it was slightly more than nine to one.

36710-2

Comparisons of trade for the two years are misleading, however, if given in terms of value alone, since 1930 saw so many price recessions. The volume of goods handled must also be taken into the reckoning, and when this is done it is found that in the case of numerous fisheries products the Dominion did larger business in the past year than in the preceding twelvemonth. On the import side, such increases in volume as occurred were comparatively small, except in the case of dried fish-importations intended chiefly for re-exportand in the case of fresh salmon and pickled or salted salmon. On the export side, on the other hand, there were a number of cases in which the volume of business was very substantially greater than it had been in 1929 . This was so, for example, as regards fresh clams; fresh and frozen codfish, eels, haddock, lake herring, lobsters, salmon, and swordfish; pickled alewives, herring, and mackerel; greensalted cod; drysalted salmon; canned lobsters; and cod liver oil.

Fisheries exports fall into three main classes-Fresh and Frozen Fish, Canned or Preserved Fish, and Dried, Salted, Smoked, and Pickled Fish. A fourth class includes by-products such as meal and oil. All three of the main classes showed decreases in value in 1930, as compared with 1929, although in each of them, and especially in the first, there were numbers of cases in which the volume of business increased. The smallest decrease in value was in the exports of fresh and frozen fish, and sales under this heading supplanted sales of canned or preserved fish in place of first importance, so far as value was concerned. The exports of fresh and frozen fish amounted to slightly more than $\$ 10,881,000$, as compared with nearly $\$ 11,725,000$ in 1929 , exports of canned or preserved fish to something more than $\$ 10,580,000$, a decrease of $\$ 2,676,000$; and exports of dried, salted, smoked, and pickled fish were worth $\$ 8,583,000$, in round figures, a drop of nearly $\$ 1,396,000$.

Most varieties of fish which are exported in the fresh and frozen forms were sold abroad in greater quantities in 1930 than in the preceding year. The most noteworthy increase was in salmon. These salmon exports increased by more than $2,433,000$ pounds and amounted in all to $9,374,100$ pounds. Both the United States and the United Kingdom, the largest purchasers of our fresh and frozen salmon, increased their buyings in 1930. Sales to France and Germany were also larger than in 1929, both in quantity and value, but the purchases by these countries, of course, are much smaller than those made by the United Kingdom and the United States. As has been stated, most varieties of fresh and frozen fish were exported in greater quantities in 1930 than in 1929, but, on the other hand, there was a large decrease in the sales of sea herring and the shipment of such fish as whitefish, tullibee, halibut, mackerel, and smelts decreased substantially.

Exports of canned lobsters increased during the year, but there were smaller foreign sales of all other varieties of canned fish. Markets for canned salmon were much unsettled and this condition was the major factor in bringing down the total export business in the Canned or Preserved Fish class. Several countries took more canned salmon than in 1929, but except in the case of shipments to the United Kingdom, which totalled more than $12,000,000$ pounds as compared with slightly more than $9,000,000$ pounds, the increases were small and they were so greatly exceeded by the decreases in sales to Australia and other important purchasing areas that the net result of the year's business was that the foreign sales amounted only to $45,727,900$ pounds, with a value of $\$ 6,479,255$, as compared with $60,505,300$ pounds and a value of $\$ 8,865,089$ in the previous year.

The increases in the exports of canned lobsters were chiefly to France, Belgium, Denmark, and Sweden. Altogether $5,478,000$ pounds were marketed, an advance of 440,000 pounds over the 1929 figures. The value total $\$ 3,234,892$, represented a gain of slightly over $\$ 121,000$. Export sales of other canned
fisheries products, such as clams, pilchards, and sardines, all fell off, both in quantity and value.

In the export group made up of dried, salted, smoked, and pickled fish the ranking positions, each year, are held by dried cod from the Atlantic coast provinces and drysalted herring from British Columbia. The year 1930 was no exception in this respect, but the business done abroad in these commodities was much less than in 1929. The dried cod exporters had not only to face unfavourable economic conditions but they had also to meet severe competition in important markets, with the result that their sales decreased by some $6,650,000$ pounds and the value total $\$ 3,774,333$, was $\$ 974,000$ less than in the preceding year. One very satisfactory feature of the year's business in dried cod, however, was that, in spite of adverse factors, our exporters marketed a million pounds more fish in Brazil than they had sold there in 1929 and the return from the sales showed a gain of over $\$ 62,000$.

Market conditions in China, where practically all of British Columbia's yearly production of drysalted herring is sold, were very unfavourable during 1930. This situation explains, in chief part at all events, a decrease of some $16,500,000$ pounds and $\$ 380,000$ in value in the year's export trade. Shipments totalled slightly more than $92,500,000$ pounds and had a value of about $\$ 1,568,000$.

While the foreign business in dried cod and drysalted herring was not so satisfactory as in 1929, the trade in pickled alewives, pickled herring, and pickled mackerel showed betterment, both as to volume and value. Pickled alewives and mackerel are Atlantic coast products, and by far the greater part of the annual exportation of pickled herring is also from Atlantic areas. The gains in 1930 export business in these three commodities were chiefly in sales to Jamaica and other West Indian territories. Export trade in greensalted cod, mainly with the United States, was also larger in volume and value alike than it had been in the year before. Foreign sales of other products in this export class, such as dried haddock, dried pollock, dried hake and cusk, and smoked fish showed decreases.

The export business in fisheries products other than those included in the three main classes was smaller than in 1929. In value it amounted to a little more than $\$ 1,796,000$, or $\$ 678,000$ less than in the earlier year. Quantities also fell off, except in the case of cod liver oil which showed an increase of several thousand gallons.

As in other years, Canada's fisheries trade was much larger with the United States than with any other country although the business dropped nearly $\$ 2,669,000$ below the figures for the preceding year. Trade with the United Kingdom, on the other hand, increased by more than a million dollars, with a small gain in import values and a relatively large increase in export commerce. Trade with the rest of the world, that is, with countries other than the United Kingdom and the United States, decreased by $\$ 4,798,000$. The following statement, summarizes fisheries trade for the past two years, in terms of value:-

TRADE WITH THE UNITED KINGDOM


Increase in 1930: $\$ 1,079,812$.
36710-23

TRADE WITH THE UNITED STATES

|  | 1929 | 1930 |
| :---: | :---: | :---: |
| Exports.. Imports. | 8 | \$ |
|  | 16,750,543 | 14,372,045 |
|  | 1,354,708 | 1,064,225 |
|  | 18,105, 251 | 15,436, 270 |

Decrease in 1930: $\$ 2,668,981$.
TRA DE WITH COUNTRIES OTHER THAN UNITED KINGDOM AND UNITED STATES

|  | 1929 | 1930 |
| :---: | :---: | :---: |
|  | \$ | 5 |
| Exports.. <br> Imports. | 16,993,703 | 12,704, 525 |
|  | 2,461,590 | 1,952,700 |
|  | 19,455, 293 | 14,657, 225 |

Decrease in 1930: $\$ 4,798,068$.
In the case of trade with the United Kingdom, an increased business in sardines and pickled herring accounted for the slightly larger import figures in 1930 while on the export side the chief gains were in the trade in fresh and frozen salmon, canned salmon, canned lobsters, and fish oils other than cod liver oil. As has already been noted, the sales of Canadian canned salmon in the United Kingdom went above $12,000,000$ pounds, and they represented a value of $\$ 2,-$ 465,000 , or nearly $\$ 685,000$ more than in 1929 . The sales of fresh and frozen salmon amounted to $3,112,000$ pounds, with a value of $\$ 637,931$, as compared with $1,889,700$ pounds and $\$ 416,844$ in the previous year. The increase in the exports of whale oil and fish oils (apart from cod liver oil) was over $\$ 102,000$, and the increase in canned lobster business about $\$ 68,000$.

In the trade with the United States the Dominion's sales of fresh and frozen fish during the year amounted to $\$ 10,022,000$, in round figures, which meant a drop of slightly more than $\$ 1,100,000$ below the 1929 total. Exports of canned or preserved fish had a value of $\$ 1,051,000$, or about $\$ 328,000$ less than in the previous year, while the exports of dried, salted, smoked, and pickled fish were valued at $\$ 2,048,800$, a decrease of some $\$ 358,000$. The year's sales to the United States also included fish meal, fish oil, etc. The total value of fisheries products brought into Canada from the United States during the year, $\$ 1,064,000$, was more than $\$ 290,000$ under the 1929 value. Oysters again accounted for more than one-third of the import value.

Fairly large quantities of fisheries products were imported from Newfoundland during the year, but, the importations were smaller than in 1929, having a value of something over $\$ 841,000$ as compared with approximately $\$ 976,146$. Fisheries purchases from Newfoundland included substantial quantities of fish intended chiefly for re-export purposes. They also included shipments of greensalted fish for further processing in Canada. The Canadian fisheries exports to Newfoundland included such products as dried and greensalted cod.

## MARKET SURVEY

With the major purpose of ascertaining " the most effective, practical, and economical ways and neeans for increasing the consumption of Canadian fish, particularly within the Dominion but also in foreign markets" and "rendering the sale of fish more profitable to both the fishermen and the distributor by indicating economies which may be effected in the present system of fish dis-
tribution," Messrs. Cockfield, Brown \& Company, market research spécialists, of Montreal, were engaged by the department during the year to make a survey of marketing and merchandising methods followed in our fishing industry. The survey was authorized by an Order in Council in November and was begun forthwith. Representatives of Messrs. Cockfield, Brown \& Company have carried it on in Canada while in foreign countries the assistance of Canadian Government Trade Commissioners has been obtained. The report on the survey's results will be submitted in August next.

The general scope of the survey was outlined in the Order in Council as follows: "The survey would cover the marketing of catches from the Atlantic, Pacific, and Great Lakes fisheries, respectively, at every stage from the fisherman to the consumer. It would involve an analysis of competitive conditions, both in the domestic market as regards imported fish (canned and otherwise) and in certain foreign markets catered to by the Canadian trade. In order to secure the best possible methods for Canada it will be necessary to cover merchandising, marketing, and advertising policies and methods as in current use in other countries in which fish marketing has reached a high state of efficiency, especially those whose products compete, directly or indirectly, with Canadian fish." Specific phases of the investigation being carried on include a study of Canadian consumer tastes, prejudices, preferences, and requirements; a study of the organization, opinions, policies, and weaknesses of the fish trade, both retail and wholesale, in selected centres of the Dominion; a study of the transportation of fish; an appraisal of the relative practicability and economy of the various new freezing processes and their relation to consumer and trade requirements; a study of the organization, policies, and opinions of the various companies and associations engaged in the canning or other processing of fish; a selective study of current fish merchandising policies in Great Britain, Japan, Newfoundland, and the United States and a comparison of these policies with current Canadian practices; and a study of Canadian export markets in the West Indies, Australia, the United Kingdom, etc.

## INSPECTION OF FISH, BARRELS, ETC.

The inspection of cured fish and the packages in which they are packed and marketed is carried on under authority of the Fish Inspection Act. The work of inspection was performed by the permanent fishery officers of the department.

Before this work was placed in their hands two years ago the officers were given a six weeks' course of instruction at the Halifax Experimental Station after which they had to pass a stiff, qualifying examination. Those who failed to pass were not permitted to act as inspectors of fish. The officers are to be given a short course this year in order further to improve their qualifications.

During the year 1930-31 there were inspected on the Atlantic coast 54,150 empty containers; 14,201 packages of salted mackerel; 7,544 packages of salted herring; 10,693 packages of salted alewives; 75 packages of salted salmon; 43,779 packages of smoked herring; and several thousand pounds of salted cod, pollock and hake. On the Pacific coast there were inspected 174,538 boxes containing 400 pounds each of dry salted herring for shipment to China.

## INSPECTION OF CANNERIES AND CANNED FISH

The inspection of canneries, the fish to be used therein, the process of canning, the labelling and designating of the canned product and the regular testing of the weight of the contents of sample cans, were carried on by the Fishery officers of the department under the authority of the Meat and Canned Foods Act. The objects of the inspection are the extension of trade by improve-
ment in the quality of the product and the protection of the public by preventing the packing of unsound fish and insisting on the cans being correctly labelled. With a view to establishing a standard for lobster canneries and their equipment the staff of the Halifax Fisheries Experimental Station, assisted by the fishery officers, caried out at the request of the department a close inspection of all such canneries in New Brunswick, Prince Edward Island, the Magdalen Islands and in Nova Scotia to the eastward of Halifax. Each cannery and its equipment was graded on a tabulated scale previously agreed upon. The grading score varied from forty-five to one hundred and ten marks with an average mark of seventy-two for all the canneries graded. Twenty per cent of the canneries were considered "poor", grading under sixty; thirty-four per cent were found to be "fair", grading from sixty to seventy-four, while fortysix per cent were "good", grading seventy-five and higher.

## INSTRUCTION IN FISH CURING

In addition to the instruction given annually at the Halifax Experimental Station the department, in the last two or three years, has been giving instruction in the Gaspe style of curing cod in northern New Brunwick and the Magdalen Islands and also in the curing of cod in pickle and the making of boneless fish in places where the need of such instruction seemed to be greatest.

Gaspe Cod Curing.-For instruction in the Gaspe curing two experienced cod curers from the Gaspe coast are employed during the cod curing and packing period which runs for about six months. One man covered the county of Gloucester, N.B., in the last three years, visiting individual shore fishermen and going to sea with the offshore boats. His work has been greatly appreciated in Gloucester county and has been fruitful in bringing about marked improvement in the fishermen's methods in handling and curing their cod.

At the urgent request of the fishermen of the Magdalen Islands for instruction in the Gaspe curing of cod, this man was sent there last fall. He did good work during the short time at his disposal and found the fishermen eager to change their old methods and learn new and better ones. He has been sent to the Magdalen Islands this year again to continue the work of instruction all through the fishing season.

The other man was employed last year in the Hardwicke district of Northumberland county, N.B. Here he had to break entirely new ground. While there are good cod fishing grounds adjacent to this district, cod fishing and curing have not been engaged in commercially to any extent, mainly owing to lack of knowledge of how to undertake such operations. The instructor's efforts so far have resulted in a number of the fishermen fitting out for cod fishing and becoming keenly interested in the curing instruction. This man is to continue his work in the same district in the season of 1931.

Cod Curing in Pickle.-With a view to improving cod fishing and curing methods in Prince Edward Island, the department decided two years ago to extend its instructive efforts to that island. The line of instruction best suited for the island fishermen was found to be curing cod in pickle for the production of boneless fish. A man from Nova Scotia, well acquainted with the production and marketing of this class of fish, was given immediate charge of the work on the island. During the first season the work was confined to instruction in handling and curing the fish. That experience disclosed an equal need for instruction in fishing methods and the use of a larger and better type of fishing boat. Consequently, the department decided last year to demonstrate better fishing methods as well. The work of instruction in curing has already brought about considerable improvement in the quality of cured cod, with a consequent rise in value.

When the work was started in 1929 it was found that owing to unsatisfactory curing methods United States firms, who were anxious to buy pickle cured cod in Prince Edward Island and had previously made purchases, had lost all interest in the island product. It was further found that thousands of boxes of boneless cod were imported from other provinces and sold in the island, but none were manufactured there. Consequently, in addition to instructing fishermen in the proper care of their fish by bleeding and careful splitting and the dealers in salting, curing and cutting, help had to be given them in marketing the product. In districts where the fishermen closely followed the instruction given prices advanced almost immediately; for example, in places where the price was $\$ 3.50$ a 100 pounds for large split cod and $\$ 2.25$ for small, the fishermen were offered $\$ 5.50$ for large, $\$ 4.50$ for medium and $\$ 3.25$ for small cod of satisfactory quality. One of the largest buyers in the United States again became interested and bought largely. The wholesale grocers of the island were interviewed and their attention was directed to the manufacture of boneless fish that was now taking place under our instruction. As a result, the Prince Edward Island curers were soon supplying all the island demand for boneless cod beside shipping part of the product to the United States.

Instruction in splitting, curing and cutting of codfish was continued and extended during the season of 1930 . As a result of the improved quality of the product, due to departmental efforts, over $1,000,000$ pounds of pickle cured codfish were sold last year to United States buyers who previously could not be induced to go to the Island to buy.

Fishing Demonstrations: The first year's experience showed that the island fishermen were handicapped in their codfishing operations by the small size of boat in use. Their operations were limited to fishing grounds near the shore on which hake and inferior class of fish predominate. It was held that, ten to fifteen miles offshore, cod of a desirable size and quality could be found, but that range was too great for the type of boat employed by the local fishermen. It was also found that the local fishermen leave their lines in the water and simply overhaul them and remove any fish that may be on the hooks. This method, when Sunday or bad weather intervenes, results frequently in the landing of fish that have been dead in the water for a day or two and cannot be turned into cured fish of the best quality. The department decided, therefore, to build and operate for two seasons two boats of the best type as a demonstration in fishing in conjunction with the work of improving the handling and curing of fish. The boats were built in Nova Scotia. They are each 38 feet long and cost, together, $\$ 2,921$, with engine and fully equipped for fishing. A Nova Scotia fisherman, experienced in the method of baiting, setting and hauling the lines on board as a complete operation on every trip, was placed in charge of each boat. Local fishermen were taken on the boats at places from which they operated and given instruction.

The main idea in operating the boats was, firstly, to search for fishing grounds on which cod were more abundant and, secondly, to instruct inexperienced crews in better methods of using their lines. That entailed much loss of time. Time was lost also in experimental fishing for herring as bait was exceedingly scarce at times. Consequently, the quantity of fish taken last year was not large. Under these circumstances the boats could not be expected to show what they were capable of doing from the point of view of quantity taken. They did, however, locate desirable fishing grounds off the eastern end of the island; for example, the proportion of cod landed at Souris was 20,278 pounds as to 5,662 pounds of hake. They also clearly demonstrated to local fishermen how a finer quality of fish can be landed by another method of setting and hauling their lines, with the result that a number of fishermen expressed their intention of securing bigger boats next year and operating in accordance with the methods demonstrated.

## BIOLOGICAL BOARD'S WORK

The Biological Board consists of a body of men appointed to conduct and control scientific investigations of problems connected with the marine and fresh water fisheries. The members of the board give their services without pay. The work is financed from a grant made annually by Parliament through the department.

The board maintains two stations on the Atlantic coast, one at St. Andrews, N.B., and the other at Halifax, N.S., besides a marine laboratory at Eastern passage, near the entrance to Halifax harbour. Two stations are also operated on the Pacific coast, one at Nanaimo, B.C., and the other at Prince Rupert, B.C. There is also a field station at Cultus lake, B.C.

Under the immediate direction of the St. Andrews station the following investigations were conducted during the year:-

Water samples, temperatures and plankton collections were taken at various stations on the Atlantic coast, including Hudson bay. Studies of brook trout were continued. Experiments in the artificial fertilization of sterile waters were conducted. A study of the effects of varying temperatures and salinites on the artificial hatching of shad eggs was made. The pathologist of the station visited a number of fish hatcheries in which there appeared an excessive mortality amongst the eggs. Studies of certain fish diseases were made and reported on. Investigation of the oyster was conducted at Prince Edward Island. For this purpose a small laboratory building was erected on Bideford river, Richmond bay, as a centre for studying the oyster population of the neighbouring waters. With a view to determining the sizes of lobsters in different districts a great many measurements were made in 100 districts and charts were prepared showing the different sizes. A considerable quantity of lobsters were tagged in Northumberland strait for the purpose of gaining information on the direction and extent of migrations. Material was collected for the purpose of obtaining information as to the existence of local races of Atlantic salmon.

Under the Halifax station there was the following work:-
Studies of the chemistry of wood smoke were made to determine its action in the preservation of smoked fish; also of the insoluble material in fishery salt; the effect of salt solutions on the weight of fish muscle and the sulphur content of lobster flesh. Studies of frozen fish, fish oil and meal and the usual routine analyses for producers were conducted.

The station staff also carried out an inspection of all lobster canneries on the Atlantic coast and graded them in accordance with their efficiency, with a view to fixing a minimum standard below which none would be allowed to fall. Another course of instruction was given to fishermen at the Halifax station in the beginning of the year. The course lasted for six weeks and covered such subjects as: barrel making; the preparation of pickled fish; the preparation of dried and boneless fish; refrigeration; the marketing of fish; motor engines; navigation; chemistry and physics; biology and oceanography; and bacteriology.

The station's staff also took part in the teaching of those students of Dalhousie University who were taking the Science Course in Fisheries.

In connection with the station at Nanaimo, B.C., investigations were continued at Cultus lake with respect particularly to the sockeye salmon, and at Massett inlet with respect to pinks. A study of the conditions in the Skeena river was begun with a view to finding a means of maintaining the runs of salmon at their maximum. The tagging of adult salmon was continued. Spring and coho salmon were tagged in northern waters and pink and chum in Queen Charlotte sound and Johnstone straits.

The investigation of the pilchard and herring, conducted with the help and co-operation of the provincial fisheries authorities, was continued on the west coast of Vancouver island, along much the same lines as in previous years.

An intensive investigation of the oyster was continued in Boundary bay and Ladysmith harbour. Attention was also given to the distribution, reproduction and growth of crabs in the Prince Rupert region.

Studies of the oceanographic conditions in the straits of Georgia were continued and the collection and identification of diatoms were made, while an intensive study of the oceanographic conditions of three of the fiords on the British Columbia coast was begun. Studies were also made of the life histories of British Columbia flatfishes, the Pacific dogfish and the ling cod.

A two weeks' course of instruction was given to superintendents of fish hatcheries by the station's staff at the University of British Columbia. The instruction consisted of lectures and demonstrations on the application of physics, chemistry and biology to fish culture.

In connection with the station at Prince Rupert investigations were successfully continued with a view to finding an effective means of preventing the discolouration of halibut. Studies were made on the causes of deterioration of fresh salmon in the time between catching and canning. Investigations were continued of losses by putrefaction and blackening of canned shrimps. The cause of the trouble was found and a remedy preseribed. The investigations in connection with fish oil, meal and glue were continued and advanced. An investigation of complaints by fishermen of serious damage to their nets in the Naas river by a peculiar silt formation was undertaken and is being continued next season by a specialist.

The composition of the board during the year was as follows:-
Prof. J. P. McMurrich, University of Toronto, Chairman.
J. J. Cowie, Department of Fisheries, Secretary-Treasurer.

Prof. R. S. Bean, Dalhousie University.
Prof. A. T. Cameron, University of Manitoba.
Prof. A. F. Chaisson, St. Francis Xavier University.
Prof. P. Cox, University of New Brunswick.
John Dybhavn, Prince Rupert, British Columbia.
Prof. A. H. Hutchinson, University of British Columbia.
Prof. W. T. MacClement, Queen's University.
Prof. Marie-Victorin, University of Montreal.
Prof. E. E. Prince, Ottawa.
Prof. H. G. Perry, Acadia University.
J. A. Rodd, Department of Fisheries.

Prof. W. P. Thompson, University of Saskatchewan.
Prof. A. Vachon, Laval University.
Doctor R. C. Wallace, University of Alberta.
A. H. Whitman, Halifax.

Prof. A. Willey, McGill University.
A fuller report on the work of the board's staff will be found as appendix No. 2 of this publication.

## FISH CULTURE

Fish cultural operations during 1930 were carried on in all the provinces in which the fisheries were administered by the Dominion Government. These operations included the more important fresh water and anadromous food and game fishes, such as: Atlantic and sebago salmon; speckled, brown, Loch Leven and rainbow trout in the Maritime Provinces; whitefish, pickerel, cutthroat; rainbow, brown, Loch Leven and salmon trout in the Prairie Provinces; and Pacific salmon (principally sockeye), cutthroat, Kamloops, rainbow and speckled trout, and whitefish in British Columbia.

Facilities for retaining and feeding fry, so as to afford a longer season for their distribution, were enlarged at several establishments where such development was feasible. The total distribution, from the hatcheries, of eggs, fry and older fish amounted to over $479,412,000$, which total was slightly less than the distribution for the previous year.

In addition to the distributions that were made from the hatcheries,. 26 lakes and streams received allotments of fry, fingerlings and older fish by transfer from other bodies of water. This work, with only four exceptions, was confined to the Prairie Provinces where there are many districts that are not readily accessible to existing hatcheries and which have many bodies of water of indifferent quality in which the classes of fish that are handled in our hatcheries are not likely to live and thrive. This work involved the capture and transfer, in many instances for considerable distances, of 42,754 fish, which is over twice the number that were similarly captured and transferred in the previous year.

The prospecting and inspections of previous seasons were continued with a view to locating waters where fish eggs might be obtained in sufficient quantities to warrant the establishing of collecting camps and with a view to locating sites where the fish cultural service might be extended advantageously by the construction of new establishments in districts that are not readily accessible from existing hatcheries. The general inspections of waters throughout the country was continued by officers and employees of the fish cultural and fisheries service as opportunity offered. Some progress was made in hybridization and experiments and investigations with equipment, methods, etc. Experiments in feeding fry and older fish different kinds of food in various combinations were conducted at several hatcheries. Considerable progress was made in investigations of various problems relating to fish culture by the Biological Board and its subcommittees, particulars of which are to be found in Appendix 2 of this report. A series of lectures, under the direction of Dr. W. A. Clemens, Director of the Nanaimo Biological Station, were given to permanent fish cultural officers, below the rank of superintendent of hatchery, in British Columbia in July, 1930. The lectures were given at the University of British Columbia, which supplied the necessary laboratory material and equipment.

The Fish Culture Branch participated with assortments of hatchery product and equipment in several exhibits for portraying natural resources. These exhibits aroused great interest and were of considerable educational value.

The Canadian National, the Canadian Pacific, Dominion Atlantic, Kettle Valley, and Esquimalt and Nanaimo railways continued their generous assistance and co-operation by furnishing free transportation for shipments of game fish and game fish eggs with their attendants. Two hundred and thirty-eight passages on trip passes were made and 276 baggage car permits were used by departmental officers which covered free transportation for attendants and fish containers of 29,032 and 35,015 miles, respectively.
Twenty-nine main hatcheries, ten subsidiary hatcheries, seven salmon retaining ponds, and several egg collecting stations were in operation during the calendar year 1930. The output from these establishments amounted to $479,412,046$, the disposal of which is shown in detail in appendix 3 of this report.

## OYSTER AND SCALLOP INVESTIGATIONS

During 1930 investigations which have been in progress under the department's auspices for several years, looking to the restoration of the oyster resources of the Malpeque Bay area, Prince Edward Island, once the foremost oyster-producing region of the Dominion, and other areas throughout the province, were continued under the direction of Dr. A. W. H. Needler, a member of the staff of the Biological Board, and were carried to the point at which definite recommendations could be made as to the best course to follow to
re-establish the oyster industry in this territory on a satisfactory basis. Some examination of oyster beds in the Wallace River area, Nova Scotia, was also carried out during the year at the request of fishermen of the district and, at the instance of the department, the men were advised by Dr. Needler regarding the best methods for them to follow in their effort to build up the oyster fishery.

The work in the Malpeque Bay area was begun in 1928, following the completion of an agreement with the Government of Prince Edward Island which placed control of the oyster areas of the province in the department's hands. Some years previously the Malpaque oyster fishery had been virtually wiped out as a result of a disease which almost completely destroyed the oyster stocks, already diminished by intensive fishing. This disease, as Dr. Needler has pointed out, "was probably introduced with seed oysters from places where it had been for a considerable time and where the oysters could resist it but were 'carriers'." World experience leaves no room for doubt that where conditions are suitable for such, it is by properly conducted oyster farming that the best results can be achieved. The efforts to that end that had been made in the Malpeque Bay area revealed that methods that are successful in other areas cannot be advantageously or safely used there. It must not be overlooked that Prince Edward Island is on the northern margin of where the oyster naturally exists on this continent. Conditions for development in any such area are likely to be less favourable than in the centre of its habitat. Hence greater care may be needed in oyster farming in the Prince Edward Island area than would be required, for instance, on the New England coast. In these circumstances it was decided that before finally determining the policy for the encouragement of the industry that should be adopted experiments and investigations should be made to ascertain the causes of previous failures and the methods that would be successful. To that end cultivation work in the area was carried on in 1928 and 1929 by an experienced oyster farmer who was employed by the department for this purpose. Investigations were also begun by Dr. Needler in 1929, at the instance of the department, and in 1930 they were carried further. During the latter year Dr. Needler was assisted by Dr. A. B. Needler and Mr. E. T. McEvoy, volunteer workers, and Mr. H. P. Sherwood, a scientist who has done important oyster research work in Great Britain, also spent some time in Prince Edward Island studying certain phases of the oyster problem for the Biological Board.

A detailed account of the investigation and their results has been given in a report by Dr. Needler which has been issued in printed form as a bulletin of the Biological Board under the title, "The Oysters of Malpeque Bay." Here, however, it will be sufficient to quote only the closing pages of the report which embody a summary of its contents and set out the recommendations based upon the facts which the investigations have brought out:-
"Summary and Recommendations: The Malpeque bay area has, in the past, produced large quantities of oystens, and being a shallow, sheltered bay, offers conditions suitable for the growth, and reproduction of oysters.
"A consideration of the history of the oyster fishery of the area shows that the yield rose to a maximum about 1890. Previous to that time increasing attention had been paid to Malpeque bay as more accessible grounds became depleted. . The demand contimued to increase and increasing prices maintained the intensity of the fishing in spite of reductions in the yield. From 1890, when the yield had been fluctuating about 30,000 barrels annually, oysters became scarcer until by 1910 the average amount of the yield had fallen to only one-sixth of that figure.
"Although removal of oyster beds for use as fertilizer and an apparent increase in the number of starfish present (1905 and later) probably contributed to the depletion, there can be little doubt that the chief reason for the reduction in the abundance was the failure of natural reproduction to replace the drain of the intensive fishing. The history of the fishery demonstrates the inability of the natural reproduction to maintain the yield, in the face of public fishing, at any but a very low level.
"Commencing about 1915 a disease caused the death of almost all the oysters in the area. It was probably introduced with seed oysters from places where it had been for a considerable time and where the oysters could resist it but were 'carriers.'
"A population has been developed which can resist it. The disease, then, ceases to" be a danger if the local stock is developed. The danger of transplanting oysters from one area to another is emphasized. The only sane procedure is to develop the local stock.
"(a) It is recommended, on the basis of the above conclusions, that cultivation of the local stock be encouraged in every passible way, as the only means of reestablishing the oyster industry of the area. The only feasible means of making those who reap the profit do the work of cultivation seems to be the leasing of areas to private individuals for use for oyster culture. This has been the most successful method elsewhere of building up the industry.
"(b) It is recommended that planting of oysters from other areas in the Malpeaue bay area be strictly prohibited as it is not only unprofitable but dangerous-other diseases and parasites may be brought in.
"The present stock of oysters is limited almost entirely to the heads of the inlets and to shallow shores. Considerable quantities are present in some such places.
"Evidence is presented showing that the production of larvae is great enough to provide a good supply of spat if clean cultch is made available for it to settle on. The 'natural' set of spat is not numerous owing to the lack of clean cultch and this provides a means by which the production of oysters can be greatly increased.
"Although a sufficient number of oysters are present to produce good quantities of spat in the upper reaches of the inlets, the deeper beds, even in these places, are almost all so covered with a layer of mud as to be very unproductive if not cleaned by man. Cleaning operations are necessary and this is another argument for the encouragement of oyster cultural activities. Nature alone cannot restore the productivity except in an extremely slow and, indeed. uncertain fashion.
"The fact that the oysters are largely limited to shallow water gives an exaggerated idea of their abundance. and makes them rapidly fished. It is believed that, were the area thrown open to public fishing, not only would further increase of the stock be stopped, but the existing stock would be so reduced as to jeopardize the supply of spat. If oyster culture is to proceed this supply must be protected jealously.
"(c) It is recommended, therefore, that the area be kept closed to public fishing.
"Means of increasing the production of larvæ are discussed. These include (a) the exploitation first, of the areas where conditions are most favourable for sparming-i.e., the heads of the inlets, and (b) the concentration of parent oysters so that they may readily stimulate one another to spawn. It is pointed out that to plant ovsters in the lower reaches of the rivers, or in the open bay, is to take stock from the places favourable to reproduction and place it in places unfavourable. To make best use of the present limited amount of parent oysters, the stock should he built up first in the upper parts of the inlets, before taking it to less favourable surroundings.
"Means of collecting spat are discussed, including the use for cultch of loose shells, shells in wire bags, cardboard collectors and brush. The great increase in the number of spat which can be produced by providing clean cultch for the larvæ to settle on, is pointed out.
"The planting of spat is discussed. It is pointed out that, in recent trials, good survival of spat planted close to where it was collected was obtained, whereas that planted some distance down the inlet showed a high death rate. This is further confimation of the advisability of first attempting to build up the stock at the heads of the inlets. There is evidently danger of considerable loss when the transfer of spat down the inlet is attempted. Experiments in the transfer at later ages are in progress.
"The growth is more rapid towards the heads of the inlets, as is to be expected from the warmer conditions.
"Although the quality of the oysters produced in the inlets, is somewhat lower (in saltiness and in the 'cupped' shape of shell) than those farther down, fairly high salinities prevail to within a few hundred yards of the extreme heads of the 'rivers' and there are no areas of very poor quality oysters comparable to those found in the upper parts of estuaries. where there is a larger inflow of fresh water.
"A comparison of the conditions in the upper parts of the rivers with those in the open bay shows that the former are more favourable for ovster cultivation, showing higher temperatures, much greater certainly of water warm enough for spawning each year, more rapid growth, more parent oysters at the present time, fewer enemies and greater possibility of controlling them and greater convenience. The inlets offer immediate prospects for profitable oyster culture; the lower reaches and the open bay do not.
"(d) On the basis of the above considerations it is recommended that oyster culture in the upper reaches of the inlets be encouraged and that ground be leased there for the purpose.
"(e) It is further recommended that the reputation of the area for high quality oysters be protected by strict grading because the production will be, for the present, largely at the heads of the inlets. To make control possible the shipments will have to be clearly marked with the name of the producer and the place of production.
"It is pointed out above that the conditions for the production of spat are much better at the heads of the inlets than further down. It is believed that, even after the stock in lower reaches of the inlets or in the open bay is incressed the greatest production of seed oysters will still be in the upper parts. Measures should therefore be taken to prevent monopoly of the best supply of young stock.
"It has been shown, in connection with the collection of spat, that it is for the first two or three feet below low tide that the greatest abundance of spat occurs. The bags of shells are, also, most easily handled when placed along the shores in this depth. The shores are, therefore, of special value for the collection of spat.
" $(f)$ It is recommended, therefore, that a strip along the shore out to a depth of three feet at an ordinary low tide be considered separately from the rest in leasing, and that no one be permitted to obtain a lease of more shore than is sufficient for the collection of spat to be used on his area.
" $(g)$ To prevent the production of oysters on ground subject to pollution (extremely unlikely in this area) to prevent the possible monopoly of spatting grounds, and to prevent the use of grounds where the quality of the oysters produced might be too low, it is recommended that no leases be granted until a careful examination of the proposed area is made by a qualified employee of the Department and a favourable report is received.
" ( $h$ ) As a great number of questions remain to be solved which are of importance to oyster culture in this area, it is recommended that Bideford river above the point locally known as Dawson's cape be set aside for experiments in the production of oysters, it being understood that operations such as the collection of spat which do not interfere with the experiments will be allowed, that the area will be utilized intensively for the cultivation of oysters and that stock from this experimental farm will be available for use in other parts of the Malpeque bay area."
Scallop Investigations.-Further search for scallop beds was continued on the south shore of Nova Scotia during the year but except in the Mahone Bay area, where a scallop fishery has been established for some time, no beds capable of supporting commercial operations were discovered. In 1929 scallop investigational work was carried on along the south shore of Nova Scotia as far east as port Medway; the 1930 operations covered the area from port Medway to Halifax, including Bedford basin. An account of these operations is printed as appendix No. 5 of this report.

## THE LOBSTER FISHERY

The success of the lobster fishery during the year from the standpoint of quantity of production was again a cause for much satisfaction. The total catch in the waters of the four Atlantic provinces, the only areas where lobsters are taken in the Canadian fisheries, was $40,726,000$ pounds in round figures. Not since 1917 has the catch reached such a large total, and as compared with 1929, there was an increase in landings during the past year of nearly $3,445,000$ pounds: An upward trend in lobster catch in all four provinces, Nova Scotia, New Brunswick, Prince Edward Island and Quebec, has been observable in the past three years a condition which should tend to remove any apprehension that the fishery is being depleted, and one indicating the effectiveness of the methods employed to regulate and conserve the lobster resources. The gain in catch in Quebec in 1930, as compared with 1929, was something more than 34,000 pounds, but Quebec, of course, is a smaller producer of lobsters than any of the other Atlantic provinces. Prince Edward Island catch for the year showed a gain of more than 720,000 pounds. In New Brunswick the increase was over 870,000 pounds. Fishermen in Nova Scotia, which is the largest producer of lobsters, brought ashore slightly more than $20,820,000$ pounds, or in other words some $1,816,000$ pounds above the landings for the preceding year. Prices prevailing in the lobster industry as in industry generally, were less favourable than they had been in 1929, so that the total marketed value of the years lobster pro-
duction, $\$ 5,214,643$, showed a drop of about $\$ 480,000$. None the less the lobster fishery again ranked second only to the salmon fishery in point of value of marketed return.

Increase in the volume of trade in live lobsters, which has been a noteworthy development in the lobster industry in recent years, was again apparent in 1930. All told more than $12,513,000$ pounds of lobsters were marketed in shell during the year, as compared with something more than $11,000,000$ pounds in 1929. As indicating how great an increase has been taking place in this trade, it may be pointed out that in the past six years the business has increased in volume by more than 45 per cent. By far the greater part of the business is done by Nova Scotia, but there has been steady development in New Brunswick for several years past. The Nova Scotia shipments in 1930 amounted to approximately $8,588,000$ pounds,-an increase of $1,230,000$ pounds in round figures over the 1929 figure, and $2,236,000$ pounds over the figures for 1925. In New Brunswick during the year about $3,360,000$ pounds were shipped in shell, as compared with slightly less than $2,700,000$ pounds in 1929 , and less than $1,100,000$ pounds in 1925 . The trade done in live lobsters by Prince Edward Island and Quebec is much smaller than the business in the other two provinces and showed a decrease in 1930 from the figures for the year before. Prince Edward Island shipments amounted to 457,400 pounds, and the Quebec shipments to 108,500 pounds. The greater part of the trade is carried on with the United States, which purchased more than $9,632,000$ pounds during the past year, but shipments in considerable quantity were also made from the fishing settlements to inland portions of the Dominion.

The canned lobster industry felt seriously the effects of the unfavourable world economic conditions. The total pack, 139,109 cases, was some 11,500 cases greater than the production in 1929, but marketed value amounted only to $\$ 2,873,800$ in round figures, as compared with $\$ 3,179,000$.

## FTSH COLLECTION SERVICES

In order to assist the fishermen of eastern Nova Scotia to overcome transportation difficulties which hindered them from taking advantage of the opportunities offered by the United States market for live lobsters, a Lobster Collection Service was operated under the auspices of the department during the lobster fishing season of 1930 along the section of the coast between Petit de Grat and Owl's head and thence to Boston. Existing transportation services made it possible for lobstermen in other parts of Nova Scotia to make shipments to Boston under reasonably satisfactory conditions, but the situation was quite otherwise in eastern sections of the province, and hence the department's decision to establish the collection and transportation service between Petit de Grat and Boston. The boats used in the service were four of the vessels available to the department under an arrangement made in 1929 for fish collection vessels to be supplied on a subsidy basis as required. The four boats served twenty-one ports but in addition to lobsters shipped by fishermen at these ports they also carried some shipments brought to the points of call by lobstermen of other settlements. Nineteen trips were made by the collecting boats and, all told, they carried 569,960 pounds of live lobsters from Eastern Nova Scotia to Massachusetts. As was to be expected in the case of a new undertaking, some difficulties were met with in carrying on this service but, on the whole, the results were very satisfactory to the fishermen of the district served, who obtained net returis considerably larger than would otherwise have been possible.

For some six weeks of the summer a service for the transportation of swordfish and halibut from North Sydney to Boston was also operated under depart-
mental auspices, chiefly with a view to aiding the swordfish fishermen to market their catches advantageously. The service began on August 6th and was continued by three boats until September 16th. Altogether, 308,875 pounds of swordfish and 10,359 pounds of halibut were carried, as well as several thousand pounds of tuna. While the service was of benefit in various instances, it did not on the whole work satisfactorily and it is probable that future needs can be more adequately met by existing commercial transportation facilities.

For approximately a month during the summer a fish collection service was operated between Port Hawkesbury and Cole Harbour, carrying 50,000 pounds of fish. In the closing months of the year two collection services were carried on, one by four collecting boats running between Bickerton and Port Hawkesbury during October, November, and December and the other, between Port Hood and Port Hawkesbury, being performed by one collecting vessel during November and December. The Bickerton-Hawkesbury service handled 535,829 pounds of fish, for the most part haddock and cod, and the other service a total quantity of 423,509 pounds, more than half of it hake. Market conditions, of course, were adverse but there was seemingly less interest by the fishermen in fish collection operations than there had been in preceding seasons.

Collection Service Charges and Costs: The lobsters carried on the Lobster Collection Service were transported at a charge to the shippers of $\$ 3$ per crate of approximately 150 pounds. The charge covered the return of the empty crates as well as the carriage of the shipments to market. The fish handled by the Fish Cellection Services were carried at a cost to the shippers of ten cents per hundred pounds, but the collecting boats were required to carry supplies of bait and ice without extra charge and to return empty shipping boxes free. The cost of the Lobster Collection Service to the department was $\$ 12,478.47$ and the cost of the Fish Collection Services, including the swordfish and halibut service, was $\$ 27,728.66$.

To aid the fishermen of the L'Ardoise district, Cape Breton, in marketing their products and in bringing in necessary supplies a schooner packet service between L'Ardoise and Halifax was given departmental assistance during the year on a subsidy basis. Other transportation facilities which would meet the needs of the fishermen were lacking in the district.

## FISHERIES INTELLIGENCE SERVICES

Many requests for departmental publications and for general information in regard to the fisheries of the country were received and dealt with during the year, as well, of course, as requests for information and advice bearing on technical fisheries questions. The number of these requests suggests an increasing popular interest in our fisheries resources and fisheries development. Throughout the year the department continued the distribution of monthly reports as to the conditions obtaining in important foreign markets for dried and pickled fish. These market reports are made up from information forwarded to the department by cablegram by Canadian Government Trade Commissioners in several export countries and by the branch of the Royal Bank of Canada in San Juan, Porto Rico, and they are sent out from Ottawa to producers and exporters of dried and pickled fish, to fishermen's organizations, etc. Monthly publication of the Fisheries News Bulletin, both in French and English editions, and the publication of the Quarterly Bulletin of Sea Fishery Statistics was also continued during the year. As in the past, the department collaborated with the Dominion Bureau of Statistics in preparing the annual statistical report upon fisheries operations, the collection and checking of statistical data of all fisheries which are under Dominion control being carried on by departmental employees.

During the year the department again carried out the plan of having weather reports and bait and ice reports broadcast regularly by radio for the benefit of fishermen on the Atlantic coast, where conditions different from those found in the fisheries in other parts of the Dominion make such a service desirable. This broadcasting plan was initiated by the department in 1928 and year after year there has been testimony as to its usefulness to the fishermen and others engaged in the fishing industry. In the past year the weather reports were broadcast twice daily from Saint John, N.B., Halifax, N.S., and Louisburg, N.S. For some weeks an additional early-morning broadcast of the weather reports was also made daily from Saint John to assist men engaged in the haddock fishery off Southern New Brunswick. Reports as to bait and ice conditions were broadcast twice a day from Halifax and Louisburg from April 1 onward, being compiled at the department's Halifax office from information obtained by telegraph and telephone from fisheries officers in all parts of Nova Scotia and from information supplied by telegraph by the Newfoundland Department of Marine and Fisheries. Re-broadcasts of the various reports were also made from C.G.S. Arras, the fisheries vessel accompanying the Canadian fishing fleet to the Grand Banks. Through these different broadcasts authoritative information as to weather probabilities, bait supply, and ice conditions was made available to fishermen on all the important fishing grounds at intervals only a few hours apart. From time to time items of current news were included with the reports as well as emergent messages to the captains of fishing vessels or other fishermen at sea.

## FISHING BOUNTY

Fishing bounties totalling $\$ 159,773.55$ were paid during the year from the sum of $\$ 160,000$, which is appropriated annually by the Governor in Council under the authority of " An Act to Encourage the Development of the Sea Fisheries and the Building of Fishing Vessels." Distribution of the bounty money is made among fishermen and the owners of fishing vessels and fishing boats on the Atlantic coast under regulations made from time to time by the Governor in Council. During the past year 10,308 bounty claims were paid, as compared with 9,546 claims in the preceding year. The payments were allotted as fol-lows:-

To 567 vessels and their crews, $\$ 39,447.60$.
To 9,741 boats and their crews, $\$ 120,325.95$.
Payments of claims in Nova Scotia totalled in all $\$ 80,049.55$, in New Brunswick $\$ 23,413.95$, in Prince Edward Island $\$ 9,808.60$, and in Quebec $\$ 46,501.45$.

The basis of distribution for the year was as follows:-
To owners of vessels entitled to receive bounty, $\$ 1$ per registered ton, payment to the owner of any one vessel not to exceed $\$ 80$.
To vessel fishermen entitled to receive bounty, $\$ 7.20$ each.
To owners of boat measuring not less than twelve feet keel, $\$ 1$ per boat.
To boat fishermen entitled to receive bounty, $\$ 6.35$ each.

1930-1931

| Province and County | Boats | Men | Amount | Vessels | Tons | $\left\lvert\, \begin{gathered} \text { Aver- } \\ \text { age } \\ \text { tons } \end{gathered}\right.$ | Men | Amount | $\begin{aligned} & \text { Total } \\ & \text { Amount } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Nowa Scotia- |  |  | $\begin{array}{r} 8 \text { cts. } \\ 1.78295 \end{array}$ |  |  |  |  |  | \% cts. |
| Annapolis... | 151 <br> 305 | 359 | 1,782 95. |  |  |  |  |  | 1,78295 <br> 2,825 |
| Cape Breto | 323 | 564 | 3,904 40 | 36 | 579 | 16 | 158 | 1,716 60 | 5,621 00 |
| Cumberlan |  |  | 2205 |  |  |  |  |  | 2205 |
| Digby.. | 340 | 562 | 3,908 70 |  |  |  |  |  | ${ }_{6} \mathbf{6}, 688$ |
| Guysbor | 413 | 753 1,056 | 5,194 5 509 | ${ }_{65}^{29}$ | 1,018 | 15 | 143 | 1,48760 | 6,68215 10,30600 |
| Inverness. | 277 | 586 | 3,998 10 | 6 | 70 | 11 | 27 | 26440 | 4,262 50 |
| Kings. | 36 | 57 | 39795 |  |  |  |  |  | ${ }^{397} 95$ |
| Pumenburg | 49 26 | ${ }_{37}^{562}$ | 4,017 70 | 114 | 5,911 | 51 | 1,523 | 16,87660 | 20,894 260 |
| Queens. | 137 | 230 | 1,59750 | 10 | 225 | 22 | 64 | 68580 | 2,283 30 |
| Richmond | 383 | 706 | 4,866 10 | 5 | 72 | 14 | 18 | 20160 | 5,067 70 |
| Shelburne | 490 | 895 | 6,173 25 | 31 | 712 | 20 | 223 | 2,317 60 | 8,490 85 |
| Victoria. | 321 | 491 | 3,438 85 | 7 | 116 | 16 |  | 31760 | 3,756 45 |
| Yarmouth | 135 | 289 | 1,970 15 | 16 | 451 | 28 | 148 | 1,516 60 | 3,486. 75 |
| Total | 4,593 | 7,445 | 51,868 75 | 319 | 9,612 | 30 | 2,579 | 28,180 80 | 80,049 55 |
| New BrunswickCharlotte | 241 |  | 2,876 25 |  |  |  |  | 16300 |  |
| Gloucest | 422 | 1,091 | 7,349 55 | 201 | 3,267 | 16 | 892 | 9,689 40 | 17,038 95 |
| Kent. | 116 | 200 | 1,386 00 | 7 | 78 | 11 | 16 | 19320 | 1,579 20 |
| Northumbe | 55 | 111 | 75985 | 20 | 228 | 11 | 43 | 53760 | 1;29745 |
| Restigouche <br> Saint John. | 34 | 13 53 | $\begin{array}{r}8855 \\ 3705 \\ \hline\end{array}$ |  |  |  |  |  |  |
| Total | 874 | 1,883 | 12,830 75 | 232 | 3,628 | 15 | 966 | 10, 58320 | 23,413 95 |
| Prince Edward Island- |  |  |  |  |  |  |  |  |  |
| Kings. |  |  | 2,526 00 |  |  | 10 | 4 | 80 |  |
| Queens. | 135 | 275 | 1,881 25 | 1 | 79 | 79 | 5 | 11500 | 1,996 25 |
| Total. | 775 | 1,384 | 9,563 40 | 5 | 130 | 26 | 16 | 24520 | 9,808 60 |
| Quebec- |  |  |  |  |  |  |  |  |  |
| Gaspe....... | 2,471 | 4,843 | -4,224 05 | 10 | 125 | $\begin{aligned} & 11 \\ & 12 \end{aligned}$ | $\begin{aligned} & 48 \\ & 38 \end{aligned}$ | 39860 | 33,622 65 |
| Matane. | 107 |  | 1,129 35 |  |  |  |  |  | 1,129 35 |
| Saguenay. | 523 | 1,046 | 7,165 10 |  |  |  |  |  | 7,165 10 |
| Total. | 3,499 | 6,703 | 46, 06305 | 11 | 136 | 12 | 42 | 43840 | 46,5014.5 |
| Grand total. | 9,741 | 17,415 | 120,325 95 | 567 | 13,506 | 23 | 3,603 | 39,447 60 | 159,773 55 |

## PELAGIC SEALING

Under the Pelagic Sealing Treaty the hunting of fur seals off British Columbia is permitted only to the Indians of the province, and under certain conditions as to the craft and equipment which may be used. During 1930 the number of these seals captured by the Indians was 2,291 and their skins had a marketed value of $\$ 13,746$. In 1929 the number taken was 3,347 but the decrease in the past year should not be regarded as indicating that the seals were less numerous as the intensity with which the Indians carry on the hunting varies from year to year and is dependent upon other factors than the abundance or scarcity of the seals.

Under the terms of the treaty annual payments are made to Canada by the United States and Japan, representing in the case of the United States fifteen per cent and in the case of Japan ten per cent of the gross value of the fur seals taken in areas under the respective jurisdictions of these two countries which are covered by the treaty. During the past fiscal year the payments from the

36710-3

United States amounted to $\$ 34,703.96$, covering 15 per cent of the value of 34,475 skins sold, and the payments from Japan totalled $\$ 2,457.16$, covering 10 per cent of the value of 3,129 skins sold. Russia is also a party to the treaty, which became effective in 1911, but Russian payments due to Canada in accordance with the convention have not been made for some time.

## TRANSFER OF PRAIRIE FISHERIES

An important occurrence in the course of the year was the change in control of the fisheries of the Prairie Provinces which resulted from the agreements for the transfer of the natural resources of these three areas from the Dominion to the respective provinces. In the case of Manitoba the change took place at midJuly but, at the request of the other provinces, the change of fisheries control in Sáskatchewan and Alberta was not made until the end of September. A number of departmental officers were affected by these changes but many of them have been absorbed in the fisheries service which the provinces established. Operation of the three hatcheries previously conducted by the department in Manitoba was taken over by the provincial Government on the transfer of the fisheries. As Saskatchewan and Alberta, however, were not in a position to take over fish culture work when fisheries control passed into their hands on October 1, the department continued to operate the Fort Qu'Appelle hatchery, the Cochin collecting camp, the hatchery at Lesser Slave Lake, and the Spray lakes subhatchery until the end of 1930 under arrangements with the provinces for reimbursement of the expenses incurred. Operation of the fish culture establishments in national parks in the territory affected by the transfer of resourcesthe hatchery in Banff National park, the hatchery in Waterton Lakes National park, and the sub-hatchery in Jasper National park-is being directed by the department for the National Parks Branch of the Department of the Interior.

## NORTH AMERICAN COUNCIL ON FISHERY INVESTIGATIONS

The North American Council on Fishery Investigation (originally known as the International Committee on Marine Fisheries Investigations, and given its present name in 1930) was founded in 1921 to meet the obvious need for some international agency to unify the fisheries investigations that were being carried on, independently, by the nations whose fishing fleets operate in the northwestern Atlantic.

The nations originally participating in the council were Canada, Newfoundland and the-United States. In 1922 France requested representation upon it, because of her important fisheries in the western side of the North Atlantic. This request was promptly approved, and Dr. Edouard LeDanois, then Assistant Director of the Scientific and Technical Marine Fisheries Office of France, was named as the French representative. Portugal has also been invited to join the council, because of the fishing carried on by her Nationals on the Newfoundland Banks, but has not yet accepted.

No doubt the negotiations that led to the establishment of the North American Council were largely stimulated by the example of the Permanent International Council for the Exploration of the Sea. In its organization, however, it differs fundamentally from the older European body, for it receives no financial support from the governments whose representatives make up its membership, and exercises no direct executive function. Neither does it maintain a permanent secretarial nor administrative staff, while for its office it enjoys the hospitality of the member who may be acting as its secretary for the time being. Thus its functions are strictly consultative and advisory.

Throughout its history the council has adhered to the policy originally adopted, namely, to correlate fisheries and oceanographic investigations in the

Northwestern Atlantic by informal arrangements, and to make the results promptly and mutually available to the several interested nations. This loose and informal type of organization was adopted partly because of the federal administrative system of the United States and of Canada, partly because of a belief, set forth by Dr. H. M. Smith, then United States Commissioner of Fisheries, that the greatest harmony might be expected from voluntary association, entered into for mutual help. In practice, this has proved a strength rather than a weakness, the recommendations of the council having usually been acted upon as rapidly as existing circumstances have allowed.

The membership consists of not more than three nominees from each subscribing nation, including in each case the executive or scientific head (or both) of the Fisheries Service. At the seventeenth meeting, November, 1930, the official representation was: For Canada, Dr. A. G. Huntsman, Director Atlantic Biological Station (secretary), Dr. J. P. McMurrich, chairman of the Biological Board of Canada, and the undersigned; for Newfoundland, Honourable H.C.B. Lake, Minister of Marine and Fisheries, and Dr. Harold Thompson; for the United States, Dr. Henry B. Bigelow (chairman), Mr. Elmer Higgins, in charge of Division of Scientific Inquiry, United States Bureau of Fisheries, and Mr. Henry O'Malley, United States Commissioner of Fisheries; for France, Dr. E. LeDanois, Director of the Scientific and Technical Office of Marine Fisheries. Various fisheries experts also attend the meetings by invitation.

The first executive meeting of the council was held in Montreal, June 23, 1921. Meetings have been held regularly since then, one or two per year, alternately in Canada and the United States, once in Newfoundland.

Up to the present time the council has not published its proceedings, although informal accounts of its activities have been given out to the press after each meeting. With the increasing weight that is given to its recommendations, however, need is felt for a wider distribution of its deliberations. Consequently, a decision was reached at the seventeenth meeting, November, 1930, to publish a report covering the history, membership and proceedings of the council to date, which is in course of preparation, and also to publish annual proceedings hereafter.

The principal objectives that the council has held before it, have been: (a) to work for the improvement and extension of the statistics of the offshore fisheries, both as direct aids to the industry and as the raw data in biologic studies; (b) to outline and to encourage comprehensive investigations into the biology of the more important food fishes of the area, such as cod, haddock and mackerel; and (c) to encourage the accumulation of data, with interpretation of the same, as to the general hydrology (particularly circulation) of the northwestern Atlantic in relation to the fisheries.

In practice, the council has sought these objectives by discussions of particular projects in each field, in which invited experts participate, leading to formal' recommendations urging the governments to commence or continue specified lines of investigation.

The following summary of progress made by the Fisheries Services of the subscribing nations in projects in which the council has been largely instrumental will more particularly illustrate its activities.

1. Statistics.-The chief action of the council with regard to statistics has been frequent reiteration of the need for improvement, and repeated recommendations to the governments that published statistics be made to include reliable information as to the localities where catches are made, and as to the yield per unit of effort. These recommendations have borne fruit in various attempts at betterments, through the adoption of improved statistical forms, by arousing the interest of fishing captains, and by more fully recording the pertinent data. Arrangements have also been made for more prompt interchange
of catch statistics, and at the last meeting the representatives of Newfoundland reported that the collection of fisheries statistics in that country was in process of reorganization. Comprehensive study of the biological significance of existing statistics has also been undertaken, by Canada and the United States, which have figures largely in the report by A. W. H. Needler on the Distribution of the American Haddock, quoted below (page 37) and also in a similar. study of the herring by the Biological Board of Canada.

The combined catches, by all nations, of cod and of haddock in the Western Atlantic by O. E. Sette, of the United States Bureau of Fisheries, and by Mr. Needler, of the Canadian Biological Board, have also been prepared and published, on recommendation of the council.

A definite move toward subdivision of the fishing grounds of the northwestern Atlantic for statistical purposes was likewise made at the last meeting of the Council by the preparation of a chart showing suggested divisions, for consideration by the several countries.
2. Cod Studies.-The council early recommended an intensive study of the migrations of the American cod, and the marking experiments, commenced, in response, by the United States in 1923 and by Canada in 1924, have been continued to date in various localities from New Jersey on the south to eastern Nova Scotia on the north, both inshore and on the outer banks. The total number of cod marked by the two governments up to June, 1930, was about 56,000 , of which about 3,500 have been recaptured, an average of about 6 per cent. Recaptures, by the vessels carrying on the experiments of fish they had earlier marked have yielded large series of measurements, with scale samples, for codfish that had been at liberty for varying periods of time. Forty-six fish have been recaptured and remeasured twice. In this way much direct evidence has been obtained as to the rate of growth of individual fish at different times of year.

Early in the investigation it became apparent that different local bodies of cod followed different migratory schedules, the fish off Nantucket shoals, falling in the one category, the bodies of cod further north and east, in the other. A general account of the migrations of the fish of these groups has been published under the authorship of W. C. Schroeder in the 46th Volume of the Bulletin of the United States Bureau of Fisheries.

The material collected has also thrown much light on the relative importance of different year-classes in the cod stock, on the degree of local segregation, and on kindred subjects, besides affording the basis for an estimate of the numerical strength of the stock on one limited ground.

The effects of shifts in temperature on the regional localization and productivity of the cod fishery of the straits of Belle Isle have been made the subject of an important study by the Biological Board of Canada, with results already proved to have direct practical importance, and the investigation of temperature in relation to the fisheries of the Grand Banks that have for several years been prosecuted by the French Scientific and Technical Fisheries Office, under the direction of Dr. LeDanois, are well known.

Previous to the establishment of the North American Council, little exact information had been obtained as to the migrations and distribution of larval cod or of older fry in North American waters. Much information, as to these questions, has resulted from systematic towing, carried out at the council's recommendation.

At the last meeting the representatives for Newfoundland reported plans for initiating a broad program of cod investigation; an entry into scientific fisheries research warmly welcomed by the council.
3. Haddock Investigations.-The future of the haddock fishery is now of serious concern to the Canadian and United States fisheries services as well as
to the industry in both these countries, because of rapid increase in intensity. Recaptures of tagged haddock with scale samples and measurements from warious localities, together with analysis of catch statistics have already formed the basis of an instructive report on the migrations of this species and on the inter-relationship of haddock populations in North American waters by Mr. Needler (Contributions to Canadian Biology and Fisheries, New Series, Volume 6, Number 10, 1930), while the relative importance of different year-classes has been investigated, by the Biological Board for the bay of Fundy and for Nova Scotia waters.

By 1929 the council viewed the matter with such serious concern that it urged upon the several countries the importance of devoting increasing attention to the haddock, and in 1930 the United States Bureau of Fisheries was in position to initiate an intensive program of investigation of the haddock situation.
4. Mackerel Investigations.-The inauguration in 1924-1925 of a joint program of investigation of the biology of the mackerel by Canada and the United States followed the recomniendations of the council. A study of the relative strength of different year-classes, by the United States Bureau of Fisheries, has demonstrated that the spectacular and proverbial fluctuations in the mackerel cateh result from a notable dominance of the stock by occasional year-classes, with years of high production comparatively rare. The rate of growth of the mackerel has also been followed up to the seventh year, while conditions on the more southerly spawning areas have been intensively examined, and the distribution and numerical abundance of eggs and of larvae has been studied. Results of these studies are in course of preparation. The Canadian investigations of the mackerel have been directed chiefly toward tracing migrations by marking experiments, to the determination of spawning areas and the control of their limits by temperature, to the times of arrival of mackerel at different localities on the coast, to the relative proportions of the two sexes, to the relative abundance of different year-classes, to growth studies, and to the study of racial differences.
5. Hydrography.-At the second meeting of the council it was resolved that all possible information should be obtained as to the non-tidal drifts of the continental waters along the Maritime Provinces and Northeastern United States, as to which widely divergent views had been held. Sets of drift bottles specified by the council as desired were put out that same year by the three governments then represented on the council. And the recoveries proved so instructive that large numbers of bottles have subsequently been set adrift on various lines between eastern Newfoundland and Chesapeake bay.

A discussion of the series set out between Nova Scotia and Cape Cod is included in the published account of the Physical Oceanography of the Gulf of Maine by Dr. Bigelow, (in Volume 40, Bulletin of the U.S. Bureau of Fisheries, Part 2, p. 867). Preliminary statements have also appeared as to certain of the experiments in Canadian waters, while it is hoped that a general report on these may soon be prepared. The recoveries from the sets to the west and south of New York still await final analysis.

These bottle drifts have been so generally corroborated by other lines of evidence that they have figured largely in the development of the views now. generally held as to the dominant circulation of the region, especially as to the great eddies of which the depressions on this sector of the continental shelf are now known to be the sites.

Daily records of sea-water temperature are now being taken at between 50 and 60 lighthouses and lightships from the gulf of St. Lawrence to the gulf of Mexico, at the prompting of the council, and through the activities of its members. The very important hydrologic surveys of the Newfoundland banks,
and of the banks of West Greenland, by the French fisheries service are as widely appreciated on the one side of the Atlantic as on the other, and the charts which that service has recently prepared of the bottoms of certain of the fishing banks will, the council believes, stimulate its other members to similar undertakings on other North American fishing grounds.
6. Passamaquoddy Bay Problem.-The relationship borne by the council to the international fisheries question in Passamaquoddy bay may be quoted as a final illustration of its proper functions and activities.

A project for damming this small bay, for the development of power, has caused serious apprehension for the future of the very valuable "sardine" fishery, and the herring, and packing industries, of which it is the site. In response to a request from this Department for an authoritative statement as to the probable effects of this project, the council appointeed a subcommittee in 1928 to examine into the matter. The report of this subcommittee, that a detailed investigation of the ecology of the herring, and of the factors controlling organic production, was prerequisite to any positive forecast for the region as a whole led to plans for a joint study now under discussion by the two governments concerned, an appropriation for which has already been made by the United States.

## INTERNATIONAL FISHERIES COMMISSION

The staff of the International Fisheries Commission, other than the director, includes scientific and statistical assistants, four Canadians and one American, with clerical and other help employed in Seattle. The laboratory work is done at the University of Washington, the statistical work mainly in Prince Rupert.

Vessel operations were carried on by charter of two vessels during the past, calendar year, one larger schooner for offshore and more distant work, one smaller for the local banks of British Columbia.

The Dorothy, a United States Diesel vessel of 93 feet length, 89 net tons, was used for four months in search for eggs and drifting young of the halibut in the open North Pacific and in an expedition to Bering sea. She was the minimum size usable for such purpose, and no similar Canadian vessel of propel build and equipment was available.

Study of Eggs and Drifting Young.-On February 21 a series of net hauls were begun which, by May 14, had covered the great part of the gulf of Alaska and the northern coast of British Columbia. Altogether 145 stations were occupied, and 363 net hauls were made at depths of water down to 1,000 meters. Halibut eggs and larvæ were found in numbers along the edge of the continental shelf of the western side of the gulf of Alaska. They were rarely found off the British Columbia coast, indicating the nearly complete depletion of spawners there. The last hauls in May showed the larvæ but half developed. Up to that time no evidence that young were carried south to the banks off Canada was found, but some had reached the middle of the gulf of Alaska. Another season's work will be necessary to follow the major outlines of the early development and larval drift during May, June, and. July, thereby proving definitely to what extent the southern banks off British Columbia are replenished by drifting young from the Alaskan banks. This is of great importance to the badly depleted banks now fished mainly by Canadian vessels.

A New Stock in Bering Sea.-On May 14 the vessel left Prince Rupert after outfitting for a cruise to Bering sea and the Aleutians. The object was to determine the possible existenco of a new and untouched stock of halibut there. It had already been proved that the halibut south of cape Spencer, including those of British Columbia, formed a stock separate from those of the gulf of Alaska, the latter migrating to the west as far as the entrance to Bering sea.

On this trip halibut were caught just within Bering sea, in Makushin bay, where 687 fish were tagged. The currents along the Aleutian islands were found to be swift, and the grounds small. The vessel went as far west as Petrel bank, but owing to a breakdown of fishing apparatus did not try those banks properly. From the fish tagged but 17 have been retaken, all from the tagging locality itself, showing no interchange between Bering sea fish and those of the gulf of Alaska. This would indicate a new and untouched stock, the abundance of which seems to be below that of previously exploited stocks. The geographicai extent of this stock is not known, but it should be noted that a full year has not passed since the fish were liberated, and the one voyage was not sufficient to give us any comprehensive idea of the area of banks available.

On this same trip the currents which carry the eggs and larvæ in the gulf of Alaska were studied by depositing 500 drift bottles along a line across the gulf of Alaska from the Queen Charlottes to Kodiak island and west. Of these bottles five per cent have been returned within the succeeding seven months, a surprisingly satisfactory result, all of them showing a westward drift, carrying the eggs and larve west from cape Spencer, and thus confirming previous work on the currents.

Tagging off the Canadian Coast-As previous work had shown that the older banks off the Canadian coast were badly depleted, past studies of migration, etc., had been almost altogether upon the stock of immature young which remained. Nevertheless, a small fishery has existed on the outer coast for larger sized fish. This remnant of spawning schools was important to egg production, and since they mature in the gulf of Alaska had been shown to migrate widely, it was deemed necessary that their habits be studied by tagging. Of these, 712 were tagged in two months' work off the north end of Graham island by the Melville operating out of Prince Rupert.

Returns were at a high rate, twenty-five per cent within the first full year, and showed a greater migration than the small fish previously studied.

Statistics of the Fishery.-In accordance with the duties of the commission a system of statistical observation of the fishery has been maintained. The data collected are not only the usual total landings, but the landings by bank of origin. Equally important are records of catch per unit of gear as indicative of abundance. These are obtained from practically the whole fleet and show the continued decline in abundance in each of 35 statistical areas along the Pacific coast of the United States, Canada, and Alaska. This is perhaps the most vital phase of the commission's work, as these statistics form the practical basis for the regulations to be made. The variations in the yield obtained under differing intensities of the fishery will dictate the restriction necessary.

Laboratory Research.-Research activities similar to those referred to above have been carried on in previous years, and much of the time of the staff during 1930 was spent in analysing and reporting upon the data. The age and rate of growth, spawning times and places, races of halibut, egg and larval development, and migration have formed the subjects of specific investigations other than those carried out during the past year. Reports of certain of these investigations have been prepared, but in other cases the reports are still in process of preparation.

Reports Published.-During the past year six reports of the commission have been prepared and published, as follows:-

Report Number 2, Life History of the Pacific Halibut (1) Marking Experiments, by William F. Thompson and William C. Herrington. 137 pages.

Report Number 3, Determination of the Chlorinity of Ocean Waters, by Thomas G. Thompson and Richard Van Cleve. 14 pages.
Report Number 4, Hydrographic Sections and Calculated Currents in the Gulf of Alaska 1927 and 1928, by George F. McEwen, Thomas G. Thompson, and Richard Van Cleve. 36 pages.
Report Number 5, History of the Pacific Halibut Fishery, by William F. Thompson and Norman L. Freeman. 61 pages.
Report Number 6, Biological Statistics of the Pacific Halibut Fishery (1) Changes in Yield of a Standardized Unit of Gear, by William F. Thompson, Harry A. Dunlop, and F. Heward Bell. 121 pages.
Report Number 7, Investigations of the International Fisheries Commission to December, 1930, and their Bearing on Regulation of the Pacific Halibut Fishery, by the International Fisheries Commission. 29 pages.
These reports have occupied the main attention of the staff while in Seattle during the past calendar year. They embody first results of the program of the commission to study the life history of the halibut and to place the fish under adequate statistical observation. They substantiate and extend the recommendations expressed in the first report of the commission. The rapid decline of the abundance, the resultant constant shift of the fishery to new grounds, the existence of separate stocks on the several grounds, the rate of migration, and the currents which carry the young, are dealt with.

In the course of the year the Canadian members of the Scientific Advisory Committee of the commission, Doctor W. A. Clemens, Director of the Pacific Biological Station, Nanaimo, and Doctor C. McLean Fraser, of the Department of Zoology, of the University of British Columbia reviewed with Doctor Thompson and the members of his staff the scientific program which has been in progress, and, in a statement which was subsequently issued, expressed their satisfaction with and appreciation of the work accomplished. "The program for the investigation as it was first presented by the Advisory Committee," they stated, " appeared sound and well planned; but there seemed so many difficulties in the way of carrying it out that it was not anticipated that such definite results, capable of direct application in control of the fishery could be obtained in such a short period of time. We wish again to express our heartiest endorsement of the program as laid down and extended by Doctor Thompson. We consider that it is thoroughly sound scientifically, that it is comprehensive and practical in outlook. We have no hesitation in commending the work and in assuring the commission that, in our opinion, provision for the continuance along the present lines is not only justifiable but eminently desirable."

Your obedient servant,
WILLIAM A. FOUND,
Deputy Minister of Fisheries.

## APPENDIX No I

## REPORTS OF SUPERVISORS OF FISHERIES

## REPORT OF ACTING CHIEF SUPERVISOR, R. S. SHREVE, PROVINCE OF NOVA SCOTIA, FOR 1930.

The 1930 fishery season opened favourably. The landings during the month of January showed a substantial increase over the catch for January of the previous year, and indications were that the catch for the year would exceed that of 1929 . Early optimistic views were strengthened as increased catches continued to be registered during the next four months. The comparative increases for April and May were particularly gratifying. With the first five months of the year away to a good start, adverse conditions were encountered in June, and when statistics for the month were compiled a decrease of $4,582,600$ pounds was recorded in the catch as against the landings for the same period last year. The following months throughout the year continued to show comparative decreased landings. September was particularly discouraging, the decrease amounting to over $12,000,000$ pounds for the month.

The total value of the fisheries of the province of Nova Scotia for 1930 amounted to $\$ 10,411,202$, as compared with $\$ 11,427,491$ for 1929 , which shows a decrease of $\$ 1,016,289$ from the previous year.

The annual value of the fisheries to the province for the past eight years has been as follows:-


The fresh fish trade continued to expand. With the increasing population of Canada providing continued possibilities for enlarging domestic demand for fish in the fresh state, and the widening of foreign markets, the outlook for this branch of the industry is bright. The market for haddock fillets has grown tremendously and further expansion is looked for. Facilities were increased and cold storage plants developed in this connection.

The utilization of fish waste was given serious study during the year and new plants were erected, equipped with modern machinery to convert the waste fish into commercial by-products.

The lobster fishery this year ranked first in economic value, the cod second and the haddock third.

Such important commercial fisheries as the lobster, mackerel, hake and cusk, salmon and smelt fisheries show increased landings. Increased, values are also shown for mackerel, salmon and smelt.

## LOBSTERS

The total lobster catch in 1930 was $208,201 \mathrm{cwt}$. having a landed value of $\$ 2,204,153$ and a marketed value of $\$ 3,046,084$, as compared with a catch of $190,035 \mathrm{cwt}$., a landed value of $\$ 2,156,776$ and a marketed value of $\$ 3,210,504$ for 1929 , an increase of $18,166 \mathrm{cwt}$. in the catch and $\$ 47,377$ in the landed value but a decrease of $\$ 164,420$ in the marketed value, as compared with the year 1929.

There was an increase of $12,303 \mathrm{cwt}$. in the quantity of lobsters shipped in shell. During 1930 the quantity shipped in this form amounted to 85,885 cwt. as compared with 73,582 for the year 1929. Shipments to the United States and Upper Canadian markets are increasing from year to year.

The quantity of lobsters canned during 1930 amounted to 63,422 cases, as compared with 60,661 for the previous year, which shows an increase of 2,761 cases. Less tomalley was put up during 1930, the pack of this product being 2,089 cases as compared with 3,151 cases during 1929.

Lobsters were plentiful all along the coast. Not for several years had they been so generally abundant almost everywhere at the same time. The markets at the beginning of the year were uncertain. There was a large carry-over of canned lobsters in all the principal markets from last year. The canned lobster market became weak and as the canners were anxious to dispose of their goods quickly the selling strain brought down prices. The prices quoted for canned lobsters were lower in the United States and Canada than those for Japanese crab meat. In the English market the competition from South African crayfish was greatly increased, chiefly owing to low price. Lobsters are now being brine frozen and shipped to a number of the fish dealers in Canada and the United States, where a ready market is being found.

The year 1930 closed with large quantities of canned lobsters still unsold in original packers' or buyers' hands in Canada, besides stocks known to be remaining in wholesale grocers' hands in Britain and the States.

Reports indicate that considerable quantities of live lobsters still remain in Maine pounds and the Boston dealers show less anxiety for additional shipments than was formerly evident. It is therefore expected that a lower level of prices will prevail for lobsters in shell during the coming season.

The following is a statement of the lobster catch and the marketed value for the past six years:-

|  | Catch Cwt. | $\begin{gathered} \text { Marketed } \\ \text { Value } \end{gathered}$ |
| :---: | :---: | :---: |
| 1925 | 170,698 | \$3,014,963 |
| 1926 | 184,316 | 3,386,416 |
| 1927 | 179,673 | 3,255,627 |
| 1928 | 172,409 | 3,048,255 |
| 1929 | 190,035 | 3,210,504 |
| 19 | 208,201 | 3,046,084 |

The lobster season which opened on August 16th and continued until October 15 was remarkable, a steady catch being obtained throughout the entire period, and the weather for practically the whole time was such that the fishermen could attend to their traps daily. The usual loss of gear was avoided but the markets were in such condition that the returns for the lobsters were not as satisfactory as had been hoped.

> Cod

The cod fishery for the year shows a decrease in the catch as well as in the landed and marketed values. The catch for 1930 amounted to $1,065,133$ cwt., having a landed value of $\$ 1,978,386$, and a marketed value of $\$ 2,685,879$, as compared with a catch of $1,297,841$, having a landed value of $\$ 2,537,322$ and a marketed value of $\$ 3,484,583$ for 1929. The decrease in the catch amounted to 232,708 cwt. and in the landed value $\$ 558,936$. The Lunenburg fleet experienced the worst season in many years, which accounts largely for the decrease in the total catch.

## HADDOCK

The haddock fishery shows a decrease of 44,510 cwt. in the catch as well as a decrease of $\$ 14,983$ in the landed value and $\$ 65,617$ in the marketed value. The total landings in 1930 amounted to 471,639 cwt., having a landed value of
$\$ 975,864$ and a marketed value of $\$ 1,798,330$, as compared with a catch of $\overline{5} 16,149 \mathrm{cwt}$., having a landed value of $\$ 990,847$ and a marketed value of $\$ 1,863,947$ for 1929.

## HERRING

A decrease of $32,993 \mathrm{cwt}$. is shown in the herring catch as well as a decrease of $\$ 38,102$ in the landed value and $\$ 90,153$ in the marketed value. The catch amounted to 204,745 cwt., landed value to $\$ 209,482$, and marketed value to $\$ 435,810$, as compared with a catch of 237,738 cwt., having a landed value of $\$ 247,584$ and a marketed value of $\$ 525,963$ for the previous year. The Guysboro and Halifax coast is largely responsible for the decrease.

## MACKEREL

A very considerable increase is shown in the catch of mackerel as well as in the landed and marketed values. The total catch amounted to $130,359 \mathrm{cwt}$., having a landed value of $\$ 314,767$ and a marketed value of $\$ 431,543$, as compared with a catch of 107,385 cwt., having a landed value of $\$ 269,841$, and a marketed value of $\$ 387,179$ for 1929 . There was thus an increase of 22,974 cwt. in the catch, $\$ 44,926$ in the landed value and $\$ 44,364$ in the marketed value. Of the total increase Halifax County West is responsible for $15,747 \mathrm{cwt}$. in the catch, $\$ 37,745$ in the landed value and $\$ 37,723$ in the marketed value.

## HALIBUT

The halibut fishery shows a decrease in catch, landed value, and marketed values. The catch was 27,258 cwt., having a landed value of $\$ 332,237$ and a marketed value of $\$ 419,761$, as against a catch of 30,971 cwt., having a landed value of $\$ 407,957$ and a marketed value of $\$ 506,976$, as compared with the previous year. This shows a decrease of 3,713 cwt. in the catch, $\$ 75,720$ in the landed value, and $\$ 87,215$ in the marketed value. The eastern and western section of the mainland are responsible for the decrease. In the Island of Cape Breton there was a slight decrease.

## HAKE AND CUSK

There was an increase of $5,490 \mathrm{cwt}$. in the landings of hake and cusk, but a decrease of $\$ 9,042$ in the landed value and $\$ 8,560$ in the marketed value. The catch amounted to 190,203 cwt., having a landed value of $\$ 136,148$ and a marketed value of $\$ 313,212$, as compared with a catch of 184,713 cwt., having a landed value of $\$ 145,190$ and a marketed value of $\$ 321,772$ for 1929 . Increases in landings were made in the Island of Cape Breton and the western part of the mainland, while the eastern section of the mainland registers a slight decrease.

## SALMON

The salmon catch was almost double that of last year, the increase in the catch being general throughout the province. The total catch for the year amounted to 14,198 cwt., having a landed value of $\$ 192,095$ and a marketed value of $\$ 249,962$, as compared with a catch of $7,556 \mathrm{cwt}$., having a landed value of $\$ 124,894$ and a marketed value of $\$ 155,651$ for the previous year. The increase in the catch amounted to 6,642 cwt., $\$ 67,201$ in the landed value and $\$ 94,311$ in the marketed value. During the spring and summer the water in all the rivers and streams throughout the province was particularly low and salmon were therefore-hampered in ascending to their spawning grounds, and as their ascent was delayed by low water conditions, increased catches were naturally made by the commercial net fishermen along the coast. On the other hand, market conditions were not as satisfactory as in previous years.

## SMELT

The smelt fishery shows an increase of 722 ewt. in the catch, $\$ 7,911$ in the landed value and $\$ 17,250$ in the marketed value. The 1930 catch amounted to $7,906 \mathrm{cwt}$., having a landed value of $\$ 88,725$ and a marketed value of $\$ 136,909$, as compared with a catch of 7,184 cwt., having a landed value of $\$ 80,814$ and a marketed value of $\$ 119,659$ for 1929.

## POLLOCK

The catch of pollock shows a decrease of 6,291 cwt. in the catch, $\$ 7,582$ in the landed value and $\$ 11,580$ in the marketed value. During 1930 the catch amounted to 39,422 cwt., having a landed value of $\$ 38,184$ and a marketed value of $\$ 57,389$, as compared with a catch of $45,713 \mathrm{cwt}$., having a landed value of $\$ 45,766$ and a marketed value of $\$ 68,969$ for last year.

## ALEWIVES

An increase is shown in the catch of alewives of $6,536 \mathrm{cwt}$., and a gain of $\$ 2,046$ in the landed value, but a decrease of $\$ 981$ in the marketed value. The 1930 catch amounted to 30,719 cwt., having a landed value of $\$ 29,336$ and a marketed value of $\$ 38,799$, as compared with a catch of 24,183 cwt., having a landed value of $\$ 27,290$ and a marketed value of 39,780 for the previous year.

## SCALLOPS

A slight decrease is shown in the catch of scallops but a marked drop in the landed and marketed values. The 1930 catch was 16,488 barrels, with a landed value of $\$ 76,476$ and a marketed value of $\$ 81,619$, as compared with a catch of 16,856 barrels, having a landed value of $\$ 99,670$, and a marketed value of $\$ 110,192$ for 1929 . Prices this year were much lower than those which obtained during previous years, and hence there was less incentive than formerly for the fishermen to prosecute the industry vigorously.

The scallop industry during favourable times gives employment to a large number of men and boys, and good wages are made when the price of scallops is fair. The scallop fishery in the Digby-Annapolis district, which has rapidly advanced during past years, was not as profitable during the 1930 season as in previous years, due to the low prices obtaining.

The following table shows the scallop catch and marketed value for the past eight years:-


SWORDFISH
A very heavy increase is noted in the catch of swordfish, the catch being almost double that of last year. All told, the 1930 catch was 11,933 cwt., having a landed value of $\$ 139,145$ and a marketed value of $\$ 214,806$, as compared with a catch for 1929 of 6,336 cwt., having a landed value of $\$ 69,613$ and a marketed value of $\$ 98,241$.

The increase in the swordfishery was general. At North Sydney an increase of $1,668 \mathrm{cwt}$. took place. The fish were more plentiful, larger in size and caught nearer land. On that part of the coast from Ingonish to Aspy boy, South

Ingonish, Neils harbour and Aspy bay swordfish were never known to be so plentiful. The largest landings were made at the following places:-


On the eastern section of the mainland the increase is to be credited to Guysboro County East, where 922 cwt . were taken, as compared with 428 cwt . during 1929. The fish appeared early and the run was short.

District No. 1-Comprising the Counties of Cape Breton, Inverness, Victoria, and Richmond-Supervisor, A. G. Maleod

The outstanding features of the year, compared with 1929, were increases in the quantities landed of cod, hake, halibut, mackerel, alewives, salmon, swordfish and eels; and decreases in the catches of haddock, herring, smelts, flounders and lobsters.

From the standpoint of values, lobsters rank first for the year, cod second, swordfish third, mackerel fourth, salmon fifth, haddock sixth, halibut seventh, herring eighth and smelts ninth.

Lobsters.-The total catch was $41,253 \mathrm{cwt}$., valued at $\$ 263,121$, as compared with a catch of 41,786 cwt. valued at $\$ 318,348$ for the previous year, showing a decrease of 533 cwt . in the eatch and $\$ 55,227$ in the landed value.

Cod.-The total catch amounted to 152,204 cwt., having a landed value of $\$ 217,877$, as compared with a catch of 148,322 cwt., valued at $\$ 240,455$ for the 1929 season. Although the catch shows an increase of $3,882 \mathrm{cwt}$. there is a decrease of $\$ 22,578$ in the landed value, on account of the exceptionally low prices prevailing throughout the greater part of the season.

Swordfish.-The total swordfish catch amounted to $10,450 \mathrm{cwt}$. , having a landed value of $\$ 123,524$, as compared with a catch of 5,107 , having a landed value of $\$ 57,950$ for 1929 -an increase of 5,343 cwt. in the catch and $\$ 65,574$ in the landed value.

The largest landings were at Louisburg, 3,067 cwt.; North Sydney, 2,099 cwt.; and South Ingonish, 1,743 cwt.

Mackerel. -The total catch of mackerel for the year amounted to 52,262 cwt., having a landed value of $\$ 93,569$, as compared with a catch of 49,495 cwt., having a landed value of $\$ 95,423$ for the previous year, showing an increase of $2,767 \mathrm{cwt}$. in the catch and a decrease of $\$ 1,854$ in value, as compared with 1929. The catch in the area from Pleasant bay to Margaree island, Inverness county, shows an increase of 3,182 owt., compared with the preceding year, and the greater part was taken in October; in 1929 the best catches were landed in August and September. The prices obtained in 1930 were very low, the average rate being $3 \frac{1}{2}$ cents, as compared with 6 cents for the previous year.

Salmon.-The total catch amounted to $6,069 \mathrm{cwt}$. and landed value to $\$ 70,131$, as compared with a catch of 3,203 cwt., having a landed value of $\$ 44,091$ for 1929 . An increase of 2,866 cwt. is shown in the catch and $\$ 26,040$ in the landed value.

The largest landings were at Margaree harbour, 950 cwt.; Cheticamp, 766 cwt.; Grand Etang, 553 ewt.; St. Ann's, 518 cwt.

Haddock.-The total catch amounted to 56,187 cwt., having a landed value of $\$ 67,240$, as compared with a catch of $75,604 \mathrm{cwt}$., having a landed value of $\$ 107,953$ for the previous year. This shows a decrease of $19,417 \mathrm{cwt}$. in the catch and $\$ 40,713$ in the landed value.

Largest landings were made at South Ingonish, 21,935 cwt.; North Sydney, 1,051 cwt.; Port Hawkesbury, 9,461 cwt.; Petit de Grat, 8,551 cwt.; North Ingonish, $7,224 \mathrm{cwt}$; Port Hood island, 1,496 cwt.

Halibut.-The total catch amounted to $4 ; 529$ cwt., having a landed value of $\$ 42,594$, as compared with a catch of $4,017 \mathrm{cwt}$., having a landed value of $\$ 43,977$ for the year 1929 -an increase in the catch of 512 cwt ., but a decrease of $\$ 1,383$ in landed value.

The largest landings were at North Sydney, 3,971 cwt.; Grand Etang, 128 cwt.; South Ingonish, 100 cwit.

Herring.-The total catch amounted to 40,598 cwt., having a landed value of $\$ 39,334$, as compared with a catch of $41,086 \mathrm{cwt}$., having a landed value of $\$ 40,157$ for the previous year. This shows a decrease of 488 cwt . in the catch and $\$ 823$ in the landed value,

The largest landings were at St. Ann’s, 7,246 cwt.; Petit de Grat, 2,695 cwt.; North Sydney, 2,415 cwt:; Grand Etang, 1,750 cwt.

Smelts.-The total catch of smelts amounted to 1,954 , having a landed value of $\$ 18,391$, as compared with a catch of 1,964 cwt., having a landed value of $\$ 17,914$ for the 1929 season. The catch shows a decrease of 10 cwt. and the landed value an increase of $\$ 477$.

Hake.-The total catch amounted to 9,361 cwt., having a landed value of $\$ 4,938$, as compared with a catch of 7,365 , having a landed value of $\$ 6,077$ for the previous year. An increase is shown in the catch of $1,996 \mathrm{cwt}$. and a decrease of $\$ 1,139$ in the landed value.

Practically all these fish were taken at Port Hood island where they were plentiful in June, July, August, September, November and December. The price received by the fishermen was unusually low.

Flounders.-The total catch of flounders amounted to 845 cwt., having a landed value of $\$ 1,347$, as compared with a catch of 889 cwt ., having a landed value of $\$ 933$, showing a decrease of 44 cwt . in the catch but an increase of $\$ 414$ in the landed value. All of these fish were landed by trawler at Port Hawkesbury and bankers at North Sydney.

Alewives.-The total catch amounted to 1,155 cwt., having a landed value of $\$ 856$, as compared with 540 ewt., having a landed value of $\$ 433$ for 1929. This shows an increase of 615 cwt . in the catch and an increase of $\$ 423$ in the landed value. Nearly all these fish were caught in the Margaree river where they were very plentiful.

Eels.-The eel catch amounted to 185 cwt., having a landed value of $\$ 740$, as compared with a catch of 86 cwt. , having a landed value of $\$ 406$ during the 1929 season. The catch shows an increase of 99 cw.t. and the landed value an increase of $\$ 334$. The total catch was taken at Louisdale, where these fish were more plentiful than during the preceding year.

Pollock.-The total catch amounted to 676 cwt., having a landed value of $\$ 494$, as compared with a catch of 432 cwt., having a landed value of $\$ 297$ for the previous year. This shows an increase of 244 cwt. in the catch and an increase in the value of $\$ 197$. Practically the entire catch was landed by trawler at Port Hawkesbury.

Oysters.-The total catch amounted to $1,013 \mathrm{cwt}$., having a landed value of $\$ 4,854$, as compared with a catch of 979 cwt., having a landed value of $\$ 4,989$ for the previous year. This shows an increase in the catch of 34 barrels and a decrease of $\$ 135$ in the landed value.

Apparently these shellfish were more plentiful than in the preceding year, but there was little effort put forth by the fishermen to land them, as the market was very poor.

Squid.--The total catch of squid amounted to 926 cwt ., having a landed value of $\$ 2,020$, as compared with a catch of $1,354 \mathrm{cwt}$. and a landed value of $\$ 2,843$ for last year. This shows a decrease of 428 barrels in the catch and $\$ 823$ in the landed value. These fish were exceptionally scarce, and practically the entire quantity landed was taken on the Inverness County coast.

District No. 2-Comprising the Counties of Hallfax; Guysboro, Antigonish, Pictó, Colchester, Cumberland and Hants-Supervisor D. H. SuTherland.
The total quantities of all varieties of fish landed in the district in 1930 was $72,546,200$ pounds valued at the boat's side at $\$ 2,200,870$, as compared with $73,221,100$ pounds valued at $\$ 2,205,162$ in 1929, or a decrease in the catch of 674,900 pounds and in the landed value of $\$ 4,292$. The greatly increased catch of lobsters and mackerel and heavy decreases in such lower priced varieties as herring, cod and haddock, together with higher winter prices for the latter two varieties, account for the small difference in total landed values. Of the thirty-one varieties taken eighteen increased in quantity landed. Of these lobsters and mackerel, with increases of 934,200 pounds and 15,746 pounds, respectively, are outstanding. The lobster fishery in so far as volume is concerned was in a flourishing condition, but it is a different story when values are considered. The 1930 landings show increases of 934,200 over 1929 and $3,041,930$ over 1928 , but the landed value is $\$ 80,234$ less than 1929 and only $\$ 116,338$ greater than 1928. Other substantial increases are pollock, salmon and squid. The catches of herring and cod are considerably reduced, decreasing $2,681,000$ pounds and $1,056,400$ pounds, respectively. Other decreases are noted in haddock, halibut, alewives and clams. While it may not be apparent from the total figures, the year was not profitable for the shore fishermen as line fish were searce and prices, particularly for lobsters, much less than in 1929.

The total marketed value, which includes the value of certain quantities brought into this district from outside points to be manufactured, was $\$ 4,035,373$, as compared with $\$ 4,456,660$, or a decrease of $\$ 421,287$. The decrease was chiefly due to lower values of cod, herring, haddock and lobsters. Salmon represents the largest increase in marketed value followed by mackerel, squid and smelts.

Cod.-The total catch was $218,047 \mathrm{cwt}$., having a landed value of $\$ 428,215$ and a marketed value of $\$ 669,829$, as compared with a catch of 228,611 cwt., having a landed value of $\$ 423,075$ and a marketed value of $\$ 939,939$ for 1929 , showing a decrease of 10,564 cwt. in the catch, $\$ 5,140$ in the landed value and $\$ 270,110$ in the marketed value. The inshore catch was 88,378 cwt., as compared with $158,949 \mathrm{cwt}$. in 1929 , which bears out what has already been said in regard to the inshore operations.

In Halifax west the catch increased 46,989 cwt., due to heavy steam trawler and vessel landings, particularly during the winter months, while in Guysboro county and Halifax east, where the catch is produced by shore fishermen, the decrease was $57,517 \mathrm{cwt}$.

Line fish generally were unusually scarce throughout the season on the inshore grounds, and latterly rough weather greatly interfered with operations.

Haddock.-The total catch was 226,651 cwt., having a landed value of $\$ 521,054$ and a marketed value of $\$ 944,982$, as compared with a catch of 232,020 cwt., having a landed value of $\$ 494,658$ and a marketed value of $\$ 990,209$ for 1929 , showing a decrease of $5,369 \mathrm{cwt}$. in the catch, $\$ 26,396$ in the landed value and $\$ 45,227$ in the marketed value. Of the total catch $20,716 \mathrm{cwt}$. were taken inshore as compared with $23,471 \mathrm{cwt}$. taken inshore during 1929.

The decrease, as in the case of cod, is due to smaller landings by the fishermen in Halifax east and Guysboro county, where they decreased 20,705 cwt., while the Halifax landings increased $15,736 \mathrm{cwt}$.

Hake.-The total catch was 11,474 cwt., having a landed value of $\$ 11,414$ and marketed value of $\$ 36,422$, as compared with a catch of $12,070 \mathrm{cwt}$., having a landed value of $\$ 11,675$ and a marketed value for 1929 , showing a decrease of 596 cwt. in the catch, $\$ 261$ in the landed value and $\$ 7,469$ in the marketed value.

The inshore catch was $4,838 \mathrm{cwt}$. as compared with $8,568 \mathrm{cwt}$. in 1929. Guysboro county, where the shore catch was greatly reduced, was responsible for the decrease.

Pollock.-The total catch was 17,997 ewt., having a landed value of $\$ 17,435$ and a marketed value of $\$ 26,311$, as compared with a catch of $11,659 \mathrm{cwt}$., having a landed value of $\$ 10,708$ and a marketed value of $\$ 17,370$ for the previous year, showing an increase of $6,358 \mathrm{cwt}$. in the catch, $\$ 6,727$ in the landed value and $\$ 8,941$ in the marketed value. Of the total catch $2,709 \mathrm{cwt}$. were produced by inshore fishermen as compared with 1,909 cwt. in the previous year. The increase is due mostly to heavy landings at Halifax from offshore grounds.

Halibut.-The total catch was $5,447 \mathrm{cwt}$. having a landed value of $\$ 66,630$ and a marketed value of $\$ 105,103$, as compared with a catch of 6,541 , having a landed value of $\$ 84,567$ and a marketed value of $\$ 146,036$ for 1929 , showing a decrease of $1,094 \mathrm{cwt}$. in the catch, $\$ 17,937$ in the landed value and $\$ 40,933$ in the marketed value. Of the catch, $1,964 \mathrm{cwt}$. were taken inshore as compared with 2,001 cwt. in 1929. The decrease was general with the exception of Guysboro county west, which shows an increase of 364 cwt.

Herring.-The total catch was $45,412 \mathrm{cwt}$., having a landed value of $\$ 50,913$ and a marketed value of $\$ 90,885$, as compared with a catch of 72,222 cwt., having a landed value of $\$ 74,295$ and a marketed value of $\$ 188,637$ for the previous year, showing a decrease of $26,810 \mathrm{cwt}$. in the catch, $\$ 23,382$ in the landed value and $\$ 97,752$ in the marketed value.

The fishery was almost a failure and the catch is the lowest for the past six years. Halifax and Guysboro counties are entirely responsible for the decrease, while the catch in Antigonish and Cumberland counties shows slight increases of 250 cwt . and $2,500 \mathrm{cwt}$., respectively.

Prices for pickled herring were low and there was no great inducement for fishermen to cure their catches. The quantity pickled was $4,953 \mathrm{bbls}$. , as compared with 8,605 bbls. during the previous year.

Mackerel.-The total catch was $53,243 \mathrm{cwt}$., having a landed value of $\$ 146,029$ and a marketed value of $\$ 194,085$, as compared with $37,496 \mathrm{cwt}$., having a landed value of $\$ 108,284$ and a marketed value of $\$ 156,362$ for the previous year, showing an increase of $15,747 \mathrm{ewt}$. in the catch, $\$ 37,745$ in the landed value and $\$ 37,723$ in the marketed value. Halifax county west is responsible for the increase and the catch there was 25,904 cwt., as compared with 11,471 cwt. in 1929. Of the total catch 15,489 barrels were salted as compared with 11,564 barrels in 1929.

Salmon.-The total catch was $6,275 \mathrm{cwt}$., having a landed value of $\$ 82,432$ and a marketed value of $\$ 193,011$, as compared with a catch of 3,303 ewt., having a landed value of $\$ 56,977$ and a marketed value of $\$ 113,526$ for 1929 , showing an increase of $2,972 \mathrm{cwt}$. in the catch, $\$ 25,455$ in the landed value and $\$ 79,485$ in the marketed value.

While the increase was general in all salmon fishing districts, it was more noticeable in Antigonish county, where the catch increased by $1,161 \mathrm{cwt}$. Substantial increases were also made in Guysboro, and Halifax, while the bay of Fundy section also shows a slight increase.

Market conditions were not good and prices were much lower than obtained during the previous year. Substantial competition from Newfoundland had to be faced in both the Canadian and United States markets. Fishermen of Antigonish county shipped 1,438 cwt. through their own co-operative association and, during the latter part of the season, found a satisfactory market in Toronto.

With the exception of 1926 , when $7,545 \mathrm{cwt}$. were taken, the 1930 catch is the largest on record.

Tuna.-The total catch was $1,686 \mathrm{cwt}$., having a landed value of $\$ 5,130$. and a marketed value of $\$ 8,230$, as compared with 1,454 cwt., having a landed value of $\$ 9,212$ and a marketed value of $\$ 21,810$, showing an increase of 232 . cwt., but a decrease in landed value of $\$ 4,082$ and in the marketed value of $\$ 13,580$.

The catch is the largest since 1923 but market conditions were such that there was little profit for fishermen or dealers. The entire catch is taken in St. Margaret's bay.

Swordfish.-The total catch was $1,396 \mathrm{cwt}$., having a landed value of $\$ 14,394$ and a marketed value of $\$ 20,212$, as compared with 1,114 cwt., having a landed value of $\$ 10,561$ and a marketed value of $\$ 31,624$ for 1929 , showing an increase of 282 cwt . in the catch, $\$ 3,833$ in the landed value, but a decrease of $\$ 11,142$ in the marketed value.

The increase is due to Guysboro county east, where 922 cwt . were taken as compared with 428 cwt . the previous year. The fish appeared early and the run was short.

Flounders.-The catch of flounders was 450 cwt., as compared with 780 cwt., showing a decrease of 330 cwt .

Skate.-The catch of skate was 1,809 cwt., as compared with $1,598 \mathrm{cwt}$. for 1929 , showing an increase of 211 cwt .

Soles.-The catch was 10,584 cwt., as compared with $9,659 \mathrm{cwt}$. for the previous year, showing an increase of 825 cwt .

Catfish.-The catch amounted to 1,132 cwt., as compared with 637 cwt. for 1929 , which shows an increase of 495 cwt.

Clams.-The total catch was 2,929 brls., having a landed value of $\$ 3,162$ and a marketed value of $\$ 15,716$, as compared with a catch of 8,755 brls., $\$ 8,975$ in the landed value and $\$ 43,441$ in the marketed value for the previous year, showing a decrease of 5,826 brls. in the eatch, $\$ 5,813$ in the landed value and $\$ 27,434$ in the marketed value.

The decrease is not due to depleted beds or scarcity of clams but to the fact that the clam cannery at Musquodoboit harbour only operated a short period as the increased tariff on canned clams entering the United States almost prohibits the sale of this product in that country. Only 2,330 eases were packed as compared with 8,259 cases in 1929 . There are inexhaustible clam areas at Musquodoboit, Petpeswick and Clam harbours, which could supply. a number of large canneries if markets could be found for their output.

Oysters.-The total catch was 982 brls., having a landed value of $\$ 7,211$ and a marketed value of $\$ 9,625$, as compared with 681 brls., having a landed value of $\$ 5,393$ and a marketed value of $\$ 6,880$ for 1929 , showing an increase in the catch of 291 brls., $\$ 1,718$ in the landed value and $\$ 2,745$ in the marketed value.

This fishery had a somewhat better production than for the past few years. In this district it is confined to beds at Tracadie, Merigomish, Caribou, Tatamagouche, Wallace and Pugwash waters, but little can be loped for in the way of development until the beds are cleaned and properly seeded.

Lobsters.-The total catch of lobsters was 98,783 cwt., having a landed value of $\$ 733,049$ and a marketed value of $\$ 1,306,096$, as compared with a catch of 88,841 cwt., having a landed value of $\$ 813,283$ and a marketed value of $\$ 1,407,792$ for 1929 , showing a substantial increase in the catch of 9,342 cwt. but a decrease of $\$ 80,234$ in the landed ralue and $\$ 101,696$ in the marketed value, due to much lower prices obtaining for both the fresh and canned article.

It will be observed that the catch and pack for 1930 are by far the largest on record, and that the increase for the year over 1929 is quite general, except 36710-4
in the eastern section of Guysboro county. The Northumberland Strait section accounts for almost the entire increase, while the Atlantic section, which had large increases in 1927, 1928 and 1929, just about held its own in 1930.

As far as volume of production is concerned, the industry is in a flourishing condition, but, owing to market conditions, both for fresh and canned goods, prices have been greatly reduced and in this respect the outlook for 1931 is not bright.

Forty-five canneries were operated as compared with fifty-one in 1929, forty-eight in 1928 and fifty in 1927. Altogether, 36,030 cases of 48 pounds each were packed as compared with 33,944 , an increase of 2,086 cases. Shipments in shell were $34,130 \mathrm{cwt}$. as compared with $32,771 \mathrm{cwt}$. in 1929 ; an increase of 1,359 cwt., while 1,091 cwt. less of lobsters were brought into this district from outside points than in the previous year.
District No. 3-Comprising the Counties of Lunenburg, Queens, Shelburne, Yarmouth, Digby, Annapolis and Kings-Supervisor H. H. Marshall

The total of all kinds of fish taken within the district for the year was $1,344,962$ cwts. and 24,271 barrels, with a value of $\$ 3,690,494$, as compared with $1,578,447$ cwts. and 22,688 barrels, with a value of $\$ 4,140,555$ for the year 1929. This shows a decrease of 233,485 cwts., an increase of 1,583 barrels, and a decrease in value of $\$ 450,061$.

The following comprisons show the catch and value of the more important kinds of fish taken in 1930 and 1929.

Cod.-The catch of cod was 694,872 cwt., valued at $\$ 1,332,303$, as compared with 920,319 cwt., valued at $\$ 1,873,484$ for the previous year. This shows a decrease of $225,447 \mathrm{cwt}$. and a decrease in value of $\$ 541,181$.

Haddock.-The catch of haddock was 188,801 cwt., valued at $\$ 387,562$, as compared with 208,346 cwt., valued at $\$ 388,244$, for 1929 . This shows a decrease of $19,545 \mathrm{cwt}$. in the catch and $\$ 682$ in the value.

Hake and Cusk.-The catch amounted to 169,367 cwt., valued at $\$ 119,796$, as compared with 165,401 cwt., valued at $\$ 127,463$ for the previous year. This shows an increase of $3,966 \mathrm{cwt}$. in the catch and $\$ 7,667$ in the value.

Halibut.-The catch of halibut was 17,282 cwt., valued at $\$ 222,813$, as compared with a catch of $20,413 \mathrm{cwt}$., valued at $\$ 279,403$, for the previous year. This shows a decrease of $3,131 \mathrm{cwt}$. in the catch and a decrease of $\$ 56,590$ in the landed value.

Herring.-The catch of herring was 119,635 cwt., valued at $\$ 119,235$, as compared with $124,427 \mathrm{cwt}$., valued at $\$ 141,341$, for 1929 . This shows a decrease of $4,792 \mathrm{cwt}$. in the catch and $\$ 22,106$ in the value.

Mackerel.-The catch of mackerel was 24,955 cwt., valued at $\$ 74,418$, as compared with 20,454 cwt., valued at $\$ 68,509$, for last year. This shows an increase of $4,501 \mathrm{cwt}$. in the catch and $\$ 5,909$ in the value.

Salmon.-The catch of salmon was 1,903 cwt., with a value of $\$ 39,532$, as compared with $1,040 \mathrm{cwt}$., valued at $\$ 24,445$, for the previous year. This shows an increase of 863 cwt . in the catch and $\$ 5,087$ in the landed value.

Scallops.-The catch of scallops was 16,488 barrels, valued at $\$ 76,476$, as compared with 16,856 barrels, valued at $\$ 99,670$, for the previous year. This shows a decrease of 368 barrels in the catch and $\$ 23,194$ in the value. Scallops apparently were very plentiful in the Bay of Fundy and Chester districts, more so than last year, but the prices received were so very low that there was no encouragement to the fishermen to carry on the same extensive fishing as in the past.

Lobsters.-The catch of lobsters was 68,855 cwt., with a value of $\$ 1,207,982$, as compared with 59,411 cwt., valued at $\$ 1,006,226$, for 1929 . This shows an increase of $9,444 \mathrm{cwt}$. in the catch and $\$ 201,756$ in the value.

## SPORT FISHING

With regard to trout and salmon fishing by sport fishermen in our rivers and inland waters: Such fishing was good during the early part of the season but later on the water in the rivers became very low. The drought, which lasted throughout the whole fishing season affected sport fishing most adversely. The season was a very hard one, particularly on trout, as they collected in deeper pools for self preservation, and the water afterward became very stagnant and the fish suffered accordingly, many being found dead in the waters throughout practically the whole district.

## FISH COLLECTION SERVICE

During the year new ventures were made in fish collection by inaugurating lobster, swordfish and halibut collection services.

The swordfish-halibut service in operation in the island of Cape Breton, covering that portion of the island from Petit de Grat, Richmond county, to bay St. Lawrence, Victoria county, was put into effect on August 5 and carried on until September 10. The Nova III was employed to carry fish from Louisburg; Little Lorraine, Mainadieu, Morien, Glace Bay, Ingonish, Neil's harbour, Dingwall, Bay St. Lawrence and White point to North Sydney, where the fish were held in cold storage until the arrival of the Nova $I$ and Nova $I V$, the latter boats sailing from North Sydney and collecting fish at Petit de Grat and other ports along the mainland, and going thence to Boston.

The statement shown below gives the quantities of fish collected by the Nova III and carried to North Sydney:-

| Name of port | Swordfish | Cod | Total |
| :---: | :---: | :---: | :---: |
|  | lbs. | lbs. | lbs. |
| Louisburg. | 15,893 | 4,060 | 19,953 |
| Little Lorraine. | 3,902 |  | 3,902 |
| Mainadieu. | 15,972 |  | 15,972 |
| Morien.... | 5,494 |  | 5,494 |
| Glace Bay. | 87,194 |  | 87,194 |
| Ingonish. | 61,594 |  | 61,594 |
| Neil's Hbr. | 8.755 |  | 8,755 |
| Dingwall. | 8,031 |  | 8,041 |
| Bay St. Lawrence. | 2,705 |  | 2,705 |
| White Point. | 1,552 |  | 1,552 |
|  |  |  | 215,152 |

Towards the close of the season the Nova III made a trip from North Sydney to Boston with a cargo of swordfish.

The following is a statement of the quantities of fish from North Sydney and Petit de Grat carried by the Nova boats $I, I I I$ and $I V$ to Boston:SWORDFISH

| - | Nova I | Nova III | Nova IV |
| :---: | :---: | :---: | :---: |
|  | lb . | 1 l . | 1 l . |
| North Sydney. Petit de Grat. | $\begin{array}{r} 116,072 \\ 2,257 \end{array}$ | 6,300 300 | $\begin{array}{r} 100,678 \\ 15,814 \end{array}$ |
| Totals.. | 118,329 | 6,600 | 116,492 |
| TUNA |  |  |  |
| North Sydney. Petit de Grat.. |  |  | 806 |
|  | 1,940 | ............. | 800 |
|  | 2,137 | .......... | 806 |

There was thus a total of 241,421 pounds of swordfish and 2,943 pounds of tuna.

Though the fishermen at Louisburg, Lorraine, Bauleine and Mainadieu did not avail themselves of this service to any great extent, still they reaped considerable price benefit from it. The fishermen who shipped from Petit de Grat received better returns than those who sold locally.

The local collection services from shore points to centres such as Canso and Halifax were not carried on to such an extent as in the previous year. This was due to market conditions.

In the eastern part of the mainland 67,454 pounds of swordfish were collected and 10,359 pounds of halibut.

The quantity of fresh fish carried during 1930 was much less than in the two previous years. This was due to market conditions, as previously stated, and to the small demand for shore fish by the central firms during the season, The Maritime Fish Corporation, which formerly operated a large manufacturing plant at Canso, only used it as a smacking station and the manufacturing and shipping was done from the Port Hawkesbury plant. This. was also the case with Leonard Fisheries, Limited, and as both Hawkesbury plants have comparatively small capacities, and supplies to meet their requirements could be secured by local collections, there was little demand for fish brought in from Guysborough county. The Mitchell and McNeil plant, which operated at the Halifax Cold Storage in 1929, and took care of the fish carried by the Liscomb to Halifax service in that year, did not operate in 1930, consequently, there was no outlet and this service was not operated. Notwithstanding these conditions, and in view of a strong demand from shore communities, the following services were operated:-

1. From Cole harbour, Port Felix, Whitehead, Raspberry, Dover to Hawkesbury, July 28 to August 28-one boat, 49,201 pounds.
2. From Cole harbour, Port Felix to Hawkesbury-November 20 to December 14-74,988 pounds.
3. From Port Beckerton, Drumhead, Coddles harbour to HawkesburyOctober 13 to December 24-460,841 pounds.
While these results may not compare favourably with other years, it should be remembered that there was no other outlet for the fishermen's catches except by salting and, with prevailing prices, curing was not profitable during the latter months of the year. Furthermore, it would not have been possible to carry on fishing without the collection service, as no bait was available on the shore.

A lobster collection service was started in a more or less experimental way in April, as it had not been considered by those in the industry that lobsters could be carried from Eastern Shore points to Boston by dry smack and delivered there in good condition. The results were highly satisfactory to the fishermen and even with low prices obtaining the net returns were considerably greater than would otherwise have been secured.

Four Nova boats were operated in this lobster service and the coast from L'Ardoise to Sober island covered. A total of 3,616 crates were carried in 19 trips at a rate of $\$ 3$ per crate. Empty crates were returned free of charge. Twenty-one ports were served and from others, where calls could not be made, fishermen brought their own shipments to connect with the collecting boats.

As in any new venture, the service had many difficulties to overcome, but, on the whole, the results were highiy satisfactory and fishermen have voluntarily stated that they gained from $\$ 10$ to $\$ 15$ per crate in shipping by the service.

## LUNENBURG FLEET

The Lunenburg Bank fishing fleet experienced the worst season in many years. The catch of the fleet has been decreasing the past five years, due to the fact that the number of vessels operating is continually getting smaller. The catch in 1930 dropped 70,000 quintals, as compared with the returns for 1929. The total quantity landed from the frozen bait, spring and summer trips, aggregated only 140,780 quintals, as compared with 208,700 quintals last year. The value of the catch was about $\$ 500,000$ less than in 1929 and only about half of that of the 1928 season. Prices received ranged from $\$ 5$ to $\$ 7$ per quintal. Sixty-four vessels operated this year while last year seventy-one sailed for the banks. Though engaged in salt fishing for almost a century Lunenburg is now developing a valuable fresh-fishery, and several vessels are thus engaged.

The catch of the frozen bait trip for 1930 amounted to 18,180 quintals, landed by 48 vessels, as compared with a catch of 30,125 quintals, landed by 59 vessels, during the 1929 season.

The spring catch amounted to 42,200 quintals, landed by 58 vessels and 4 handliners, as compared with a catch of 56,875 quintals, landed by 65 vessels and 5 handliners, for the corresponding period of 1929.

The summer catch of 64 vessels and 4 handliners amounted to 80,400 quintals, as compared with a catch of 121,700 quintals, landed by 66 vessels and 5 handliners, for the corresponding trip of 1929.

The highliner for the season was the Shirley B. Corkum, with a eatch of 3,450 quintals, the Marion and Gladys being next, with a catch of 3,175 quintals, followed by the Pauline Winters, with a catch of 3,150 quintals.

Only four handliners operated during the season as compared with five during the 1929 season. The average per handliner was 2,137 quintals as compared with an average of 2,496 during the 1929 season. The Rex Perry was highliner.

FISHERIES EXHIBITION
The Fisheries Exhibition at Lunenburg, the first of its kind to be held in Canada, which was inaugurated in 1929, was again resumed in 1930. The exhibition was held during the first week in October and was very largely attended.

The exhibits, which were all directly or indirectly connected with the fishing industry, were numerous. The Department of Fisheries had several displays. A very interesting display was shown by the Fish Culture Branch in the form of specimens of live trout and salmon in various stages of development. The Atlantic Fisheries Experimental Station at Halifax gave a demonstration of brine freezing. Specimens were also placed before the visitors by the department of various kinds of fish taken from inshore and offshore waters.

It is felt that as long as the larger companies engaged in the fishing industry continue to take such an active interest in creating attractive booths this unique exhibition will always hold the interest of the public and will become more and more popular.
bonus on hair seals-destruction of hatr seals
Since the year 1927 a bounty has been paid to the fishermen for the destruction of hair seals The first year this bounty was in operation the sum of $\$ 3.50$ for the destruction of each hair seal was paid on production of the necessary evidence of killing. This amount was again paid during the 1928-29 season, with good results, and there was an increase in the number of hair seals taken. At the beginning of the $1929-30$ season the rate was reduced to $\$ 2.50$, but in spite of the iact that a smaller bounty was being paid the number of
claims presented during the year was somewhat greater than during the two previous years. During the $1930-31$ season the rate of $\$ 2.50$ was continued and the number of seals destroyed was much less than during the 1929-30 and 1928-29 seasons.

A considerable falling off in claims during the month of June took place, and there was also quite a decrease in the months of May and July.

The counties in the eastern section of the mainland show the largest number of claims paid.

The following is a statement showing the total number of seals killed annually since a bonus has been in operation:-


The total amount expended in seal bounty in the province in 1930 was $\$ 7,432.50$, and the amounts paid in the several districts were as follows:-


Since the bounty became effective in 1927, 12,068 seal claims have been turned in. There is no doubt that a considerably larger number of seals were actually destroyed, as in many cases the hunters are unable to recover the bodies in order to secure the snouts which must be turned in as evidence that the seals have been killed before the bounty is paid by the fishery officer for the district. It is very much in the interest of the fishermen of the province that the number of seals be controlled as these creatures do much damage in such valuable fisheries as the salmon and smelt fisheries.

CONFERENCE OF ALL SEA FISHERY OFFICERS IN THE MARITIME PROVINCES
A conference of all Sea Fishery officers in the Maritime Provinces for the discussion of questions pertaining to the carrying out of their duties particularly, and to the fisheries generally, was held at the Board of Trade rooms at Halifax on January 9 and 10, 1930, under the chairmanship of Mr. J. J. Cowie, Director of Fisheries Promotion and Inspection.

A number of officers were asked to prepare and read papers on the subjects mentioned below:-
"How Fishery Officers should be utilized for Educational and Demonstration Work."
"Carrying out Provisions of the Fish Inspection Act from a later Fishery Overseer's point of view."
"How to Prevent Illegal Fishing in the Sea or Tidal Waters more Effectively."
"How to Prevent Illegal Fishing in Non-Tidal Waters more Effectively."
"How Dr. Knight's Plan for Inspecting and Grading Lobster Canneries should be Applied."
"The Advisability of giving to each Lobster Cannery a Permanent Licence Number, and of Stamping Such Number on All Cans for Export."
"The Collection of Fishery Statistics."
"Should Fishery Officers Give More Time to Outside Work and Less to Office Work?"
Delegates were also present from various fish and game associations.
Various matters dealing with the administration of the fisheries were discussed by the officers of the departhent, members of the fish and game associations and representatives of the fish trade. It was felt that the conference served a very useful purpose.

BROADCAST OF FISHERIES INFORMATION AND BAIT REPORTING SERVICE
The daily fisheries radio broadcast service covering fisheries information, bait reports, etc., which was inaugurated in 1928, was again resumed on the first of April and continued throughout the year. This service has proved increasingly useful to persons engaged or interested in the fisheries. The information was collected from all parts of the province by telegraph and telephone, and reports compiled by the Halifax office of the Department of Fisheries and broadcast twice daily from the Louisburg Marconi station and the Halifax lightship. The information collected was also rebroadcast on the Banks from the C.G.S. Arras which is equipped with a 100 watt I.C.W. transmitter.

The general opinion is that this service is of great advantage to the fishermen and the fishing industry, and many favourable comments have been received with regard to the value of this service from the captains of the Bank fishing fleet and others engaged directly or indirectly in the fishing industry.

The items broadcast include information with regard to weather conditions, ice reports, bait reports, prices paid for fish, news items and urgent information such as loss of life, illness in the families of fishermen and other information of interest to the men engaged in the Canadian bank fishing fleet. Important messages were transmitted by the owners of vessels to their captains by means of this service. The service offers unlimited possibilities for the future, and constitutes a means by which various members of the fleet can keep in touch with fishery matters in the outside world.

## FORMATION OF THE UNITED MARITIME FISHERMEN

On June 25 and 26 a convention was held in the Masonic Hall at Halifax of the fishermen's associations through the provinces of Nova Scotia, New Brunswick, Prince Edward Island, and the Magdalen Islands. This convention was for the purpose of amalgamating the different associations into one, which is now known as the United Maritime Fishermen. Dr. M. M. Coady, who had been engaged in work for the department as Promoter of Fishermen's Organizations, was the chairman.

The convention was largely attended by delegates from the different fishermen's unions. Fisheries supervisors from the different Maritime Provinces were present as well as their inspectors, and the meetings were also attended by Dr. W. A. Found, Deputy Minister of Fisheries, Ottawa, Mr. J. J. Cowie, Director of Fisheries Promotion and Inspection, and Mr. H. F. S. Paisley, Director of Fisheries Intelligence and Publicity, Ottawa.

The objects of the United Maritime Fishermen, as outlined in the constitution and by-laws, are:-
(1) The study and practice of the principles of co-operation in our industrial activities.
(2) To further the interests of the fishermen and fisherworkers in all branches of the fishing industry.
(3) To promote and secure necessary and just legislation.
(4) To promote social intercourse, a higher standard of community life and the study of economic and social questions bearing on our interests as fishermen and citizens.
(5) To settle disputes between members without recourse to law whenever possible.
(6) To take into consideration any member's case or grievance, hardship or litigation and to defend our members as far as it may be possible and just.
(7) To use the influence of the association to promote the well-being of the Maritime provinces and the Dominion.

To assist the delegates in their initial convention, the minutes of the meeting, records, etc., were compiled by members of the staff of the Halifax office of the Eastern Fisheries Division, Department of Fisheries.

## Steam Trawlers

Six steam trawlers operated during the year as compared with eight in 1929 and eleven in 1928.

| Name of vessel | Time engaged | Port operated from |
| :---: | :---: | :---: |
| Loubyrne. | January-December. | Halifax and Port |
|  | January-December.. | $\underset{\text { Hawkesbury. }}{\text { Halitax }}$ |
| Venosta.... | January-December. | Halifax |
| $V$ Viernoe | January-December.. | Halifax |
| St. Cuthbert. | January-December. | Halifax |
| Lemberg. | January-December.. |  |

## River and Inland Fisheries

The 1930 season was the driest for a great many years, and rivers and streams were low throughout the summer and autumn months. These conditions, of course, were not favourable for sport fishing. While salmon were more plentiful on the coast, and in harbours and tidal portions of rivers, they had little opportunity to ascend the streams. The upper reaches of rivers became very low, with quite high temperature, and there was heavy loss of young salmon and trout under these conditions.

Trout fishing was good during the spring months, and the run of sea trout above normal. Lake fishing was fair throughout the season. Salmon sport fishing was not successful as there was not sufficient flow of water to attract these fish to ascend the rivers in numbers during the season except at times following the infrequent rains, and those that did ascend would not often rise to a fly.

The catch of salmon on the Margaree was slightly less than that of last year, 248 salmon being taken as compared with 274 in 1929. The decrease in the catch this year was partly due to the fact that very few salmon entered the Margaree in June, as they did not reach the estuary until the latter days of that month. The season also closed fifteen days earlier than in past years which would also account; to some extent, for the smaller catch. Although salmon were plentiful on the coast near the river very few of them ascended in July and August, due, no doubt, to the exceptionally clear, warm condition of the water. caused by the dry season.

Large numbers of salmon entered Little river in June and anglers who fished this river in June and the early part of July landed good catches. The number of salmon landed in Little River, Cheticamp, was 146, as compared with 95 for the season 1929. Good catches were taken in this river in June.

Trout fishing was fairly good in the Margaree river and its tributaries from the latter part of May until the middle of July. The number of sportsmen angling in the waters of lake Ainslie is increasing from year to year. Fish of good quality and fair size were taken in these waters throughout the entire 1930 season. Trout were fairly plentiful in Lower Middle river, Victoria county. A trout weighing $4 \frac{3}{4}$ pounds was landed at Indian brook, St. Ann's. Satisfactory catches of trout were landed in Warren's and Clyburn's brooks, Ingonish, in July and August. Trout were not so'plentiful in the North Aspy river, along the breakwater, as they were in 1929.

The number of trout landed in the Margaree was about 1,700 and the number taken in Little river was about 650 .

In Halifax county west, during the early part of the season, more trout were taken than in the previous year, but the shortage of water was a great handicap to anglers in most of the streams. It was impossible for fish to move up or down and the water in the streams became stagnant and warm, so that fish would not take either bait or fly. The catch as reported is about 75 per cent of that for the previous year. In Halifax county east salmon and trout were not as plentiful in the rivers this season as last on account of less water. This was probably the driest season for forty years, and even in the latter part of October the harbours were alive with salmon waiting for an opportunity to ascend the rivers to spawn. Eighty cwts. of salmon were taken by fly fishermen as compared with 90 cwts. during the 1929 season. Large quantities of trout were taken in the harbours in the early part of the season by anglers, 175 cwts. , as compared with 90 ewts. for 1929.

In Guysboro county west (which is probably the best section on the eastern part of the mainland for angling), the sport catch of salmon decreased 248 , the comparison being 366 this year as against 614 last year. These figures were made up as follows:-

|  | 1930 | 1929 |
| :---: | :---: | :---: |
| St. Marys river | 245 | 444 |
| Gaspereau brook | 22 | 35 |
| Ecum Secum river | 57 | 72 |
| Country Harbor river. | 16 | 23 |
| Isaacs Harbor river | 26 | 40 |
|  | 366 | 614 |

In Guysboro county east similar conditions obtained. The rainfall was not in sufficient quantities to enable fish to pass up-stream until the season closed. Most of the angling in this district is done by local sportsmen.

In Antigonish county sea trout were very plentiful, in fact there was the best fishing in history. During the month of April something like five cwt. of sea trout were taken by angling with hook and worm at the head of the harbour. During May some two cwt. were taken by hook and worm, and during June only about one cwt. was taken with hook and fly. June is generally conceded to be the best fly fishing month, but, owing to the very dry weather in 1930 , the rivers were very low and fishing was poor. One hundred pounds were taken in July and September, while none were taken in August. The total catch of trout was nine cwt. as compared with fourteen cw.t. for 1929.

Angling in Pictou county was seriously handicapped by the scarcity of water. Small streams were completely dried up and the larger streams were very low, being dry for certain stretches with a pool here and there. Because of these conditions a great number of trout were lost.

In Cumberland county the catch was greatly reduced on account of low water.

In Colchester and Hants counties the catch of trout was 61 cwt . as compared with 96 cwt. for 1929. A great many trout died in brooks and rivers. Some brooks dried completely.

In Lunenburg county salmon were numerous along the coast waters and in the rivers, but angling was not as good as might have been expected. This was due to the dry weather early in the year when the water became low and stagrant, and unfavourable for angling.

Anglers met with less success than usual in the waters of the Medway river, Queens county, due to low water conditions.

The rivers in Shelburne county, with the exception of the Barrington river, were practically dry.

In Yarmouth county the salmon catch was less than half that for the previous season, while the trout catch was almost double. Eight cwt. of salmon were taken as compared with 19 cwt . for 1929 and 22 cwt . of trout, as compared with 13 cwt. for 1929.

In Amapolis county the catch of trout shows a falling off, due to low water conditions.

In Digby county the lakes and rivers during the summer were very low on account of the dry weather.

It is to be feared that the dry weather which prevailed throughout the whole province during the 1930 season will have a serious effeet on the distributions of fry and fingerlings made in the various waters.

## FISHERIES PATROL SERVICE

The Mildred McColl was placed in commission April 10, and carried on patrol work on the Atilantic coast until June when she was transferred to the Northumberland Strait section and Captain Williams took over the patrol boat Thresher at Wallace on June 28. The Mildred McColl was recrewed and patrolled the Northumberland Strait section until laid up on November 30.

The Thresher, which is a new boat, was built for fishery patrol service. She now patrols the district formerly covered by the Mildred McColl and the McColl was transferred to the Northumberland Straits district. The dimensions of the Thresher are as follows:-

Length-Sixty feet.
Breadth moulded-Twelve feet six inches.
Depth moulded top of keel to top of beam at side-About eight feet.
Draught extreme aft-About five feet three inches.
The boat is equipped with a 140 B.H.P. engine.
The Thresher made her first patrol on June 28 along the coast from Piatou to Guysboro. A constant patrol was carried on along the coast of Guysboro and Halifax counties in order to prevent illegal fishing. She was also engaged in the placing of boundary lines at Cole harbour, taking bounty claims, settling disputes among the net fishermen, issuing lobster fishing licences for the fall lobster season opening on December 1 , and in patrolling the closed district during the close season.

The Capelin was built at Wallace by the Cumberland Shipyards for the fishery patrol service. Her dimensions are as follows:-

Length-Sixty feet.
Breadth moulded-Twelve feet six inches.
Depth moulded top of keel to top of beam at side-About eight feet.
Draught extreme aft-About five feest three inches.
She has a 140 B.H.P. engine.
The Capelin commenced patrol work in the western part of Nova Scotia in the district formerly patrolled by the F.P.1. A continuous patrol was carried on until December 1 when she took up the work of acting as a mother ship to the scallop fleet in the Digby-Annapolis district.

## SCALLOP INVESTIGATION

A boat was built for the department by the Lunenburg Foundry Company for the purpose of carrying on scallop investigation work. This boat was christened the A. Halkett and her dimensions are as follows:-

Length-Sixty feet:
Breadth moulded-Twelve feet six inches.
Depth moulded top of keel to top of berm at side-About eight feet.
Draught extreme aft-About five feet three inches.
This boat is equipped with a 110 to 150 H.P. engine, gasolene.

The A. Halkett commenced scallop investigation work about the middle of June. The area along the south shore was patrolled but no new beds were discovered. Operations were also carried on in the St. Margaret's bay and Sambro districts where it was thought scallops might be found. No scallops were found. The bottom was found to be so rocky in the Sambro area that it was impossible to use a rake. Investigation work was carried on until November 15, and after that date the A. Halkett. was engaged in general patrol work in Lunenburg county. She was laid up at Lunenburg at the end of December.

## FISHERIES CRUISER SERVICE (INCLUDING HALIFAX SERVICE)

The Arras laid up towards the end of January at Yarmouth for annual repair and was again ready for service the first week of May. Early in June she left for the Grand Banks where she joined the fishing fleet and acted as a hospital ship during the summer months.

The service rendered by the Arras as a hospital ship has been a great value to the fishing fleet, and Dr. Webster, who has been employed as medical officer for the past five years on this ship, has shown a keen interest in the work. The report submitted by him at the close of the season covering medical services reads in part as follows:-
"Two hundred and eighty-five men were treated for various complaints, happily few of a serious character. Following is a summary of the work:-

| Total number of new | 285 |
| :---: | :---: |
| Total number of calls | 372 |
| Minor operations | 29 |
| Conveyed to hospital | 3 |

"The work was curtailed this summer by the wide distribution of the fleet in their zearch for bait and the return of the majority of the vessels to Nova Scotia in the early part of August. This resulted in a reduction of 18 as compared with last season's service of 303. We had budgeted for about 400 , allowing for the increase which we have annually cared for.
"I endeavoured ${ }^{\circ}$ to pursue some investigations on the hand infections among the fishermen, through the facilities kindly extended by the department. It was a remarkable observation that coincident with the searcity of bait and fish hand infections practically disappeared. Whereas in some former seasons I have treated as many as sixty of such cases, this summer there were only two, and these of a mild character. Squid, also, were practically absent from the fishing grounds and ports but the work should be continued as it is a most fertile field for investigations and keen interest was manifested by all concerned. I shall be only happy to pass on what small data I have collected to anyone interested or who may take up this work in the future.
"I am still of the opinion that the Arras is unsuitable for the work and should be superseded by a more suitable and more capable craft.
"The judicious use of brass chains on the wrists appears to be a large factor in the reduction of infections resulting from chafing by the edge of the oilskin. Of the fourteen cases seen this summer, eleven wore no chains. Infection is more liable in rainy or foggy weather when the fish gurry and such things will be washed down the sleeve on to the broken skin of the chafed wrist.
"Dietary troubles are common among our fishing vessels, the majority being long standing cases, and a large number of these (especially among the Newfoundland members of the crews) having wretched dental equipment, leading to the inevitable gastric upset. I have seen several men with no teeth and no plates and several with so few teeth that mastication is impossible.
"I must again speak highly of Captain Barkhouse and the officers and crew of the ship for their co-operation in the medical service."

The Arras returned from the banks in September and carried on the usual patrol work during the remainder of the year.

The Arleux, in command of Captain Cousins, was laid up at Lunenburg for annual overhaul and repairs on April 1 and was again placed in commission May 28. On resuming her work her first duty was the towing of the oyster dredge Ostrea II to Charlottetown, P.E.I. On her return to Nova Scotia, the

Arleux was actively engaged in general patrol work along the coast. She assisted in the celebration of Dominion Day at Shelburne, and also at the fisheries exhibition held at Lunenburg at the first of October.

The Arleux was also employed as a mother ship to the haddock fishing fleets of Canso, Arichat, Petit de Grat and vicinity from November 15 to January 20.

Very excellent service was provided by this vessel throughout the year in ice breaking, assisting disabled vessels, and in patrolling the coastal waters of the province.

## REMOVAL OF OBSTRUETIONS IN INLAND WATERS

During the year obstructions were removed in the following streams and lakes in order to make it possible for salmon, trout and gaspereau to ascend to their spawning grounds:-

Baddeck bay, McInnis pond, Benacadie river, Calvin brook, Gillis brook, Gaspereau river, Huntington's brook, Trout river, Black river, McAskill brook, streams between Browns, Whites and Grand lakes, Howard's brook, Tangier river, Porter's lake, St. Andrew's river, Jordan river, Tusket river, Payzant's brook, Bear river, Round Hill river, Round Bay brook, Dunn's brook, and Dunn's lake. The amount expended in this connection was $\$ 2,133.70$.

The rainfall during the year throughout the province was very light, resulting in the worst conditions that have been experienced for many years. More and more attention is being given each year to the matter of obstructions in inland waters, and the streams, rivers and lakes are regularly inspected in order that the passage of fish may not be impeded.

## CHECKING OF STEAM TRAWLER LANDINGS

In accordance with an order in council of October 30, 1930, and subsequent instructions received from the department, all steam trawler landings were checked from April 1st to December 31st. At various times throughout that period six trawlers were landing at Halifax, and one at Port Hawkesbury. The checking involved a considerable amount of work, and occupied the time of thie checkers from hours varying from four a.m. until midnight and later, depending upon the arrival of the trawlers:

## LOSS OF LIFE

Ten fishermen in western Nova Scotia lost their lives while prosecuting their calling during the year-six in Lunenburg county, one in Queens county, one in Shelburne county and two in Yarmouth county. Two Cape Breton fishermen were also drowned and one off the Gulf shore, Cumberland county.

## LICENCES ISSUED

Licences in the following numbers were issued during the year:-
Lobster fishing ..... 8,217
Lobster, pound ..... 18
Salmon gill-net or drift-net ..... 726
Salmon trap-net, pound-net or weir ..... 505
Salmon net permits ..... 41
Smelt gill-net ..... 553
Smelt bag-net ..... 317
Herring weir ..... 65
Drag seine ..... 162
Oyster ..... 308
Scallop ..... 127
Trap-net ..... 280
Shad gill-net or drift-net ..... 8
Quahaug ..... 2
Angling permits ..... 1,169
Certificates F. 12 ..... 337

## PROSECUTIONS

During the year there were seventy-seven prosecutions for violation of the fishery regulations. Eight took place in District No. 1, thirty-seven in District No. 2, and thirty-two in District No. 3. (Statements showing details in connection with the prosecutions referred to are shown in Appendix No. 12.)

CONFISCATIONS
During the year 171 confiscations were made. The materials confiscated consisted of lobster traps, various types of nets, small boats, one motor boat, gafis, fire baskets, snares, anchors, spears, lobster pots, lobsters, salmon, etc.

## REPORT OF SUPERVISOR J. F. CALDER, DISTRICT No. 1, NEW BRUNSWICK, FOR 1930-31

District No. 1, New Brunswick, is made up of Charlotte, Saint John and Albert counties, and the bay of Fundy watershed of Westmorland county.

The following statement shows the catches of fish and marketed values for the past year:-


The marketed value for 1930 was $\$ 1,931,771$ as against $\$ 2,810,404$ for 1929 , or a decrease of $\$ 878,633$. This large decrease was due to a scarcity of some varieties of fish, absolute inability to market certain kinds during a large portion of the season, as well as to a general and, in most cases, very material lessening of prices for the product. The sardine industry had a very poor year, With a falling off of $\$ 583,502$ as compared with the value of the output for the previous year. This decrease accounts for about two-thirds of the whole decline in value.

## COD

A very marked falling off is to be noted in the catch of cod as compared with both 1929 and 1928. In 1928, 22,158 cwts. were taken, 19,601 cwts. in 1929 and only 11,315 cwts. during the present year. Cod were very scarce throughout the whole 1930 season.

## HADDOCK

There was a great falling off in the haddock catches as compared with 1928 and 1929: 28,164 cwts. were taken in 1928, $26,164 \mathrm{cwts}$. in 1929 and only 12,716 cwts. during 1930. The catch for the present year was less than one-half of that for 1929. There was a fair run during the early summer months, but the fall and early winter fishery, which is generally very good, was a practical failure. The failure of the haddock fishery was particularly hard on the island of Campobello, as most of the haddock fishing is done from that centre.

## HAKE

An average catch of hake was made during the vear- 76,867 cwts. Of course, this compares rather unfavourably with the catch for the previous year-115,623 cwts.-but the catch that year was phenomenal. Then again, the price which was paid to the fishermen in 1930 was so low-from fifty to sixty cents per one hundred pounds-that there was no inducement to engage in the fishery except at such times as the fish were fairly plentiful.

## POLLOCK

An increase is to be noted in the pollock catch for the present year12,894 cwts. as against $8,466 \mathrm{cwts}$. for the previous year. While it is gratifying to be able to record a slight increase in the catch of pollock, the catch was very small in comparison with that of fifteen or twenty years ago. However, the trend was in an upward direction and it is to be sincerely hoped that the improvement will continue, as the pollock fishery is a very important one to Grand Manan, Campobello and Deer island. Its loss to these communities during recent years has very seriously affected their well-being.

## Flounders

There was a considerable increase in the flounder catch as compared with 1929 and 1,283 cwt. were taken as against 861 cwt . for the previous year. This increase was due to the catches made by two small draggers which operated for a portion of the season.

## SMALL DRAGGER OPERATIONS

"Small dragger" licences were granted to two sloops in the course of the year. One boat began operations in Passamaquoddy bay during the latter part of October, the other operating principally off Welchpool, Campobello, during the month of December. While the basic idea in granting a licence to the sloop which operated in Passamaquoddy bay was to encourage a development in the flounder fishery, if possible, actual fishing showed that the real increase in catch was being made in the haddock fishery rather than the flounder fishery, as ten pounds of haddock were being taken to every pound of flounders. The boat operated until the latter part of December and altogether landed 586 cwt. of haddock and 58 cwt . flounder. The sloop operating off Campobello took 115 cwt. flounders and only 3 cwt . haddock and cod.

As pointed out in previous annual reports for this district, four or five flounder draggers from Rockland, Maine, operate successfully each fall off Eastport, Maine, which is just across the international boundary line opposite

Campobello island, but the experience of the Canadian sloop operating off Welchpool in 1930 did not indicate attractive possibilities in flounder fishing under present conditions, as there is a very limited market available for these fish. The Canadian market will take only a comparatively small quantity. The principal market that was found by the sloop in question was in New York. The fish had to be forwarded by express and the express charges on the fish, packages and ice and United States Custom duties amount to so much that use can only be made of that market when comparatively high prices are being paid for the product. A few of the first shipments netted as high as 4 cents per pound, but no returns at all were received for quite large shipments that were made during the latter part of December as the price obtained was only sufficient to cover the charges.

Dragger licences for the two boats expired on December 31. The Campobello Island Board of Trade made vigorous protest to the Department against any renewal of the licences-not so much on account of the bearing on the flounder fishery but because of the anticipated effect on the haddock fishery, particularly from the marketing standpoint. There has been no renewal of these licences during the present season.

## FERRING

A slight falling off is to be noticed in the catch of herring as compared with the previous year- 196,789 cwt. as against 205,505 cwt. for 1929. A large decrease. is to be noted in the value of the catch for 1930 as compared with that of 1929$\$ 123,899$ as against $\$ 232,822$. This decrease in value is due to the demoralization of the smoked herring market. Our smoked herring industry is confined to the island of Grand Manan. The major portion of the pack is sold to the West Indian islands in eighteen-pound boxes. For a number of years previous to 1930, a selling co-operative association had been maintained at Grand Manan which handled in the vicinity of 85 or 90 per cent of the output. The association succeeded fairly well in stabilizing the market by regulating the quantities which were sent out from time to time, and preventing unnecessary slashing of prices by the producers in order to obtain a quick market. Of course, the few who remained outside of the organization were always able to dispose of all their stocks very early in the season and at prices only slightly less than those being obtained through the association. This had the effect of depleting the ranks of the organization from time to time, as well as increasing the amount of goods which were placed on the market in competition with the co-operative. Added to this, economic conditions in the West India islands became very acute. This combination of circumstances halted the co-operative and the smoked herring industry of Grand Manan island suffered in consequence.

During the latter part of the summer the District Supervisor accompanied Dr. M. M. Coady to Grand Manan island for the purpose of consideration of the matter of reviving the co-operative association. While Dr. Coady was gladly welcomed to the island and made a very favourable impression on all who came in contact with him, with regard to the advantages of co-operative. marketing no immediate practical results were obtained, as the chief sponsors for the movement were of the opinion that in order to be effective and to continue being so, they must have a 100 per cent pool.

## SARDINES

The catch of sardine herring in 1930 was only a little over 50 per cent of that of 1929-129,429 barrels in 1930 and 249,156 barrels in 1929. The large decrease was not really due to a scarcity of fish but rather to the fact that the

United States canneries were closed down for a large portion of the season and that the pack made by our own canneries was considerably less than for the previous year.

During the summer the superviser accompanied Dr. Coady to a meeting of the Deer Island sardine weir fishermen, who had made urgent request to the department that Dr. Coady should hold a meeting at that place. While the meeting was fairly well attended and keen interest displayed in the advantages of co-operative marketing as outlined by Dr. Coady, no organization was effected.

## ALEWIVES

There is very little to be noted in connection with the alewives catch for the present year when $29,930 \mathrm{cwts}$. were taken as against $32,820 \mathrm{cwt}$. for the previous year. However, there was a slight increase in the price of salt alewives. The total value of the catch for 1930 was $\$ 57,638$ as against $\$ 50,420$ for the previous year.

## SALMON

A record catch of salmon was made during the year- $-6,041$ ewts. as against $3,025 \mathrm{cwt}$. during the previous year.

This phenomenally large increase in the catch was made without any increase in the number of boats engaged in the fishery. Not only were the catches made by the fishermen exceptionally large, but very heavy runs ascended the rivers for the purpose of spawning. They were well protected while there. This very satisfactory combination of factors ought to be productive of lasting benefit to the fishery.

## SHAD

A slight falling off is again to be noted in the shad fishery: $1,931 \mathrm{cwt}$. were taken during the present year as against 2,261 cwt. for 1929 and 2,388 cwt. for 1928.

## CLAMS

A considerable falling off is to be noticed in the results of the clam industry as compared with the previous year- 16,623 barrels with a marketed value of $\$ 73,186$ were taken during the present year, while 22,946 barrels were taken in 1929 with a marketed value of $\$ 112,539$. The new United States tariff bill went into effect during the year with the anticipated adverse effect upon the clam canning industry. The practical exclusion of our canned clams from the United States markets has hurt the industry very much.

## LOBSTERS

A gratifying increase in the lobster catch is to be noted for the present year- $\mathbf{7 , 9 1 8}$ cwts., as against 6,774 cwts. for the previous year. Of course, falling prices affected the value return of this branch of the fishing industry as was the case in most others, with the result that while there was a considerable increase in the catch, there was an actual shrinkage in value of over $\$ 41,000$.
fish livers, fish oil, herring oll, fish skins, bones, herring scales, fish meai
The value of these products was $\$ 82,302$ for the present year, as compared with $\$ 102,316$ for the previous year. While there was a considerable falling off in most cases in this branch of the industry, a considerable increase is to be noted in the value of fish meal- $\$ 40,299$ for the present year as against $\$ 29,223$ for 1929. The herring oil and fish meal is all produced at one sardine plant. Most of the meal is made from fish waste, but during the present year a considerable amount was made from raw fish, particularly during the period when a bonus was being paid to the fishermen for fish which were so processed. The following short table gives details of these operations:-
Fish livers ..... \$13,887
Fish oil ..... 20,476
Herring oil ..... 6,617
Fish skins and bones ..... 576
Herring scales ..... 447
Fish meal ..... 40,299
Total ..... $\$ 82,302$
CO-OPERATIVES

There were no co-operatives in operation in this district during the present year.

## BRINE-FREEZING PLANTS

During the latter part of the season a company at St. Andrews installed a brine-freezing plant. They have started operations on a small scale with frozen haddock fillets in one-pound blocks. They are putting out a very attractive, wholesome article which is being very favourably received by the local market. Further developments are awaited with interest.

## FISH FAIR

On recommendation of the Campobello Island Board of Trade, grants of $\$ 300$ each were obtained from the Dominion and Provincial Governments towards defraying the expenses of a Fish Fair for Charlotte county. This fund was augmented by numerous private subscriptions.

The exhibition was held at Wilson's beach on September 4th. It was a complete success. The fishery exhibits were splendid and received unstinted praise from the very large number of visitors who were present. Prominent men in the Government of the province, as well as from the neighbouring city of Eastport, Maine, spoke at an open-air meeting which was held during the afternoon.

The following table covers the issue of licences, certificates, etc., and prosecutions during the year:-

|  | Kind of lieence | Number |
| :---: | :---: | :---: |
| Herring weir |  | 622 |
| Lobster fishing |  | 347 |
| Lolster pounds |  |  |
| Permits to dig clams |  | 127 |
| Salmou drift-uet |  | 89 |
| Shad gill-net |  | 1 |
| Herring seine |  | 8 |
| ${ }_{\text {Scallop }}$ |  | 11 |
| Confiscations |  | 52 |
| Prosecutions |  |  |

## REPORT OF SUPERVISOR A. L. BARRY, DISTRICT NO. 2, NEW BRUNSWICK, FOR 1930-31

(District No. 2 embraces the tidal waters of Restigouche county, Gloucester county, Northumberland county (except Northwest and Southwest Miramichi), Kent county, and the Northumberland strait side of Westmorland county.)

For the calendar year 1930, the fisheries of the district showed a total landed value of $\$ 1,809,114$, or $\$ 128,525$ less than the value for 1929 . The decrease is not surprising in view of the general price conditions in all products.
36710-5

The following table shows the catch and landed value of the different fisheries for this district for the years 1929 and 1930 -


## LOBSTERS

As in 1929, there was again an increase in lobster catch in 1930. The 1930 landings exceeded those for the previous year by approximately 7,000 cwts. The pack was 32,034 cases as compared with 27,763 cases in 1929. Nearly 12,000 cwts. were disposed of in the shell or as lobster meat. A considerable part of the live lobster trade is now done by motor trucks which carry the live or boiled lobsters to the inland towns and cities of New Brunswick and the State of Maine. The number of canneries operated during the year was 99 , a decrease of 12, The major decrease was in Miscou and Shippegan islands.

In Westmorland county, some 40 fishermen, a local of the Maritime fishermen's association, handicapped by the fact that the cannery in their community was not going to operate, which would necessitate their selling their lobsters to more distant canneries probably at a low price, organized a co-operative body and took over the cannery. They hired a good manager and it is reported realized nine cents per pound for their small lobsters. Both the canned and live lobster markets are yet in a very demoralized condition with little prospect of any improvement for 1931.

## SMELTS

There was a decrease of about $9,000 \mathrm{cwts}$. in smelt catch. This followed on a decrease in catch of $12,000 \mathrm{cwts}$. for the year previous. For some reason or other, the last two years have not produced the large early catches of smelts. It was rather fortunately so last fall as it is believed that, had there been a large catch, they must have spoiled owing to the depressed market and the warm weather which precluded any possibility of freezing in a natural state, and as all the freezers along this coast were out of ice and the fish could not have been taken care of by cold storage. Prices to the fishermen dropped nearly to one-half of those of the previous year, from six to eight cents being paid.

Last fall the fishermen sustained the most severe loss in smelt fishing history when about 1,750 nets were carried away at different times owing to the breaking up of the ice in the Miramichi river and bay. Only a very small percentage of these were recovered. The loss is estimated at between $\$ 130,000$ and $\$ 140,000$.

## SALMON

The salmon catch in this district was nearly double that of the year before and the price was good throughout the fishing season. The number of set-nets remained practically the same but there was an increase of 14 drift-boats in the Miramichi waters. The river fishermen did not benefit proportionately from the increased catch. No conclusive reason has been advanced for this falling off in the river catch. The fall run of salmon was, as in the past three or four years, very heavy.

On account of the unemployment condition many attempts were made at illegal fishing with the result that nearly 100 nets were taken in the Miramichi river alone, from Newcastle eastward. The work of the officers and guardians during this trying period deserves commendation.

The low water in the smaller rivers in October found hundreds of salmon in the pools unable to make their way farther up. Additional guardians were used for their protection until rains came to facilitate their ascent up the rivers. It is noted with satisfaction that the salmon fishery seems to be on the up trend again, the 1930 catch being the greatest since 1917.

## cod

For some unexplained reason the cod apparently did not come on this coast this year in the usual numbers. There was a decrease of 50,000 cwts. in catch with a proportionate decrease in value. Fairly good prices for dried cod were obtainable throughout the year owing to the decreased eatch.

During the summer and fall, a cod splitting and curing instructor was employed the the Government in the Hardwicke area of Miramichi bay, breaking the fishermen into a new industry for that section of the coast. Excellent cod grounds are located five to ten miles from the shore. It is hoped to have more fishermen engage in the industry in the future years to fill a break in fishing activities between July 31, when the salmon fishing stops, and the 1st of October, when oyster fishing begins. The instructor employed by the department in Gloucester county during the past two years is accomplishing much in the way of an improved cure among the cod fishermen.

## OYSTERS

The oyster catch remained about the same as in the previous year but the market conditions were poor, the price averaging about $\$ 4.50$ per barrel, a decrease of about 30 per cent. During the year the Department of Lands and Mines, Fredericton, granted three or four leases of barren bottom in Miramichi bay for oyster cultivation.

## TOMCODS

There was a decrease of about 9,000 cwts. in the catch as compared with the previous year. Prices also decreased considerably. There is only a limited market, particularly in Montreal, and when the season opened on the 1st of December the fishermen were able to take only the tail-end of the tomcod run going up the river on their way to spawn. The market in previous years Was able to absorb the catch, leaving an opportunity for marketing the downrun catch commencing about the 15 th of January. Since the opening of the 36710-53
smelt fishing season on November 25, there is practically no demand for the down-run of tomcods. The bulk of the catch is taken between Newcastle and Chatham on the Miramichi river.

## CLAMS AND QUAHAUGS

There was an increase of about 700 barrels in landings, and a proportionate increase in price. About half the clam catch is used as bait by the cod fishermen.

MACKEREL
The catch of this fish was less than half of 1929 catch. Poor market conditions were mainly responsible.

## ALEWIVES

There was a slight increase in the alewives catch, which was 1,200 owts. A strict inspection of salted alewives was carried out under the new Fishery Inspection Act. Considerable educational work is being carried out among the alewive fishermen to improve the quality of their catch.

## HAKE

There was a slight decrease in the hake catch but a considerable increase in value. The increased value was accounted for by the scarcity of cod during the year.

## HADDOCK

The catch in the haddock fishery fell from 1,457 cwts. to 487 cwts. All the catch is dry salted.

## SHAD

There was a decrease of about 500 ewts. in the catch of shad, but the proportionate value was somewhat better than in the year previous. No explanation is known for the decrease in the run of this fishery.

## HAIR SEALS

Bounties of $\$ 1,130$ were paid for 452 hair seal noses during the year. The payment of bounties is proving effective in promoting the destruction of these pests. The salmon fishermen report that there is not nearly the same amount of damage to their nets as in former years.

## anguing

Angling on the Restigouche was reported good, in the Nepisiquit fair, with the exception of the grilse fishing which was excellent, but in the Miramichi waters angling generally was poor for salmon. Grilse are taken in large quartities when the run is on.

## PROTECTION

From the standpoint of fishery protection, 1930 has been the most satisfactory for many years. In the past considerable difficulty was experienced in keeping the fishermen in check for about three weeks before the opening of the lobster season. Stern measures have been taken during the past three of four years with the result that-during 1930 only two fishermen were known to have commenced operations before the opening date. The case was similar as regards the smelt fishing in the fall. Last November waters were reported clear of rigging up to the opening date. The speedy shallow draught patrol boats with crews living aboard and available for duty at all hours have been
a great deterrent to illegal fishing. The crews are backed by the better class of fishermen and are looked upon as a help to the fishermen instead of as a police force yielding the big club over their heads.

It is true there were many violations of the salmon fishery regulations during September and October. This may be attributed to the unemployment situation which left hundreds of men along the rivers with nothing to do when the rivers were teeming with the fall run of salmon. In all about 100 nets were taken in 20 miles of the Miramichi river. The officers and guardians were fully alive to the situation and although many nets were found and seized it is not believed there was much destruction of the salmon, a regular patrol being maintained night and day.

## CONFISCATIONS

There were 155 confiscations for the year, mostly made up of seizures of salmon nets and lobster gear. Sales of confiscated property amounted to $\$ 180.80$. There were ten prosecutions during the year for offences as follows: Breach of the oyster regulations, four; breach of the salmon regulations, five; breach of the lobster regulations, one. The fines collected amounted to $\$ 69$.

## FISHERY ORGANIZATIONS

Increased interest is being taken in the district in the United Maritime Fishermen although in the parts of the district where need of an organization is not urgently felt there has been little effort on the part of the fishermen to get together. Some cases of new co-operative effort have occurred as, for example, the action of lobster fishermen at Aboujogan, Westmorland county, as mentioned above. The St. Thomas fishermen's local at St. Thomas, Kent, have also worked together to their mutual advantage for the marketing of smelts. A conference of all the smelt dealers and the larger individual smelt shippers to see if some central marketing system cannot be put into effect is a future possibility.

## EDCCATION

Some of the inspectors are keeping up an active educational campaign, mainly with individual fishermen. This is chiefly in the dry curing and pickling field. The inspector in Lower Caraquet area reports that about 60 per cent of the cod were bled last year and it is expected that more fishermen will follow this method in future. He states there was more cleanliness aboard the schooners and around the fish houses. Better attention is being paid to the selection of salt for curing.

## LOSS OF LIFE

It is regretted that there was some loss of life during the year. Two oyster fishermen at Buctouche were drowned when their boat was swamped. In the Caraquet area, in December, two smelt fishermen lost their lives by breaking through weak ice while trying to set out smelt fishing gear.

## LICENCES

There were 10,040 licences issued during the fiscal year as compared with 9,929 licences for the year 1929. They were as follows:-

| Salmon drift-net licences | 149 |
| :---: | :---: |
| Salmon trap-net or poun | 405 |
| Gaspereau pound-net | 62 |
| Lobster pound licences. | 6 |
| Lobster fishing licences. | 2,124 |
| Oyster fishing licences. | 1,021 |
| Quahaug fishing licences. | 47 |
| Bass fishery licences.. | 54 |
| Smelt bag-net licences. | 6,015 |
| Smelt gill-net licences. | 157 |
|  | 10,040 |

## REPORT OF SUPERVISOR H. E. HARRISON, DISTRICT NO. 3, NEW BRUNSWICK, FOR THE YEAR 1930-31

(District No. 3, New Brunswick, includes the counties of Kings, Queens, Sunbury, York, Carleton, Victoria and Madawaska, and the non-tidal waters of the Northwest and Southwest Miramichi rivers in Northumberland County.)

In three items alone were increases recorded in the quantity and value of fish taken in 1930, as compared with 1929 the gain amounting in all to 115 cwts. and $\$ 451$ in value. In eight items there was a decrease of $2,338 \mathrm{cwts}$. and $\$ 5,589$ in value.

The first alewives reported taken in the St. John river was on April 7, twelve days earlier than in 1929, and by the 19th Inspector Bell reported a large run on the lower St. John river, and a price of . 02 cents per fish. On April 24 excellent fresh-from-the-sea salmon were taken nearly 100 miles in from St. John harbour, and during the week of May $18-24$ some shad had reached nearly 100 miles up the river. On June 3, shad were taken at Grand Falls, 225 miles or more in from Saint John. That was very early for shad to reach that area. Towards the last of May some salmon were being taken in trap-nets in the Northwest Miramichi but none were taken in the southwest until the first of June, when some shad also appeared.

The total weight and value of the catch of commercial fish for the years 1929 and 1930 were as follows:-


This shows a considerable falling off in each respect in 1930, but if it were evenly distributed amongst the large number of fishermen it would not be felt seriously. It was $2,683 \mathrm{cwts}$. and $\$ 10,615$ better than in 1928 .

The individual catches, and values, as shown for 1930 by the various officers were as follows:-

ALEWIVES (FRESH AND SALTED)


In recent years the alewife fishery has been largely confined to the Miramichi river area, and has not been very prosperous so far as financial returns to the fishermen are concerned. The cost of outfitting, together with an uncertain market, helps to keep this fishery within comparatively narrow bounds. A fair price for salted alewives would cause it to expand in both the St. John and Miramichi rivers areas.

## BASS

The bass fishery of both the Northwest Miramichi and the St. John rivers is of small proportions at present although the catch was 17 cwts. in 1930, as against 8 cwts. in 1929.

The quantity of eels taken in $1930^{\prime}$ fell to 95 cwts. as against 140 cwts. in 1929 , and 420 cwts . in 1928 . The price ranged from $\$ 3$ per cwt . on the St. John river to $\$ 6$ in the Miramichi river area.

## MULLETS

The catch of mullets, coarse fish, fell off again in 1930 to the extent of 134 cwts. or nearly 50 per cent and in the value to $\$ 402$ less than in 1929. There is a place for the mullet, apart from human food, for which it is not used very much in this province, in the baiting of eel pots as well as fox and mink food. Numerous applications have been made in recent years to allow nets to be set in the smaller rivers to take mullets for the latter purposes, but as this fish frequents streams already frequented by trout and, sometimes, salmon permission has not been given.

## PICKEREL

The pickerel fishery has been one of the important fisheries of the St. John river area for many years, none apparently being in the waters of the east and north shores rivers. The results of 1930 and 1929 operations were as follows:-

| 1929 | 333 cwts. | \$4,259 |
| :---: | :---: | :---: |
| 1930 | 270 " | 3,240 |

This shows a decline of 63 cwts. in catch and $\$ 1,019$ in value in 1930, and there was a decline of 117 cwts . and $\$ 1,591$ in 1929 as compared with 1928. This fishery is generally the third most important in the St. John River area, coming next to shad, and very often surpassing that fishery, and it has surpassed the salmon fishery in value. The reduced catch in 1930 was in Kings and part of Queens counties.

SALMON

| 1929 | 1,130 cwts. | \$25,271 |
| :---: | :---: | :---: |
| 1930 | 1,231 | 25,572 |

A very healthy condition was shown in this fishery in the St. John river area in 1930, while the reverse was the case so far as the Northwest and Southwest Miramichi rivers were concerned. For the latter area there was a loss of 173 cwts. and $\$ 4,076$ in value, while the St. John river area showed a gain of 274 cwts. and $\$ 4,377$ in value. There was a net gain for the whole district of 101 cwts. and $\$ 301$ in value. The quantity gain is more satisfactory than the financial increase. It was a remarkable season on the St. John river, and very pleasing to all concerned. Looking over some previous records, the earliest that is in this office being that for the year 1892, some interesting statistics are found. Taking ten-year periods, the records show the following, in hundredweights of salmon taken in the St. John river area: 1892,$469 ; 1902,841 ; 1912,578 ; 1922$, 657 ; then to 1929,891 ; and $1930,1,185$. It will be observed that in 1902 the amount is rather abnormal, in comparison with the years up to 1929. In May, 1902, when I first took this office, the staff of fishery overseers and guardians was exceedingly small, and much disorganized as a result of sickness and death among former supervisory officers. The disorganization made it difficult to get very close to facts and the figures for 1902 may not have been too close to facts; however, it may have been an abnormal season, and the figures approximately correct. Up to and including the year 1918, all fish taken were included in the commercial fisheries' figures, but in 1919 only those taken in nets, weirs or traps were to be classed as "commercial" and all taken by anglers classed as "domestic"; therefore, leaving out the St. Croix and Miramichi rivers areas, to make a comparison fair, the catches by anglers, for the years 1922, 1929 and 1930, have been added here to the quantities taken by net fishermen, both only covering the St. John river area. The commercial salmon catch alone, for this area and these years, was: 1922,$424 ; 1929,658$ and 1930,932 cwts.

The spring and early summer catch in 1930 was not very heavy in the tidal area, while the limited-period fishing in June and part of July was excellent in the non-tidal area. Conditions were completely reversed during the latter part
of July and up to August 15, when netting ceased. Conditions were not so good on the Southwest and Northwest Miramichi rivers. The total commercial catches were 472 cwts. in 1929 and only 299 cwts. in 1930 . Price fell off about $\$ 3$ per cwt, in both areas. A few very large salmon were taken on the St. John river, one being up to 40 pounds.


This fishery dropped off 25 per cent from 1929 figures with a small decrease in value. However, there were more than enough shad taken to supply the market that could be conveniently reached by truck during the comparatively short season that this fish is available in its fresh state. Comparatively few shad are salted now, possibly because fresh fish, of some sort, is available in almost every home. An analysis of the statistical reports shows that the two large tributaries of the St. John river-the Kennebecasis river area and the Washademoak lake area-were the large producers of shad in the St. John river area, while the extreme upper part of this river (Grand Falls) produced 50 cwts . for three shad nets as against 37 cwts . for the counties of Sunbury, York and Carleton, with 30 nets licensed. As a matter of fact the whole catch of shad on the St, John river is comparatively small, the Kennebecasis river and Washademoak lake producing the bulk of this fish for the St. John river area. The fact that such a catch was possible just below Grand Falls, in so few nets, of only a few fathoms each, indicates that there is not much to prevent the fish getting up this river, some 225 miles in from the mouth. The large catch at Grand Falls in 1930, compared with that of 1929, is partly explained in this way. In 1929 the three fishermen were unfortunate enough to have purchased net-webs with meshes just a bit under the legal size of five inches when in use; consequently, after they had been used one or two nights, the fishery officer seized them and the fishermen did not replace them that year, the shad fishing season being very short there at best. In the Northwest and Southwest Miramichi rivers area the catch was comparatively light- 630 cwts. with a value of $\$ 1,890$, compared with 1,568 cwts. and a value of $\$ 3,136$ in 1929 . Inspector Parks reports that shad did not appear in these waters until early in June, having been retarded by a heavy freshet just previously, or for some other cause. The Miramichi rivers area, however, produced much more than the local market could consume, as large quantities were peddled, by truck, in the upper St. John river valley, and the price was not very good. Shad were in splendid condition, generally very large and fat.

STURGEON

| 1929 | 29 ewts. | \$725 |
| :---: | :---: | :---: |
| 1930 | 15 " | 300 |

The sturgeon fishery has amounted to little during recent years, and only 50 pounds of caviar were taken in 1930.

Whitefish are taken in a very limited quantity at present. For some years now the supply in Baker Lake appears to be small, and for the whole St. John river area the catch was down to 15 cwts. in 1930 as against 22 cwts. in 1929 . This fish is of very fine flavour, and is considered quite a luxury.

DOMESTIC FISHERIES

| 1929 | 736 cwts . | \$13,845 |
| :---: | :---: | :---: |
| 1930 | 939 " | ,795 |

It gives satisfaction and pleasurel to show the figures as to domestic fisheries results. Combining the commercial and the domestic fisheries for 1930 we have a total of 9,560 cwts. with an approximate value of $\$ 63,586$. It is of considerable satisfaction to know that the inland fisheries of this province
do not show retrogression. While it is true that the combined catches and values in 1930 show less than in 1929 by $2,021 \mathrm{cwts}$. and $\$ 2,188$ in value, the loss is largely accounted for in the alewives fishery alone, with shad coming next, and it would seem that the difference, for those two years, could be made up very easily if there were remunerative markets for those two years, could be remunerative easily if there were remunerative markets for those two species of fish. Considering domestic fish alone, the betterment was very substantial in 1930. It will be observed that there was a large increase in the quantity of salmon taken; Inspector Parks reports a 200 per cent increase in the catch on the southwest Miramichi river for the season. When questioned regarding this the officer stated that a large part of the increase was made up through the catches of salmon in the early spring-kelts descending the river--but that a substantial part was of fresh-run fish, although there are more anglers each season and some of them spend much of the season fishing. A considerable number of United States residents are purchasing camp sites along the river; some of them buying considerable blocks of land and building extensive, and expensive camps. In addition, the native guides are handling more fishing parties each season, and are building larger and better camps for this purpose.

The principal reason for concentration on the Southwest Miramichi river is that it is difficult, and becoming more so, for non-resident anglers to get in on other waters, apart from the St. John, parts of which are now becoming very good salmon angling waters, presumably because of the increased number of salmon coming into this river. The land bordering the Southwest Miramichi river is granted land and consequently cannot be sold or leased excepting by the owners, so fishing is more open. A lease from the Government requires the lessee to employ guardians, or wardens, to give that particular portion of water proper protection but the lessees do not always do so, which is not fair to those holding other stretches for fishing on the same river, or adjoining rivers.

The angling on the Northwest Miramichi was good in spots and at periods in 1930. All the good angling water of this river and tributaries is leased. The quantity taken was approximately as in 1929.

Portions of the St. John river showed up exceedingly well in 1930. At the first pool (Hartt's island), in tidal water, less salmon were taken by anglers than in one or two previous seasons, but, because of water, or other conditions, the angling area was much larger and splendid fishing was had all across the river, more than a mile in width, and the largest number of fish ever taken in that area was caught in 1930. There was also good angling at other places between this first pool and the Tobique river, and exceedingly good fishing in the immediate vicinity of the mouth of the latter river.

Including the St. John and Tobique rivers the approximate increased take by anglers was 98 cwts . more than in 1929, while the increase by net fishermen was 274 cwts. Anglers took more than 25 per cent of the combined catches. Returns show an exceedingly good rod and line catch in Victoria county, above the netting area. The figures for rod and line caught salmon in Victoria county in 1929 totalled 99 cwts. while those for 1930 showed 173 cwts.

There was a considerable decrease reported in the catch of trout, amounting to 54 cwts. This is not surprising in view of conditions in 1929, when large numbers of trout were literally burned up because of streams going practically dry during the summer and fall, and somewhat similar conditions prevailed in 1930, in at least some parts of this district. It may be that 1931 will show a similar falling off in the catch of trout. The hatcheries operated by the department are of immense value in keeping up the supply of both salmon and trout. Natural hatching conditions are not nearly as good as they were some years ago, with stream areas denuded of trees and only rains to keep the waters in some of the smaller streams after the early spring freshet has run off.

The various sub-district officers have had their usual troubles, salmon poachers, and attempted poaching, being the heavy part of the work in this district. Water pollution is a very minor matter now. An occasional case of pollution happens but the rivers, streams and lakes are clean of mills pollution There was a considerable number of men and boys out of employment in 1930 and this condition perhaps tended to increase attempts at poaching. The greatest difficulty in preventing offending of this kind is in the Northwest and Southwest Miramichi rivers area, and the latter is the most difficult in the district to control. Inspector Parks is tireless in his efforts to protect salmon in their ascent to the upper waters. The Provincial Government had two guardians on patrol on the Southwest Miramichi river for a time in 1930, with very fair results. There are a few places on the St. John river that require constant and efficient attention also, from spring till fall, but the quantity of salmon taken illegally from this river has been small in recent years.

## PROSECUTIONS

Twenty-six prosecutions were conducted during the year, six for streams pollution and twenty for illegal fishing. A warrant is still in the hands of the Provincial Police force for execution for an offence committed in 1929. Another offender left the province before he could be brought into court, and, of course, some offenders were not apprehended at all. Altogether $\$ 360$ was paid in fines; $\$ 170$ was imposed in suspended sentences, and one fine of $\$ 20$ has not yet been collected by the magistrate. In addition two fines of $\$ 50$ each, imposed in 1929, were paid in 1930.

## CONFISCATIONS

Eighty-three confiscations were made, seventy-seven of which were of nets of some sort, both twine and woven wire, covering 117 such nets in all. The other confiscations were a boat, spears and torches and salmon. Fiftyseven of the confiscations were by Inspector Parks and the balance by Inspectors McNally, Bell and Kilpatrick. Forty-eight salmon and grilse confiscated by Inspector Parks were given to the Salvation Army in Newcastle; practically all of the materials seized were destroyed.

## FISHWAYS

There are eleven fishways in this district, on rivers or streams wholly within the district, and two on the United States side of an international river, the St. Croix. The fishway on the St. Croix, at Forest City, was rebuilt in the fall of 1930, too late to see results. It had been on the Canadian side of the river and was changed to get deeper water at the lower end. The fishway in the dam on the Nashwaak river at Marysville was altered in the fall of 1930, and was made successful, many hundreds of salmon and grilse passing up it. These fishways are mostly for salmon.

## FISHERY LICENCES

The following licences and permits were issued during the year:-

| Kind of licence or permit | 1929 | 1930 |
| :---: | :---: | :---: |
| Salmon gill-net or drift-net.. | 112 | 141 |
| Salmon pound-net, trap-net or weir | 100 | 1109 |
| Shad gill-net or dritt-net.. | 160 249 | 270 |
| Gaspereau pound-net or trap-net. | 16 | 18 |
| Bass fishery. | 36 | 28 |
| Sturgeon fishery.. | 11 | ${ }^{6}$ |
| Whitefish fishery | 15 | ${ }^{23}$ |

## REvENUE

Revenue from all sources was as follows:-


REPORT OF SUPERVISOR S. T. GALLANT, PROVINCE OF PRINCE EDWARD ISLAND, AND THE MAGDALEN ISLANDS, FOR THE YEAR 1930-31.

The total marketed value of the fisheries of the province of Prince Edward Island for the year 1930 is below that of 1929 . The following table shows the eatch and marketed values:-

| Kinds of fish |  | Quantity caught | Marketed value |
| :---: | :---: | :---: | :---: |
|  |  |  | \$ |
| Cod. | cwt. | 66,255 | 153,160 |
| Haddock. |  | 1,502 | 4,832 |
| Hake and cusk. | " | 16,617 | 24,895 |
| Herring. | " | 49,818 | 78,411 |
| Mackerel. | ، | 10,591 | 49,948 |
| Alewives. |  | 30 | 60 |
| Salmon. |  | 106 | 2,110 |
| Smelts. | * | 7,789 | 63,828 |
| Blackfish. | " | 330 | 1,320 |
| Caplin.. | brl. | 1,041 | 4,339 |
| Eels... | ewt. | 130 | 1,300 |
| Tomcod. |  | 1,352 | 3,268 |
| Quahaugs. | brl. | 3,506 | 9,289 |
| Clams..... |  | 1,422 | 6,783 |
| Lobsters and products. | cwt. | 80,820 | 802,847 |
| Canned. | cases | 31,935 | 634,247 |
| Tomalley |  | 456 | 5,261 |
| Sold in shell. | cwt. | 16,152 | 158,539 |
| Shelled meat. | " | 48 | 4,800 |
| Oysters. | brl. | 4,888 | 41,495 |
| Sounds.. | cwt. | 52 | 624 |
| Fur seals. | No. | 398 | 994 |
| Fish oil. | gal. | 5,770 | 1,731 |

## COD

There was an increase in the catch of cod and an increase in value. The catch by counties was as follows:-


Greater interest was taken by a number of the fishermen during the season in the dressing and curing of codfish, and better prices were obtained as a result. There was a good demand for the properly cured fish in the United States and in Nova Scotia. The fishermen who took the trouble to cure and dress their fish properly were well repaid for their efforts, receiving at least one cent more per pound for pickled fish. It is hoped that the improvements brought about by a number of the fishermen will be an incentive to further efforts in this regard in the future. The improvements brought about in the dressing and curing of fish may be attributed to the efforts of an expert instructor who was engaged by the department to assist the fishermen along these lines.

## HADDOCK

Prince Edward Island haddock are practically all sold fresh, and are in good demand by local consumers. There was a small decrease in the catch in 1930 and also a decrease in value. The catch by counties was as follows:-


## HAKE AND CUSK

There was a big decrease in the catch of hake and cusk, and also a decrease in value. This decrease may be attributed partly to the increased effort to catch cod instead of hake as there was a much better demand for the former. The catch by counties was as follows:-

| West Prince | 7,198 cwts. |
| :---: | :---: |
|  | 2,710 |
| Queens | 6,709 |

## HERRING

There was a small decrease in the catch of herring and also a decrease in value. The decrease in the catch occurred in the county of Kings. The quantity of fat herring caught was much smaller than last year; consequently, the entire catch, practically, was used for lobster bait and for fox feed.

The catch by counties was as follows:-

| West Prince | 18,120 cwts. |
| :---: | :---: |
| East Prince | 12,288 |
| Queens | 12,712 |
| Kings | 6,698 |

## MACKEREL,

There was a marked increase in the mackerel catch and a corresponding increase in the marketed value. The catch by counties was as follows:-


## SALMON

There was an increase in the catch of salmon and an increase in the marketed. value. The eatch of 106 cwt . was taken in Kings county.

## smelrs

There was a large decrease in the catch of smelts and in the marketed value. From the beginning the fish were scarce and continued so until the close of the season. It is difficult to account for this falling off in the smelt fishery since for the past two or three years large quantities have been noticed at the heads of all the streams in the spawning season; it would appear, there. fore, that on account of unusual weather conditions during the summer the fish remained out in the gulf as there were no storms to drive their food ashore. Following are the figures as to the 1930 eatch by counties:-

| West Prince | 490 | cwts. |
| :---: | :---: | :---: |
| East Prince | 2,165 |  |
| Queens | 4,431 | " |
| Kings | 703 | 6 |

## CLAMS AND QUAHAUGS

There was a large increase in the catch of clams and quahaugs and an increase in value. Producers who have been putting up quahaugs for the past two or three years had a much larger pack this season than last, and obtained
a ready sale for their goods. The canning of quahaugs provides considerable local employment, and when the fish are put up properly they are much superior to the longneck clams.

## LOBSTERS

There was an increase in the lobster catch but a decrease in the marketed value. The catch by counties was as follows:-

| West Prince | 19,304 | wts. |
| :---: | :---: | :---: |
| East Prince | 16,034 |  |
| Queens | 17,213 | " |
| Kings | 28,269 | " |

Fine weather prevailed during the entire season, which opened on May 1, and a much larger catch than the previous year resulted. The prices, however, of the canned product was about $\$ 5$ a case lower and that of the live lobsters from five to six cents per pound lower so that, notwithstanding the increased catch, there was a large decrease in the marketed value.

## OYSTERS

There was a small decrease in the landings of oysters, and also a decrease in the marketed value. The catch by counties was as follows:-


The decrease in the catch may be attributed to the fact that the buyers would accept nothing under $3 \frac{1}{2}$ inches although the regulations permit the marketing of 3 inch oysters. The demand for ovsters was not very good; consequently, a number of the fishermen gave up fishing in the middle of the season.

The work carried on in Bideford river by Dr. A. W. H. Needler, a scientist employed to investigate oyster conditions for the department, will show good results in the near future. The area is now well stocked with oysters and should yield a good catch during the season of 1931. Percival river yielded a fair catch this fall for the first time in ten or twelve years; Enmore river also yielded an increased catch while Grand river is also showing signs of a revival of this industry. East and West rivers, in Queens county, are well stocked with oysters. Vernon, Seal and Orwell rivers are also well stocked with small oysters. Some work was carried on in East river in preparing new oyster areas by clearing them of mud, spreading them over with dry shells, and planting them with small oysters which are in abundance below Cranberry whari for a distance of from two to three miles. From experiments carried on during the season of 1929 in transplanting some of these small oysters on growing areas, it was found that in one year fully fifty per cent of them were large enough to market so there appears to be an enormous field for development in East, West, Seal and Vernon rivers. All these rivers are well stocked with small oysters.

## fisheries protection service

During the season of 1930 there were eight patrol boats in the protective service and with their assistance and that of the inspectors and guardians all attempts at illegal fishing were successfully suppressed.

The total number of confiscations covering violations of the Fishery Regulations during the season of 1930 ( 82 seizures) was 39.

## CAPITAL INVESTED

The total capital invested was $\$ 1,008,441$, which covers lobster canneries, vessels, nets, wharves, lobster traps, ice houses, small fish houses, etc. The number of persons employed was 3,530 , divided as follows:-


MAGDALEN ISLANDS
The total marketed value of the fisheries of the Magdalen Islands for the year 1930 was below that of 1929. The following table shows the total catel and marketed values:-

| Kinds of fish |  | Quantity caught | Marketed values |
| :---: | :---: | :---: | :---: |
| Cod. | cwt. | 75,403 | $\stackrel{5}{5}$ |
| Cod liver oil. | gal. | 15,728 | 8,030 |
| Seal oil.... |  | 7,915 | 2,841 |
| Halibut. | cwt. | 45 | 250 |
| Herring. |  | 138,234 | 103,466 |
| Mackerel. | " | 30,694 | 98,434 |
| Smelts. |  | 638 | 7,306 |
| Eels... | "، | 120 | 849 |
| Clams. | brls. | 2,563 | 14,919 |
| Seals. | No. | 2,776 | 3,076 |
| Fish skins.. | cwit. | 120 | 330 |
| Fertilizer bones. |  | ${ }^{5}$ | 25 |
| Fish meal... | tons | 77.83 | 4,954 |
| Lobsters and products. | cwt. | 24,625 | 249,053 |
| Canned. | cases | 10,731 | 225,978 |
| Tomalley.... | ' | 154 | 1,884 |
| Sold in shell. | cwt. | 2,324 | 21,191 |

COD

There was a big increase in the catch of cod-and an increase in the marketed value. The quality of fish put up was better than that of last year, especially that put up under the supervision of Mr. P. Mercier, who was sent to the Magdalens by the department to instruct the fishermen how to put up fish under the method known as the "Gaspe cure." This fish is known on the market as slack-salted dry cod. Mr. Mercier arrived on the islands rather late in the season, but, nevertheless, was able to put up about 800 ewt. of this excellent quality of fish, which was absorbed by the New. York market. This quality rf fish is shipped principally to the New York and European markets. If all the fish caught in the Magdalen Islands were put up according to this method, the revenue from this fishery alone would be increased materially.

## HERRING

There was an increase in the catch of herring, but a decrease in value. The quantity of smoked herring produced was much below that of last year; hence the decrease in the marketed value.

## mackerel

There was an increase in the mackerel catch and in the marketed value. Hand lining was much better than it was the previous year; hence, a better quality of fish.

## SMELTS

There was quite a decrease in the catch of smelts and in the marketed value. It is difficult to understand how this decrease occurred this year, yet it is very much in line with the decrease in the catch in Prince Edward Island.

## clams

There was an increase in the catch of clams and a small increase in the marketed value.

## LOBSTERS

There was an increase in the catch of lobsters but a decrease in the marketed value. The decrease in the marketed value may be attributed to the lower price obtained for both the canned product and the lobsters sold in the shell.

> SEALS

There was an increase in the catch and in the marketed value of seals.

## bemarks

Communication with the Magdalens opened on April 17, which was much earlier than usual. SS. Lovatt gave satisfaction.

## CAPITAL INVESTED

The total capital invested during the year 1930, covering lobster canneries, vessels, nets, lobster traps, wharves, ice houses, small fish and smoke houses, ctc., was $\$ 679,019$. The number of males employed was 2,710 and the number of females 314.

## REPORT OF SUPERVISOR J. B. SKAPTASON, PROVINCE OF MANITOBA, FOR 1930-31

(The fisheries of Manitoba passed under provincial control in July, 1930, but the report of Superintendent Skaptason covers the full calendar year 1930.)

The total commercial production from the Manitoba fisheries for 1930 is $23,887,500$ pounds, as against $33,021,400$ pounds for 1929 , showing a decrease of $9,133,900$ pounds, although the number of men engaged increased from 4,693 to 4,779. The amount paid to fishermen at railheads and fishing stations dropped from $\$ 2,038,597$ to $\$ 1,376,108$, a net decrease of $\$ 662,489$, and values as marketed from $\$ 2,634,705$ to $\$ 1,760,395$, a drop of $\$ 874,310$. The above figures as to prices realized may become even worse when final disposal of frozen stock for November and December is recorded, as very considerable quantities are still in the hands of dealers and fishermen, with an extremely unfavourable outlook for markets. This stock has been valued at prices realized for that portion of the catch disposed of to the end of the year.

There are some primary causes to which the drop in production can be atiributed, other than depletion of waters.

First, it will be seen that the tullibee catch is cut almost in half, from $8,404,300$ to $4,749,900$, accounting for $3,654,400$ pounds shortage as compared with 1929 returns. This is partially owing to change in regulations doing away with fall fishing for tullibee in lake Winnipeg, which in 1929 produced 2,566,600 pounds as against 661,100 pounds produced in 1930 . Then a late freeze-up last fall lost to the fishermen the early run, always the most lucrative.

An important factor in the drop in production was in the market conditions which prevailed last summer and fall. During the whitefish operation on lake

Winnipeg (June 1 to August 15) it soon became evident that the markets would not absorb the catch, and rather than freeze and put large quantities in cold storage, most of the larger operators chose to cut down on the production. One company, the Manitoba Transport, pulled in half their outfit, thirteen sailboats and two steam tugs, at the end of June. Others limited their men to three lifts per week. The same condition prevailed through the fall season, so that while the men were at their camps there was not the customary inducement for energetic work and heavy production.

The following figures will show the fluctuations in catch and values, as marketed, of the principal varieties of fish for the two years 1929-30:-

|  sdt ni bloz ratedol arlt bus tomhozg ber | 1929 |  | 1930 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Quantity | Value as marketed | Quantity | Value as marketed |
| R.it | cwt. | \$ | cwt. | \$ |
| Catfish, | 116 | 1,205 | 339 | 3,213 |
| Goldey | 11, 105 | 82, 046 | - 5,745 | 45,676 |
| Merch. | 16,767 932 | 32,755 11,799 | 9,069 1,351 | $\xrightarrow{14,010}$ |
| Pickerel | 94,055 | 988, 563 | 72,285 | 609,510 |
| Pike. | 54,919 | 225,563 | 30,795 | 87,244 |
| Saugers | 8,181 | 63,478 | 8,961 | 62,472 |
| Trout. | 2,008 | 22,255 | Lav 1,377 | 14,690 |
| Tullibee | 84,043 | 586,655 | 47,499 | 369,674 |
| Whitefish | 58,903 | 616,604 | 61,382 | 536, 151 |

These figures show a slight increase in catish, perch, saugers, and whitefish, with a heavy decrease in all other varieties.

The following figures give production by years for six years past, together with values and numbers of men employed:-

| Year I\&-0cer GOZ | Quantity | $\begin{aligned} & \text { Value } \\ & \text { to } \\ & \text { fishermen } \end{aligned}$ | $\begin{gathered} \text { Value } \\ \text { as } \\ \text { arketed } \end{gathered}$ | Number of men employed |
| :---: | :---: | :---: | :---: | :---: |
|  | cwt. | \$ | \$ | \$ |
| 1925.........................fi...../.............. | 191,329 | 1,059,655 | 1,424,682 |  |
|  | 304, 143 | $1,744,234$ | 2,296,875 | 3,800 |
| 1927 | 322,903 | 1,462,352 | 1,977,766 | 4,095 |
|  | 307,326 | 1,620,986 | 2,199,027 | 4,172 |
| 1929. |  |  |  |  |
| 1930.... | 238,875 | 1,376, 108 | 1,760,395 | 4,779 |

To further analyze the situation, the following prices per pound were realized for the same six years:-

|  | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | T 10 | 0 |  |  |
| Catfish. | $10 \cdot 6$ | 11.3 | 512.3 | Tप 9.9 | $10 \cdot 4$ | 9.5 |
| Goldeye | $\stackrel{4.2}{ }$ | -9tr $\quad 1.0$ | [10 4.7 | ( $\quad \begin{array}{r}6.4 \\ \hline 12.7\end{array}$ | 7.8 | 8.0 12.3 |
| Perch... | 11.2 11.5 | (lus $\begin{aligned} & 13 \cdot 4 \\ & 10.3\end{aligned}$ | 10.9 8.0 | $12 \cdot 7$ 9.0 | 12.7 10.5 | 12.3 8.4 |
| Pike.................................... | O0+ $\quad \begin{array}{r}1.5 \\ 4.0\end{array}$ | $\begin{array}{r}10 \cdot 3 \\ \hline 4.0\end{array}$ | (imur $\begin{array}{r}8.0 \\ \hline\end{array}$ | 9.0 | $10 \cdot 5$ 4.1 | 8.4 2.8 |
| Sturgeon, .......................... | 40.9 | - 51.6 | $\begin{array}{r}53.9 \\ \hline 10.9\end{array}$ | 57.5 | $40 \cdot 0$ | 30.0 |
| Trout. | $9 \cdot 0$ | IW 11.0 | 10.9 | 10.8 | 11.1 | 10.6 |
|  |  | 5.9 9.0 | -1 $\begin{array}{r}4.0 \\ 8.5 \\ \hline\end{array}$ | 5.4 10.5 | 7.0 10.5 | 6.2 8.7 |
|  | 9.5 | 9.0 | Himec 8.5 | 10.5 | 10.5 | 8.7 |

Here again figures indicate a material loss to the industry in 1930, particularly in such important varieties as pickerel, pike, tullibee, and whitefish,
which constitute about 80 per cent of our production. The only gain is in goldeyes, which show a very slight increase in price, with the production less than half of 1929. Goldeyes find local markets for the entire production.

## THE SUB-DISTRICT OF THE PAS

This area, which comprises all the waters of what is known as Northern Manitoba, had intensive activities in fishing during the year. There may be said to have been a progressive increase in fishing activities experienced in this area for the past few years, due, of course, to added -railway facilities, as well as winter roads, bringing many new waters within profitable fishing distance of railways. The year 1930 shows an increase in production over 1929 of 542,500 pounds, $\mathbf{1 0 6}$ more men operating; the 1930 catch per man is approximately the same as in the previous year; the lakes fished are increased from 28 to 38 .

As little is known of many of these waters, excepting locally, they are listed below together with figures of 1930 production, and the annual limit set for each lake:-

| Name of lake | Limit | 1930 production |  |  | $\begin{aligned} & \text { Number } \\ & \text { men } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{gathered} \text { lbs. } \\ \text { whites } \end{gathered}$ | lbs. trout | lbs. other fish |  |
|  | lb . |  |  |  |  |
| Election. | 50,000 | 38,000 |  | 11,200 |  |
| Cormorant. | 150,000 | 82,800 | 4,400 | 61, 100 | 18 |
| Cranberry.. | 100, 000 | 68,400 | 11,200 | 14,400 | 16 |
| Nokomis... | $\begin{array}{r}-20,000 \\ -20,000 \\ \hline\end{array}$ | 16,000 19,000 |  | 3,500- | 2 |
| Barteett... | 20,000 20,000 | 19,000 | 26,800 | 12,600 | $\stackrel{4}{3}$ |
| Nistoo. | 20, 000 | 10,600 |  |  | 1 |
| Payak.. | 20, 000 | 18,000 |  | 700 | 1. |
| Nasap. | 20, 000 | 20,000 |  | 6,000 | 2 |
| Sissipuk. | 100, 000 | 71,100 |  | 26,000 | 13 |
| ${ }_{\text {Schist }}$ Banier | 100,000 50 | 110,000 |  | 3,800 | 14 |
| Schist.... | 50,000 150,000 | 32,000 67,200 | 7.000 12,700 | 12,000 21 | 7 |
| Kissinewt. | ${ }_{100}$, 000 | 42,000 |  | 21,700 | 28 |
| Embury. | 50,000 | 34,000 | 4,300 | 8,500 | 7 |
| Manistkwan. | 50,000 | 9,600 | 2,900 | 1,200 | 1 |
| Aimie.... | 50, 000 | 19,200 |  | 1,200 | 1 |
| Wabiskok. | 50,000 | 29,300 |  | 2,400 | 4 |
| Wedge....... Simonhouse | 50, 000 | 28,000 |  |  | 2 |
| Simonhouse.... Athapapuskow. | 150,000 | 100,400 | 7,300 | 19,300 | 15 |
| Athapapuskow. Moose........ | 200,000 | 118,600 | 14,800 | 18,700 | 43 |
| Whose....... | 300,000 150,009 | 131,700 10,400 | 1,900 | 94,500 9 8 | ${ }_{2}^{23}$ |
| Rocky. | 100,000 | 2,600 |  | 2,400 | 1 |
| Russic. | 20,000 | 6,300 |  |  | 2 |
| Pakwa. | 20,000 | 3,700 |  |  | 2 |
| Reed. | 150,000 | 45,200 |  | 2,600 | 5 |
| Little Herb. | 100,000 | 38,000 | 9,800 | 6,400 | ${ }_{3}$ |
| Snow.... | 20,000 | 2,800 |  |  | 3 |
| Williams. | 50,000 | 58,000 |  |  | 7 |
| Cedar. | 100,000 | 25,900 | 2,400 | 46,000 | 14 |
| Landing. | 300,000 150,000 | 74,000 34,000 |  | 32,800 21 | 9 |
| Setting... | 100,000 | 32,600 |  | 27,900 | 3 |
| $\stackrel{\text { Pikwitonia }}{\text { Cross.... }}$ | 50,000 | 9,600 |  | 2,600 | 2. |
| Lost.. | 50,000 100,000 | 8,200 16,000 |  | 660 11,200 | 3 2 |

The above gives hardly a true picture of the productivity of all these lakes however, as in some instances the operations were carried on in a desultory manner with very inadequate gear, some of the licencees having only four or five nets. One thing it does show is the preponderance of whitefish in all these waters.

## STURGEON

There was little attempt at sturgeon fishing, due largely to the unattractive prices, and the distance of sturgeon waters from railways, and also to the fact that sturgeon fishing is permitted only in winter. Some 2,000 pounds were taken in Cedar lake.

While the fishermen operating in these northern waters suffered from market conditions, in common with other parts of the province, the good catch and ability to ship much of their fish fresh gave them fair returns.

Lake Winnipegosis.-The summer operation on this lake resulted in the limit of one million pounds of pickerel and whitefish being taken in five weeks (seven weeks is the season). Under ordinary conditions the total of the limit would have been reached at least a week earlier, but market conditions forced buying companies to curtail the operations, allowing the fishermen to use only part of their nets, and curtail fishing days to three or four a week. There were slightly more men engaged than in the summer of 1929, 207 as against 199.

In the winter operation the production shows a decline of $1,100,000$ with practically the same number of fishermen, 442 in 1929 and 433 in 1930. Perch is the only variety to show a slight increase, with pickerel the heaviest individual variety almost holding its own. The following are comparative figures for the two years:-

| - | 1929 |  |  |  | 1930 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{c\|c\|c\|c} \text { Whites } & \begin{array}{c} \text { Pick- } \\ \text { erel } \end{array} & \begin{array}{c} \text { Mixed } \\ \text { fish } \end{array} & \begin{array}{c} \text { Num- } \\ \text { ber } \\ \text { men } \end{array} \end{array}$ |  |  |  | WhitesPick- <br> erel$\left\|\begin{array}{c}\text { Mixed } \\ \text { fish }\end{array}\right\|$Num- <br> ber <br> men |  |  |  |
|  | cwt. | cwt. | cwt. |  | cwt. | cwt. | cwt. |  |
| Summer. | 2,215 | -9,348 | 1,727 | 207 | 1,593 | 8,780 | 1,142 | 199 |
| Winter... | 7,891 | 16,865 | 33,735 | 442 | 4,720 | 15,679 | 18,061 | 433 |

Lake Dauphin shows a big falling off in catch from the record year of 1929, and yet produced much more in 1930 than was expected under the exceptional low water conditions. Normally, the lake is very shallow, very little with a depth of more than nine to ten feat. With the water level three to four feet below normal as it now is, there is little margin of water when the ice is formed to a depth of two to three feet; as a result, little fishing was carried on after the end of January, 1930. The recorded catch for that year may, therefore, be said to be for January, November, and December. The following are comparative figures for five years:-

| - | 1926 | 1927 | 1928 | 1929 | 1930 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Production. $\qquad$ <br> Number men fishing. $\qquad$ | cwt. | cwt. | cwt. | cwt. | cwt. |
|  | 876 | 2,313 | 3,844 | 14,600 | 4,737 |
|  | 25 | 21 | 47 | 168 | 251 |

The 251 licences issued on this lake represent 214 miles of nets; it can be readily seen how excessive an operation this is for a shallow lake with an area of 196 miles.

Lake St. Martin.-This lake was fished lightly during the year, and entirely by Indians and settlers, outside fisherneen being excluded for the first time. This no doubt accounts for the big drop in production, as Indians and settlers do not operate as energetically as regular fishermen coming in from the outside.

The number of men was reduced from 16 to 12 , and the production dropped from 88,400 pounds to 40,500 pounds.

Lake Manitoba records a total drop in production of two million pounds, with 140 fewer men operating. Analyzing the figures for this lake, there is one satisfying feature found-the two most valuable species, pickerel and whitefish, show a slight increase in spite of the fewer men operating. All other varieties show a decrease, with pike and tullibee of nearly $1,000,000$ pounds each. The following are the figures for 1929 and 1930:-

| 1929 |  |  |  | 1930 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Whites | Pickerel | Other fish | Men | Whites | Pickerel | Other fish | Men |
| cwt. | cwt. | cwt. |  | cwt. | cwit. | cwt. |  |
| 1,558 | 11,330 | 43,737 | 1,048 | 1,576 | 12,043 | 22,965 | 908 |

There can be no doubt this lake is being fished beyond its capacity to properly support, and while a favourable comparison is drawn between 1929 and 1930 pickerel catch it is hardly a fair picture, because 1929 was the lowest pickerel production per licence for many years. With this heavy fishing, grave concern is felt for the future of the lake, but a remedy is most difficult to find. A compact settlement, along both shores, of people who in many instances settled there with the fishing as a chief inducement cannot easily be dispossessed of these privileges. The lands these people are attempting to farm are in many instances of an inferior quality, and fishing becomes the main source of income for many of them. It has been suggested, as a remedy, that licences be limited. to a definite maximum number, cutting the present number by a third or more. This would certainly be a desirable step were it possible to employ it, without, grave hardships to those excluded from fishing privileges.

Lake Winnipeg.-This lake is the only one of our waters fished throughout the open water summer season, June 1 to October 31, as well as the usual winter season. The annual production usually equals the commercial fishing for the rest of the province, and has maintained fully that standard for 1930. It does, however, record a very decided drop in production for both summer and winter, in spite of increased number of men operating. The following figures give comparison between 1929 and 1930:-

| - | 1929 |  |  |  |  | 1930 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Whites | Pickerel | Tullibee | Other fish | Men | Whites | Pickerel | Tulli- | Other fish | Men |
| Summer. Winter... <br> Total | 25, 116 | 34,774 | 25,666 | 19,096 | 1,564 | 26,177 | 22,424 | 6,611 | 17,051 | 1,301 |
|  | 7,762 | 9,756 | 32,729 | 11,886 | 892 | 8,269 | 4, 905 | 28,365 | 11,340 | 1,230 |
|  | 32,878 | 44,530 | 58,395 | 26,982 | 2,456 | 34,446 | 27,329 | 35,076 | 22,092 | 2,531 |

It will be seen by these figures that the drop in production for lake Winnipeg is $4,384,300$ pounds, with 75 more men engaged. Whitefish is the only variety. to show a slight increase; this gain would have been much more pronounced had market conditions last summer not forced the producers to curtail activities all along the line. Unquestionably the market conditions and general depression experienced in the fishing industry have hit the operators on lake Winnipeg. harder than those engaged in it elsewhere in the province. The great majority of the fishermen on this lake are entirely dependent on the fishing for a living, while in other parts, where fishing is only a winter occupation, it is a side issue: usually to stock farming.
$36770-6 \frac{1}{2}$

Considerable falling off in non-resident angling is recorded for the year. The following are comparative figures:-

| - | 1929 |  | 1930 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| One day licence. | 1,689 | \$ 1,689 00 | 1,607 | \$ | 1,607 00 |
| Two day licences. | 201 | 40200 | 156 |  | 31200 |
| Three day licences. | 24 | 7200 | 10 |  | 3000 |
| Four day licences. | none | none | 1 |  | 400 |
| Season. | 125 | 62500 | 125 |  | 62500 |
|  | 2,039 | \$ 2,788 00 | 1,899 |  | 2,57800 |

This is the first year to show a decrease in non-resident angling since the inauguration of licensing in 1926, and is due, no doubt, to the general depression all over the continent. These anglers come mostly from the near-lying districts of North Dakota, and seldom go beyond the small lakes along the southern borders of the province--Rock lake, lake Killarney, Oak lake, Pelican lake, and some small lakes in the Turtle mountains. The fish in these waters that respond to angling and trolling are the Northern pike, pickerel (Wall-eyed pike), English perch and bullheads.

Persistent efforts have been carried on for a number of years to stock these, and other small lakes of the province, with grades of fish better for angling and domestic purposes than those naturally indigenous to them. This effort has in many instances met with gratifying results. While perch, catfish and bullheads have been transferred from other waters, the chief operation has been the planting of pickerel fry hatehed in the Gull Harbour hatchery. The best evidence of success is that lakes where this species was never known have become fairly well stocked after a few continuous years of stocking.

Black bass have been obtained almost annually from the state of North Dakota, in exchange for eyed-out or partly developed pickerel eggs. It is regretted that no results have as yet been evidenced from this. These fish were mostly placed in the rather shallow prairie lakes, and it is probable conditions were not favourable for them.

## FISH CULIURE AND HATCHERIES

The following waters were stocked with fish during the year:-
Serbos lake, near Roblin, with pickerel fry ..... 75,000
Oddfellows lake, near Roblin, with pickerel fry
10
Bittern lake, near Roblin, with pickerel fry ..... 100,000
Olsons lake, near Roblin, with pickerel fry ..... 000
Jackfish lake, near Roblin, with pickerel fry ..... 125,000
Goose lake, near Roblin, with pickerel fry ..... 100,000
Twin lake, near Togo, Sask., with pickerel fry ..... 100,000
Happy lake, near Togo, Sask., with pickerel fry ..... 100,000
Childs lake, near Deepdale, Man., with pickerel fry ..... 50,000
Shingoosh lake, near Deepdale, Man., with pickerel fry ..... 50,000 ..... 50,000
Madge lake, near Kamsack, Sask., with pickerel fry ..... 125,000
Pelican lake, near Ninette, Man., with pickerel fry ..... 100,000
Rock lake, near Glenora, with pickerel fry ..... 100,000
Clear lake, near Riding mountains, with pickerel fry. ..... 100,000
Marion lake, near Ophir, with pickerel fry ..... 100,000
Gull lake, near Beaconia, with pickerel fry ..... 150,000
Souris river, near Napinka, with pickerel fry ..... 100,000
Killarney lake, near Killarney, with pickerel fry ..... 125,000
Metagache lake, near Deloraine, with pickerel fry ..... 125,000
Max lake, near Turtle mountains, with pickerel fry ..... 100,000
William lake, near Turtle mountains, with pickerel fry ..... 100,000
Bower lake, near Turtle mountains, with pickerel fry ..... 100,000
Little Saskatchewan river, near Brandon, with pickerel fry ..... 175,000
Minnedosa lake, near Minmedosa, with pickerel fry ..... 100,000
Perch lake, near Inglis, with piclerel fry ..... 100,000
Round lake, near Inglis, with pickerel fry ..... 100,000
Red river, between Winnipeg and Selkirk, with pickerel iry ..... 350,000

This pickerel fry was hatched in Gull Harbour hatchery and brought to Selkirk in tanks by the steamer Bradbury. From Selkirk, it was conveyed in cans to destination, by baggage car permits furnished free of charge by railway companies. Transfer was effected between June 15 and 20.

Two hundred thousand partly developed (eyed-out) lake Superior trout eggs were secured from the Port Arthur hatchery, and taken to Winnipegosis hatchery for completion. They hatched out in good condition and were planted in Clear lake in the Riding mountains in May.

Thirty-two hundred Large Mouth black bass fingerlings were received from the North Dakota Fisheries Commission in return for $5,000,000$ pickerel eggs sent the Commission from Swan Creek hatchery last spring. These black bass fingerlings were taken over at Emerson and conveyed by truck to lac du Bomnet, and from there by hydroplane to lake George.

## PROSECUTIONS AND CONFISCATIONS

There were 54 prosecutions in the province during the year for infractions of fishery regulations, with the following results:-

$$
\begin{aligned}
& \text { July } 15 \text { to Julf 24, } 30 \text { penalties } \\
& 77790 \\
& \$ 1,420 \quad 39
\end{aligned}
$$

There were 227 confiscations in the province during the year as follows:January 1 to July 15, 162, consisting of the following articles: 388 illegal fishing nets, 1 spear, 1 iigger. July 16 to December 31, 65 consisting of the following articles: 368 illegal fishing nets, 4,997 pounds of fish and 9 net anchors.

The following amounts were received for sale of confiscated articles during the year:-

| January 1 to July 15 | \$ 51520 |
| :---: | :---: |
| July 16 to December 31 | 65685 |
|  | \$1,172 05 |

## REPORT OF SUPERVISOR G. C. MACDONALD, PROVINCE OF SASKATCHEWAN, FOR 1930

(The fisheries of Saskatchewan passed from federal to provincial administration at the end of September.)

During the calendar year of 1930, the commercial production for the province of Saskatchewan was $46,690 \mathrm{cwt}$. of all species of fish. This is a decrease of 14,570 cwt. from the previous year, the greater portion of this decrease being in whitefish, which show a production of $14,570 \mathrm{cwt}$. less than in 1929. Trout decreased 451 cwt . and sturgeon, of which no production is shown, had a production of 353 cwt. in the previous year. There were small increases in the production of the coarser species, such as tullibee, mullets and cisco. The decrease in the total production was not confined to any particular water, and was due to a decrease of 234 in the number of fishermen operating, as well as to the market conditions, the latter being the principal cause.

The total market value is shown at $\$ 234,501$, being a decrease of $\$ 338,370$ from the previous year, and the decrease was due to the January and February surplus of fish being offered and disposed of at very low prices, with a considerable quantity being stored. This affected the prices to a great extent when the fall season opened during December, and at that time it was difficult to market fish at a price sufficient to cover the cost of production.

The summer production was 881 cwt., a decrease of 850 cwt . from the previous year. The decrease was due to the more attractive prices offered for
green fish during the winter season as compared with those that obtained during the summer season; the result of this price condition was that only a limited quantity and sufficient to meet the local demand was produced.

The value of equipment used was $\$ 84,613$, a decrease of $\$ 27,297$ from the previous year, due to fewer fishermen operating.

During the period January 1 to September 30 last, there were 50 prosecutions, resulting in penalties amounting to $\$ 235$ being imposed with additional court costs against the defendants of $\$ 158.25$, as follows:-

| Fishing without a licence |  |
| :---: | :---: |
| Fishing with illegal equipment | 7 |
| Fishing during closed season |  |
| Illegal possession of fish |  |
| Failing to remove offal from ice |  |
| Fishing with excessive nets |  |
| Failing to number nets |  |
| Obstructing streams |  |
| Excessive fishing under Indian permits |  |

There were also 57 confiscations during the period January 1 to September 30, as follows:-

Illegal apparatus ................................................................... 42


57

There were 20 sales of confiscated articles made during the period, amounting to $\$ 69.90$.

There was a total production of fish taken by domestic fishermen with nets of $32,354 \mathrm{cwt}$., an increase of $2,861 \mathrm{cwt}$. over the previous year. This year 300 men operated nets for domestic purposes, or 23 more than carried on domestic operations last year, which would indicate that more intensive fishing was carried on, due, to some extent, to the financial conditions prevailing.

The estimated catch by anglers, as reported by the various field officers, was $15,969 \mathrm{cwt}$., a decrease of $6,154 \mathrm{cwt}$. from the previous year, with an estimated increase of 5,407 anglers over the previous season. Low waters in the various streams and climatic conditions had both the effect of reducing the catch. The average catch per angler was 30 pounds as against 46 pounds in the previous year.

## REPORT OF SUPERVISOR R. T. RODD, PROVINCE OF ALBERTA, FOR 1930

(As the fisheries of the province of Alberta were transferred to provincial control at the end of September in accordance with legislation enacted by Parliament relating to the natural resources of Alberta, Saskatchewan and Manitoba, the review of Alberta operations given below covers only that period of 1930 ending with September, except as regards statistics. Statistics are for the calendar year.)

During the calendar year 1930 a large decrease both in the poundage caught and in the value is to be noted. The decrease in hundredweights amounted to 28,178 , and value as marketed was reduced by $\$ 309,939$. Following is the summary of increases and decreases:-

## SUMMER SEASON

|  | Kind | Cwt. | Increase | Decrease |
| :---: | :---: | :---: | :---: | :---: |
| Goldeyes. |  | 7 |  | $\cdots$... $\cdot 3$ |
| Mixed Fish. |  | 1,085 |  | 1,801 |
| Mullets. |  | 253 | 79 | 112 |
| Perch.. |  | 487 | 79 |  |
| Pickerel. |  | 4,676 | . ........ | 349 |
| Pike.. |  | 2,021 | . ........ | -107 |
| Trout... |  | 14,213 |  | 8,060 |
| Tullibee.. |  | . 778 |  | ${ }^{287}$ |
| Whitefish. |  | 10,603 |  | 3,987 |
|  |  | 34, 123 | 79 | 14,706 |

WINTER SEASON

| Mixed Fish. | 1,193 |  | 1,427 |
| :---: | :---: | :---: | :---: |
| Mullets. | 401 | 335 |  |
| Perch. | 171 |  | 119 |
| Pickerel. | 1,282 |  | 1,111 |
| Pike.. | 2,989 |  | 2,998 |
| Trout. | 705 |  | 513 |
| Tullibee. | 1,887 |  | 2,675 |
| Whitefish. | 8,459 |  | 5,042 |
|  | 17,087 | 335 | 13,885 |

During the summer season the greatest reduction is to be seen in lake Athabasca, where the catch of trout fell off greatly-there being a reduction of very close to one million pounds of trout and whitefish at this lake alone. Markets for trout were only fair, and the two companies operating decided to curtail operations. Fishing commenced later and closed earlier at this lake than in the preceding season. All the commercial fishing in the lake during the summer season of 1930 was carried on in the Saskatchewan portion of the water.

A decrease, during the summer, of around 150,000 pounds of whitefish from Lesser Slave lake is also to be noted, as well as in both whitefish and pickerel at lac Ste. Anne. Slight increases in production during the summer are noted in the Lesser Slave Lake district, chiefly attributable to Fawcett and Gift lakes. An increase in the production of pickerel is to be found at lac la Biche during the early spring fishing. Lake Wabamun had a slightly larger production during the summer, but fish were found to be slightly smaller in size for the first time in some years. There was no fishing in either the Lac Ste. Anne or Baptiste Lake districts.

Decreases will be found in nearly every class of fish caught during the winter season. Lake Wabamun shows a decrease in whitefish for the winter, due to fewer fishing and also poor marketing conditions in December, 1930. Pigeon lake shows a considerable decrease in whitefish. This is, however, due to the fact that by mutual consent the operators and fishermen decided to fish for but two days in December, owing to poor markets. This lake, however, produced nearly 50,000 pounds in those two days and is in excellent condition. Operations at lac Ste. Anne, Baptiste and Wabasca were at a standstill during December, 1930. The lac la Biche district shows a large decrease in every kind of fish, chiefly attributable to less fishing in December, 1930, and the economic situation, which has reflected on the fishing industry by the operators refusing to furnish as much credit for the purchasing of new nets and equipment. This district is important from the fishery point of view, as some of the most important of the smaller winter lakes are to be found here. A decrease is also shown at Primrose and Cold lakes. In the former fewer men were found to be operating
in December, 1930, and at Cold lake very little fishing took place during December, owing to open water because of mild weather. Fishing in these two lakes is dependent to a large degree on weather conditions for transportation. During the latter part of December a great percentage of the production was sold to peddlers, as was also the case at lac la Biche, unusual in the case of the latter lake, where poor road conditions generally prevailing prevent the export of fish except by rail. This year, however, very little snow has fallen and the weather condition has been extremely mild. The temperatures have not once fallen below zero. Fewer fishermen operated at Lesser Slave lake, where the decrease was chiefly in pike production. The catch from Lesser Slave lake during the winter is not of great importance, as the fishermen of this district are enabled to go further afield, and consequently fish those lakes which cannot be reached during the summer, such as Little Whitefish Lakes Nos. 1 and 2, and Big Whitefish lake, where a slight increase in the production of whitefish can be seen. Pinehurst lake district has been named after the most important lake in that district, and was formerly called the Wolf Lake district. The latter lake being closer to Cold lake has been placed in that district for statistical purposes. The production from Pinehurst lake was reduced, chiefly because of lack of snow and not so many fishing. The same can be accounted for in the case of Wolf lake, where roads are primitive and snow essential for getting the frozen fish out. Calling lake and Calling Lake district show a large decrease in production. The fishing at Calling lake was extremely poor during December, 1930, and the fishermen did not make their expenses. This lake is considered depleted and measures will have to be taken to reduce the limit and to control production for some years.

## MARKETS

The market for trout was very slow during the summer season of 1930 , and owing to the fact that Alberta is geographically farther away from eastern markets the marketing of her fish products is found to be consequent on the production and marketing of fish caught in the Great Lakes and Saskatchewan. Fish moved very slowly both during the summer and the past winter, and in the latter season a larger amount of the production was marketed locally through the greater increase in peddling. This has been made possible perhaps because of the unemployment situation, and, with a few exceptions, greater ease in getting to lakes with motor cars, because of good road conditions and other causes. Fish prices, both to fishermen and companies operating, will be found to be much smaller. Smaller production also contributed to the total smaller value obtained during 1930.

## CONDITION OF THE FISHERIES

The condition of the fisheries in the province may be considered as from fair to good. At lake Athabasca fishing was curtailed through the slightly later starting and earlier closing, mainly through poor markets for the product. Some sale of trout was made by the product being smoked and sold in wax containers. The limit on this lake may yet be found to be too large. The fish, according to reports, were found to be very scattered. The fishing operations closed by mutual consent of the operators and fishermen some time before the commencement of the close season, hence an opinion as to whether the limit would have been reached cannot be given.

With the expectation of better prices in the fall, fishermen avoided the taking of whitefish during the spring operations at Lesser Slave lake, but with high winds and storms during the fall season fishing was seriously crippled and the limit of 650,000 pounds of whitefish was not reached by some 150,000 pounds. Lake Wabamun fish were easily marketed locally and the condition
of the fishing was good at this lake, although some difficulty in getting good prices was evident. This lake is the chief supply for Edmonton and Calgary so far as fresh whitefish is concerned. Conditions at lac la Biche were again good, a large production of the catch being still of the jumbo variety. Pickerel operations in this lake exceeded expectations, but the catch of tullibee during the winter fell off quite considerably, more especially owing to the limited market for this class of fish. During the past season an improvement in the size of fish taken from Pigeon lake was noticed. The fishing at Pigeon lake has improved during the past few years. Cold and Primrose lakes had slight reductions, although the production of whitensh from the former is larger through fishing being confined to within one mile of shore. Both of these waters are watched most carefully, and should again be in an excellent condition, with the present limits and new conditions generally. Calling lake, where fishing was extremely poor, must definitely be considered depleted, and some reduction in the limit must result from this conclusion. Winnifred lake shows a slight improvement, but still shows the effect of the abnormally heavy fishing of 1926 and 1927. The fish caught from this lake during 1930 were small and young. No new lakes were fished during the past year, and the production as a whole was below average in every direction.

## EQUTPMENT

Owing to the economic situation not much new equipment was purchased during 1930. One large oil burning tug was added to the fleet of the companies operating on lake Athabasca. This boat was built for river work, and is tunnel type, equipped with twin propellers and twin diesel engines. This tug cost around $\$ 25,000$ and makes the company owning it independent of the transportation companies, being capable of making two trips per week from lake Athabasca to Waterways, with one barge of fish, capacity 70,000 pounds.

The value and number of gill-nets was reduced somewhat, owing to more limited operation. Other fixed equipment was stationary in number and value.

## LICENCES AND PERMITS

Angling permits show a reduction of 677, attributable chiefly to fewer permits being sold at Cold lake and in the Edmonton district. Poor road conditions into Cold lake during June and July were the main cause. Less money also being available through poor wheat prices, the people generally did not spend so much on going long distances.

| Angling permits sold | 7,731 | 7,731 |
| :---: | :---: | :---: |
| Domestic licenses .......... | ${ }^{213 *}$ | $562 \dagger$ |
| Indian and half-breed permits | 1,090* | 1,130¢ |
| Commercial and fisherman's licenses | 477* | 1,025 |
| Total | 9,511 | 10,448 |
| * To Sept. 30. <br> + To date |  |  |

The total reduction to date is 736 . The above total however, is the second largest issue of licences and permits, last year being a record year in this
connection.

## TRANSPORTATION

Facilities for transportation were good and no difficulty in obtaining cars or service was evident so far as express companies were concerned. The new tug at lake Athabasca operating between the mouth of the river and Waterways proved to be very beneficial, the delay previously occasioned in waiting for river steamers to arrive being removed. Hence, the marketing of the Lake Athabasca product is distinctly improved. Lack of snow in certain districts
where roads are non-existent proved a detriment to fishing in some of the more inaccessible lakes, but assisted greatly in quicker transportation, by means of trucks, from the lakes where good roads reach.

## OBSERVATION OF THE REGULATIONS

The number of prosecutions totalled 59 to September 30 , or 82 to date, and confiscations 42 to September 30 , or 65 to date. The former show an increase of 18 to date, and it is evident from the summary submitted that fishing in closed streams, which number eleven, is the most frequent offence.

The interest of the fish and game associations in the conservation and preservation of good fishing remains unabated and much valuable assistance is given by the individual members of these organizations in this respect. Some considerable assistance is given by the newspapers in printing regulations and conditions generally. During the past year two publications which contained excerpts from the Fishery Regulations were issued. One-_"The Sportsman's Guide to Alberta "-was issued by the Northern Alberta Game and Fish Protective league and distributed throughout Alberta free of costs, and a publication, "See Alberta's Beauty Spots," was issued by the Publicity Branch of the Department of Agriculture for Alberta. Three new associations were formed. Alberta now is considered to be the best organized province in the Dominion as regards fish and game associations.

The under-mentioned organizations gave great assistance in the protection of streams already closed, restocking and other assistance:-

Alberta Fish and Game Association.
Calgary Fish and Game Association.
Northern Alberta Game and Fish Protective League.
Red Deer Fish and Game Association.
Medicine Hat Fish and Game Association.
Craigmyle Fish and Game Association.
Olds Fish and Game Association.
Didsbury Fish and Game Association.
Camrose Fish and Game Association.
Nanton Fish and Game Association.
Sheep Creek Fish and Game Association.
Midnapore Fish and Game Association.
Claresholm Fish and Game Association.
Delia Fish and Game Association.
Drumheller Fish and Game Association.
Hanna Fish and Game Association.
Banff Fish and Game Association.
Nordegg Fish and Game Association.
MacLeod Fish and Game Association.
Edson Fish and Game Association.
Carbon Fish and Game Association.
Hillcrest Fish and Game Association.
Pincher Creek Fish and Game Association.
Strathmore Fish and Game Association.
High River Fish and Game Association.
Cadogan Fish and Game Association.
Jasper Fish and Game Association.
Vulcan Fish and Game Association.
Stavely Fish and Game Association.
Bassano Fish and Game Association.
Brooks Fish and Game Association.
Coleman Fish and Game Association.
Carseland Fish and Game Association.

> Bentley Fish and Game Association.
> Lacombe Fish and Game Association.
> Castor Fish and Game Association.
> Saunders Fish and Game Association.
> Ponoka Fish and Game Association.
> Edson Fish and Game Association.
> Cold Lake Fish and Game Association.
> Lethbridge Rod and Gun Club.
> Taber Rod and Gun Club.
> Cardston Rod and Gun Club.
> Killam Rod and Gun Club.

The following information shows a summary of the convictions obtained, to date:-


## IRRIGATION SYSTEMS

There were no complaints during the season of 1930 regarding the destruction of fish by irrigation systems. A number of the smaller irrigation systems were not open during the summer; therefore, there was no chance of fish being destroyed in these places. The larger systems were open to capacity, the latter part of the season in Southern Alberta, but as they all have large reservoirs or lakes somewhere on the system, the fish are enabled to get into these reservoirs and, therefore, very few are carried out on the land. These are chiefly suckers and are taken by the farmers. A close check was kept on all during the summer season. The reservoirs on these systems are quite large.

The Chin lakes, formed by the Canadian Pacific Railway Irrigation Canal, heading in the St. Mary's river near Cardston, total some 16 miles long and approximately half a mile wide. These lakes are now well stocked with pike and whitefish, and have supplied fishing to hundreds of people in a district where very little fishing was found before.

The United Irrigation canal, heading in the Belly river, has formed the Cochrane lake near Hillsprings. This lake is small but has also supplied fishing in that district, where no fishing was found before.

Lake McGregor lying to the eastward of Vulcan is some 22 miles long. This lake was formed by the Canada Land Irrigation company, and is now well stocked with pike and suckers; and supplies fish to a large area where absolutely no fishing was ever found before.

Chestermere lake on the Canadian Pacific Railway Irrigation system, east of Calgary, is some four miles long and supplies excellent pike fishing for the people of the district.

Lake Newell, lying south of Brooks, is some five miles long and by from one to three miles wide. This lake has also supplied fishing to a very large area Where no fishing was formerly found. Pike, pickerel and suckers are found in this lake.

Lake Kehoe, on the Lethbridge Northern Irrigation system, near Barons, has an area of some twelve square miles of water. This lake was formed in recent years, but is already well stocked with pike and now supplies excellent fishing.

## DAMS AND FISHWAYS

A new dam is now under construction in the Elbow river by the city of Calgary for a water supply for that city. It will be some time before this is completed, however. This dam, it is understood, will be some 65 feet high, built of reinforced concrete. It is impossible to say what will be required in the way of a fishway in this dam, but, at the present time, it is felt that it will be of no detriment to the fishing in the Elbow river, as it will prevent quantiies of pike, etc. from ascending the stream.

The dam constructed by the Calgary Power company in the Bow river at the junction with the Ghost river has been completed and the power plant is in operation. Close observation was kept on this dam during the summer months and conditions seemed to be satisfactory as regards the fisheries.

No other new dams or fishways were constructed during the year.
Repairs were made on the dam and fishway in the Vermilion river at the town of Vermilion. All other dams and fishways were found to be satisfactory.

## ANGLING

There was considerable of a decrease in the number of angling permits sold during the summer of 1930 as compared with 1929. The total sale during 1930 was 7,731 as against 8,408 during the season of 1929. The greater part of the decrease was shown at Cold lake, where there was a decrease of 493 in the sale of permits as compared with 1929. There was also a sale decrease of 109 in the city of Edmonton as compared with 1929. In the balance of the province the sale was approximately the same as last year. However, in spite of the decrease in the sale of permits, the total amount of fish taken by anglers increased, although a decrease in the amount of trout and goldeyes taken is shown. The estimated catch for the season was as follows:-

| Trout (all species) | 1,615 | cwits. |
| :---: | :---: | :---: |
| Grayling and Rocky | 1,810 |  |
| Pike | 11,575 |  |
| Pickerel | 3,577 |  |
| Goldeyes | 60 |  |
| Perch | 3,450 | $\checkmark$ |
| rotal | 22,119 | " |

At Cold lake the decrease both in the sale of permits and in trout taken was due to the heavy floods in that area, for approximately one month, which made the roads impassable. The Beaver river overflowed its banks and could not be crossed except by rowboat for a considerable time.

The sale of permits was also affected by the business depression, especially in the districts in Eastern Alberta and Western Saskatchewan, where some of the districts have been dried out and the merchants, therefore, were not doing the business of former years, and the farmers or settlers naturally did not have the money to spend that they had in former years.

Angling in the streams in the southern part of the province was possibly as good as, if not better than in 1929. The ștreams were not so low as in the former year, and more fish were found in the lower reaches, owing to the greater volume of water. Due to low water in the previous season and very warm weather, the fish, apparently, headed farther into the foothills to the colder waters near the head of the streams. This season this did not occur to such an extent.

The Rocky Mountain whitefish fishing in the Crow's Nest district and the Arctic grayling fishing in the Athabasca river and tributaries was somewhat better than during the previous season. Reports of larger catches and larger fish were received. The Rainbow trout fishing in the streams tributary to the Athabasca was fair, but a great number of small fish were found. In some of the streams it was difficult to catch fish of legal size.

## LOSS OF FISH AND RESCUING OF STRANDED FISH

During the season we had very few reports of fish becoming stranded. Conditions in this regard were much more favourable than during 1929, and there was less necessity for rescuing fish.

In the Red Deer and Clearwater rivers 44,000 Rocky Mountain whitefish and 100 Dolly Varden trout were rescued in 1929. Only 5,850 Rocky Mountain whitefish were rescued during the fall of 1930. The local guardian for the district reported that the streams were in fine condition and there was no necessity of further rescuing.

In the Highwood river and tributaries 636 adult trout, 34 Rocky Mountain whitefish and 6,500 trout fry and fingerlings were rescued from the backwaters by the local guardian and placed in the main streams.

There were no reports of stranded fish in any other parts of the district.
In Willow creek it was found necessary to remove some of the boulders from the bed of the stream, in order to confine the flow of water to a narrow channel instead of allowing it to spread over the creek bed, some forty or fifty feet in width, where it was apt to freeze to the bottom. The local guardian did considerable of this work during the last month he was employed, while patrolling the stream.

## REMOVAL OF PREDACEOUS FISH FROM TROUT WATERS

During the summer months 173 suckers, 30 Bull or Dolly Varden trout and 8 ling were removed from the Highwood river and tributaries. From Willow creek and tributaries 24 large pike and 563 suckers were removed during October. On the Red Deer and Clearwater rivers approximately 18,000 suckers were removed.

## EXAMINATION OF LAKES AND STREAMS, RE-STOCKING

During the summer four lakes were examined and reported on. Only one lake was found suitable for any species of fish and was stocked with Rainbow trout from the Waterton Lakes hatchery. A number of applications were received, for stocking with a suitable species, but it was found impossible to make the necessary inspections.

Eleven lakes were stocked with perch, by transfer, during the latter part of August and the first week in September. These transfers were very successful, with no loss of fish.

## ANNUAL REPORT OF CHIEF SUPERVISOR OF FISHERIES (MAJOR J. A. MOTHERWELL) WESTERN DIVISION (BRITISH COLUMBIA) FOR 1930

From a standpoint of quantity of production the year 1930 is outstanding. The pack figures, in some instances, cannot be taken as an accurate indication of the quantities of the raw product available as, due largely to market conditions, the catch of several species was materially curtailed. The principal fisheries are dealt with in more or less detail in subsequent paragraphs.

## SALMON

Spawning conditions in the brood years affecting the season 1930 or conditions at sea during the period that salmon spend in salt water on the feeding grounds, or possibly both, were evidently unusually favourable to produce such a splendid run of practically all varieties of salmon in British Columbia.

Statement No. 1 of this report shows a total pack of $2,221,783$ cases, a new record, which exceeds the previous one of 1926 by 156,585 cases and last year's pack by 821,033 cases. Had market conditions been satisfactory even this year's large total would have been very considerably increased, as there was no particular effort made to pack larger quantities of the fall varieties such as pinks, chums, and cohoe.

Notwithstanding the immense total for the season of 1930 , the usual examination of the spawning grounds showed that, apart from the upper reaches of the Fraser river, practically without exception the spawning grounds of all varieties of salmon were exceptionally well provided with parent spawners and the conditions on the spawning grounds were found to be very favourable. This situation, providing no unforeseen circumstance occurs, should result in most satisfactory returns in the cycle years, differing, of course, with the several varieties.

Considering the gratifying runs of salmon which have returned to British Columbia waters during recent years, culminating in the record-breaking season of 1930 , one may be well justified in assuming that under the present system of administration and conservation measures there should be no apprehension as to the supplies of the several varieties of salmon being well maintained for all time.

The total pack of all varieties of salmon for the past fifteen years, averaged in five-year groups, has been as follows:-


It is interesting to note that, notwithstanding the fact that there were eighty-five salmon cannery licences issued in 1930, only fifty-nine of these operated, even though the pack was the largest on record.

## SOCKFYE SALMON

The size of the sockeye pack was somewhat of a surprise, although in the northern portion of the province it was expected that there would be an ample return of five-year fish. This expectation was realized at all points. The pack of 477,678 cases is the largest since the year 1914 and exceeded that of the cycle year by 140,683 cases, or nearly 42 per cent.

The Naas river area produced 26,500 cases, which is the largest catch in this area since 1924. The Skeena river produced a total of 130,952 cases, the largest since 1924. The Rivers and Smiths inlets total was 150,398 cases, which has not been equalled since 1925. These figures, however, are not a true indication of the large quantities of fish available. During the peak of the sockeye salmon run to the Fraser, for instance, a closure of a complete month, from September 20 to October 20, was enforced in order that there might be a sufficient escapement to the spawning grounds. During this closed period there were more sockeye salmon seen in the Fraser river than any year since the previous big fourth-year runs.

The Fraser river situation during the season under review was very similar to that obtaining in the cycle year of 1926. The late runs of sockeye were unusually large, and the fish, individually, bigger than the average. They came in huge quantities, evidently via Juan de Fuca straits, and although missing
the six Canadian traps on the southwest coast of Vancouver island, were taken in huge quantities by the numerous purse-seines and traps in Puget Sound waters on their way to their spawning grounds in British Columbia-the Fraser river.

In the season of 1930 , out of a total pack of 450,944 cases of sockeye which were taken from the run proceeding to the Fraser river, 352,194 cases were captured by the purse-seiners and traps in Puget sound before the runs reached Canadian waters. The total pack on the Canadian side out of these runs was 98,750 cases; in other words, 78 per cent of the run proceeding to the Fraser river was captured by the fishermen of Puget sound on the United States side.

Statement No. 23 shows the total pack of sockeye salmon taken from the runs heading for the Fraser river. Whilst the totals appearing under the heading of the Puget sound canneries includes a small quantity proceeding to several streams on Puget sound, that portion is so small as to not materially affect the statement for the purposes required.

Whilst this condition shows a most undesirable situation, from the standpoint of Canadian fishermen, it does not tell the whole story, for neither purseseines nor traps are permitted in those Canadian waters through which the sockeye salmon run to the Fraser river passes, apart from those operated on the southwest coast of Vancouver island which intercept an infinitesimal portion of the runs passing up the straits of the waters of Puget sound and the Fraser. When these late runs pass out of Puget Sound waters into Canadian territory they usually lie out in the deep waters of the gulf of Georgia between the mouth of the Fraser and the international boundary line, waiting for conditions to be suitable before ascending to the spawning grounds. The period of delay in these deep waters may be two, three, or four weeks and during this time the fish are steadily deteriorating in quality.

Owing to the water in the gulf being clear, the sockeye cannot be taken in gill-nets except for a short period at dusk and another at dawn; therefore the bulk of the catch is taken in the Fraser river itself or in the cloudy water immediately off the mouth of the river. By the time the salmon reach these areas the quality compares most unfavourably with the condition existing at the time they first come into Canadian waters. In other words, of the large run of late sockeye proceeding to the Fraser river in British Columbia, the fishermen in Puget sound took, during 1930, 78 per cent of first-class fish by means of purseseines and traps, whereas the Canadian fishermen caught 22 per cent of the pack by means of gill-nets, and the majority of these fish were of a quality altogether too inferior to maintain the previous high reputation of Fraser river output.

It is interesting to note here that, notwithstanding that there was such a large run of sockeye salmon to the Fraser during 1930, conditions at Hell's gate were such as to permit these fish to pass safely through; although at times there was the usual delay ranging from an hour or so to possibly a day until water conditions were suitable. It is a fact that quantities of sockeye were observed spawning in streams below Hell's gate, which was quite an unusual occurrence, but there was no reason to believe that these could not have passed Hell's gate had they so desired.

The situation at Alberni canal, where the rehabilitation of the sockeye salmon runs to the Sproat and Stamp river system has been such a success, still continues to be satisfactory, and would seem to be an indication of what can be accomplished by the department's fish cultural methods and conservation regulations.

The following statement gives, in a comparative way in five-year groups, the sockeye pack for the past fifteen years:-


## COHOE

The cohoe pack of 148,561 cases was a fair average for the last ten years and it is felt that larger quantities of this variety could have been processed had the market conditions warranted such action. It must be remembered that the cohoe run to the Fraser river was at its height during the operation of one month extra closed season enforced, and this was undoubtedly a factor in reducing the pack of this species. The following statement, covering a period of the last fifteen years, shows the cohoe pack by averages in five-year groups:-

| 1916-1920 | 161,984 cases |
| :---: | :---: |
|  | 127,325 " |
| ${ }_{1}^{1926-1930}$ | 159,408 |

## PINKS

Undoubtedly the most outstanding feature in the salmon pack for the season was the large total in the case of the pinks. There were $1,111,937$ cases packed, which is a record and exceeds the previous record of 1928 by 319,575 cases. Enormous runs of this variety arrived at practically every area to which pinks were due in the even-numbered years and, in addition, streams which had in the past been unknown to contain this species received abundant quantities of spawning fish.

In the Massett Inlet district, Queen Charlotte islands, due to the heavy toll taken in the cycle year of 1928, there was apprehension in some quarters as to the quantities returning in 1930 being satisfactory. As the run developed, however, the canners found it necessary to place a limit on the number they would take from the purse-seiners and enormous quantities were able to proceed to the spawning grounds, which were unusually well seeded. Very similar conditions obtained in the Naas and Skeena river districts. In the latter certain operators found it necessary to place a limit on the gill-netters, and, notwithstanding the large quantities packed, a splendid supply was left for the spawning grounds. The supervisor at Prince Rupert, who has had twenty years of close contact with the salmon industry on this coast, states that the 1930 run of pinks was the largest in his experience.

The following statement covers the past fourteen years and shows the average pack of pinks arranged in two-year groups. The pink is a two-year fish, that is, for instance, the large run which arrived in 1930 was the product of the seeding of 1928:-


## CHUMS

Whilst the pack of 401,114 cases of chums shown by Statement No. 1 is very satisfactory one it is felt that it could have been materially increased had market conditions warranted more intensive fishing operations. In common with other varieties, the chums were late in arriving yet the runs were quita satisfactory. A larger percentage than usual was permitted to pass to the spawning grounds, partly due also to the extra conservation measures which were enforced from the first of the run to make sure that the spawning grounds received a reasonable quantity of parent fish. Another reason why there has not been a larger pack of chums is that during the one month extra closed time enforced in the Fraser river for the protection of sockeye, the chum run was at its height and the bulk of this variety escaped to the spawning grounds.

The following statement shows the chum pack for the past fifteen years, grouped to show the average in five-year periods:-


CANNED SALMON EXPORT
Statement No. 24 shows particulars of the shipments of canned salmon exported from the port of Vancouver, together with their destinations, covering the years 1925 to 1930 .

## HALIBUT

The landings of halibut in British Columbia in 1930 were 49,568 hundredweight less than during the year 1929. The season, by regulation, opened as usual on February 15, but, by common agreement, the fishermen, on account of the large stocks of halibut still remaining in the cold storage plants along the coast, which would have the effect of lowering the price of fresh supplies, and partly due to their being able to obtain more advantageous insurance rates on their fishing boats, did not proceed to the fishing grounds until the first of March. Notwithstanding the late start, however, the prices obtained by the fishermen were discouraging and, as a matter of fact, the prices during the whole season were unsatisfactory.

## HERRING

The calendar year covered by this report includes the second half of the 1929-30 herring runs and the first half of the 1930-31 runs, as the herring season extends from the early fall to the late spring. Owing to this fact Statement No. 8 does not compare the runs of each season but only the packs of the calendar years.

A considerable percentage of the herring shown under District No. 1 is actually caught in District No. 3 and transferred across the gulf of Georgia to the salteries at the mouth of the Fraser river. In District No. 2 the drysalting operations in the past have amounted to very little, practically all the herring caught being used either for halibut bait in a fresh or frozen condition or processed at the one reduction plant operated in that area.

The main fishing grounds are on the southeast and southwest coasts of Vancouver island. Whilst the pack at the former for 1930 shows a decrease of 145,000 hundredweight this cannot be taken as an indication of smaller run. As a matter of fact owing to the unfortunate market conditions in the Orient, fishing operations were greatly curtailed, both in the amount of equipment fished and the period through which operations were continued. Operations all ceased on December 24, whereas, in former years, fishing was continued through to the end of the year.

On the west coast of Vancouver island an increase of 100,000 hundredweight is shown over the previous season. Here again, due to the above mentioned conditions, fishing operations were curtailed. . As a matter of fact, had it not been for the market situation, it is felt that the year's pack for the whole province would have been a record one.

The investigation by the officers of the Biological Board was continued during the year.

The local officer reports that during the last two weeks in the month of March he found, between Ucluelet and Sechart, in the Barclay sound area, the largest quantity of spawning herring he has observed for years. The same remarks also apply to the Prince Rupert-Port Simpson district.

In the fall of 1929, the Canadian Halibut Fishing Vessels Owners' Association of Prince Rupert urged that the department do some prospecting with $38710-7$
a herring purse-seine the following late spring and summer for the purpose of obtaining live herring for halibut bait purposes. It was felt by the members of the association that live herring were available not far from Prince Rupert, but that no individual fisherman was in a position financially to take the risk of prospecting for them. It was suggested that the department should undertake the necessary investigation.

Arrangements were made by the department with Mr. Robert Lloyd, an experienced herring operator, covering the operation of one herring purse-seine not less than one hundred and twenty-five fathoms in length and sixteen fathoms in depth to prospect District No. 2 in order that locations might be found in which herring in sufficient quantities could be taken to warrant their capture and impounding. It was also arranged that a representative of the association would be named by that body and placed on board the seine boat in order that the members of the association might be satisfied that every effort was being made to make the experiment a success. He also carefully watched, on behalf of the department the catches and kept a careful check on all sales, as the department undertook to indemnify Mr. Lloyd against loss up to a maximum of $\$ 5,000$. Mr. Lloyd was to sell such herring as he might catch, on impound in so far as it was practicable, at the prevailing rates in Prince Rupert or elsewhere in the district. It was only in the event of the profit on these sales being insufficient to meet operating expenses that the department was to be called upon for any payment. The minimum period the operations were to continue was set at four months.

The result was that after operating for the prescribed period herring were not found in sufficient quantities in any portion of the district, readily available to the halibut fishing fleet, apart from Inskip channel on the west coast of Graham island. This point, however, is too far off the course of the halibut boats passing between Prince Rupert and the fishing grounds to permit of its being used for the purpose intended. The herring found there were of a variety and size suitable for kippering and scotch curing and it is quite possible that the investigation may be the means of building up on the west coast of the Queen Charlotte islands a fair sized herring fishery. Small supplies were obtained during July in the vicinity of North island and disposed of to the halibut boats but no suitable location could be found in the district for the installation of a pound and the herring therefore had to be caught as required after the arrivel of the halibut boats. This method obviously was not economically practicable. The cost of the investigation was $\$ 4,962.50$.

## PILCHARDS

Statement No. 9 shows a reduction of 44,000 cases in the pack of canned pilchards for the year. This, of course, was entirely due to the condition of the markets. There was a splendid supply of pilchards and it would have been quite possible to have put up a considerably larger quantity in the canned form.

## WHALING

The total catch of all varieties of whales in British Columbia for the year as shown by Statement No. 11, was 320 , compared with 407 the year previous, Practically the whole difference was in the Fin variety, the catch being only 63 in 1930, compared with 168 in 1929.

The two stations at Naden Harbour and Rose Harbour were again operated.
In view of the most unsatisfactory market conditions, particularly in tho case of oil, the prospects for the whaling industry are not especially bright.

## FUR SEALS

The impression has prevailed in recent years that, because of the low price of fur seal skins, the hunting would be considerably curtailed. The price $r$ -
ceived by the hunters in 1930 averaged again approximately $\$ 6$ per skin and would hardly seem to be sufficient to warrant very intensive hunting operations. The catch each year, of course, cannot be taken as an indication of the numbers of seals passing along the coast of British Columbia to the hauling-out grounds in the Pribiloff islands, as the success of the hunting largely depends upon weather conditions and the success of salmon trolling.

Indian canoes are the only variety of boats permitted under the Pelagic Sealing Treaty in these operations and are not sufficiently seaworthy to permit of taking risks twenty to forty miles off the west coast of Vancouver island.

The figures given in Statement No. 12 show that 1,086 fewer skins were landed in British Columbia during 1930 than the previous year. A large percentage of this total is accounted for by the smaller landings in the northern portion of the province, there being a difference there of 924 between the season of 1930 and 1929.

## DESTRUCTION OF SEA LIONS

Hunting operations in 1930 accounted for only 1,068 sea lions, 464 being adults and 604 pups. This total is the smallest since 1922 and indications would seem to show that the annual hunt, has been producing good results, particularly as an absence of yearlings and two-year olds was noted on the rookeries.

The C.G.S. Givenchy was again used in the hunting operations and, in addition to the crew, Mr. W. E. Maiden, Secretary of the British Columbia Fishermen's Protective Association, an expert machine gunner, was employed, as has been the custom since the commencement of these operations.

In addition to a Lewis gun and -303 calibre service rifles, one repeating $\cdot 22$ calibre rifle was supplied and was found to be of very great help in disposing of the pups. The use of the more powerful guns is now confined to the adult lions.

The first landing was not made until June 13, owing to the difficult weather conditions encountered. The bare rock islands of the Virgin and Pearl groups are exposed to the full sweep of the ocean from the west and at all times there is some swell which breaks very dangerously on the shores of these islands which are very little above sea level. In addition to the sea caused by the westerly winds, the tidal conditions in this locality are unusually difficult, and it is only with the best of equipment in the way of a good seaworthy boat, and officers who are familiar with these waters, that reasonable success is obtained.

The small number of sea lions found on the Pearl rocks of recent years would seem to show that the hunting has either destroyed the herd that frequents this particular hauling-out ground, or they have been driven to other localities.

Statement No. 13 shows the number of both adults and pups destroyed each season, commencing with 1922.

As an evidence of the feeling of the salmon gill-netter fishermen of the dis.trict, it is interesting to refer to a petition signed by fifty of the fishermen, received after the gill-net season was over, asking that the hunting be continued. The petitioners estimated an average of 100 sockeye destroyed during the season in connection with the operations of each fisherman. This loss, of course, is very serious, apart from the damage done to the nets.

Mr. Maiden reports having observed on the Virgins partly eaten herring and the bones of much larger fish and a reasonable assumption is that the lions lad been living on these forms of life.

The fishermen as an evidence of their appreciation of the department's action, again presented the expedition with cigars.

## FISH MEAL AND OIL

By reference to Statement No. 10 it will be observed that there was, during the year, a very considerable increase in the quantity of meal and oil produced from pilchards and herring but a reduction in the production of these by-products
3 motions
from whales. The total under the heading "From Other Sources" is procured primarily from greyfish and the offal of halibut.

A very large percentage of the product of reduction plants is exported from Canada, practically all the oil going to the United States, where competition was so keen during the year with other varieties that the price dropped to a point where it was impossible to operate with profit. The price of fish meal was fairly well maintained but was not sufficient to protect the industry from a loss on the combined operations.

## PATROL SERVICE

A total of 145 boats were used in the fisheries patrol service. Thirteen of these were row boats, two were of the steam trawler class, and the remainder were boats of various sizes powered by gasoline or crude oil engines. Twentyfour of the power boats were owned by the department. In addition, two seasleds were used in District No. 2 and one in District No. 3.

The steamers Malaspina and Givenchy again had a very busy season, the latter, as usual, having included in her duties a short period of life-saving on the southwest coast of Vancouver island. The Malaspina logged 20,066 miles and the Givenchy 15,326 miles.

During the year two new boats were built for the purpose of better equipping inspectors who have large and important areas to supervise. One boat was built for the northern portion of the Queen Charlotte islands and the other for the southern portion. These boats were similar in build, being 52 feet in length, 12 feet in width, 4 feet 9 inches draft, and powered with 80 horse-power, 4 -cylinder, 4 -cycle, reduction geared gasolene engines. The cost of each was $\$ 11,933$.

Unfortunately during the season two boats were lost. One, the Onerka, which had been in commission only a matter of weeks, was burned owing to an explosion in the engine room. She was a total loss. The Merrysea, which had been used for some years out of Vancouver, was rammed by a passenger boat at the First Narrows in Vancouver harbour and sank. She also was a total loss. All members of both crews were saved although the three on board the Merrysea had a very narrow escape from drowning.

Due to the contract with the Western Canada Airways, Limited, having expired at the end of the calendar year of 1929, it was necessary to again call for tenders for this most efficient arm of the patrol service-air patrol. The company was successful in having their tender accepted and the new contract calls for a further two years, the latest type of Boeing flying boat being used and convenient bases provided along the coast.

The year's experience has again demonstrated the efficacy of the seaplane in fisheries patrol and the inspection of the spawning grounds. There is no doubt but that the considerable expense involved is well justified.

Statement No. 17 gives the distribution of the 443 hours 40 minutes used. in flying patrol during the year.

## REGULATIONS

The system of dividing the coastal waters of the province into twenty-seven separate seining areas, inaugurated in 1929, was continued through the year and was again found to be most effective in the control of fishing gear and has made the conservation of the salmon runs a simpler matter.

It will be observed by Statement No. 16 that there were 1,658 power boats employed in the salmon gill-net fishing in Distriet No. 2 during the year compared with 1,010 in the previous season.) This would appear to show that more and more fishermen are finding operations sufficiently profitable to permit them to acquire their own equipment and not have to depend upon the canners for the boats and gear as has been largely the case in District No. 2, particularly up to the present time.

Owing to the unusual conditions obtaining during the past fall from a standpoint of unemployment, and having in view the excellent runs of all varieties of salmon, it was felt desirable not to require the usual closed season for salmon fishing during the month of December. As a result a good many fishermen were able to make a living, which would probably have been impossible if the fishing had not been available to them.

## VIOLATIONS

The total revenue derived as a result of violations of the Fisheries Regulations amounted to $\$ 8,052.73$. Details of the 211 cases of prosecution are shown elsewhere in this publication. In addition, the foreign boats Tillie $M$, Queen City, May, and Sunrise were apprehended for making illegal use of Canadian harbours. In the Vice-Admiralty Court they were condemned and forfeited to the Crown.

## SPORT FISHING

The anglers and residents generally of the province continue to show their appreciation of the efforts of the department in keeping stocked with sport fish the numerous lakes and streams. While certain experiments have been made in the way of introducing non-indigenous varieties to the province, it has been found that the best results have been obtained by giving the greatest attention to the native varieties, particularly the Kamloops and Cutthroat trouts. Although much is heard of the Rainbow and Steelhead species, there would appear to be no doubt, following the recent investigations by officers of the Biological Board of Canada, that the Kamloops, Rainbow, and the Steelhead are all of the one family but that the several classifications are the result of different environment.

There were 207 plantings of eyed eggs and fry of sport fish made during the year.

Each season there are more members added to the central organization known as the British Columbia Fish and Game Protective Association at Vancouver. This central body is for the purpose of dealing in one office, as far as possible, with the requirements of the numerous anglers' associations throughout the province before presenting any suggestions to the department for amendments to the regulations. At present the Vancouver body represents associations from the following cities and towns throughout British Columbia:-

| Armstrong, | Fernie, | Matsqui, | Revelstoke, |
| :--- | :--- | :--- | :--- |
| Bickle, | Fort Fraser, | Nanaimo, | Salmon Arm, |
| Chilliwack, | Fort St. James, | Natal and Michel, Sicamous, |  |
| Clinton, | Golden, | Nelson, | Squamish, |
| Colleymont, | Greenwood, | New Westminster, | Terrace, |
| Cranbrook, | Hope, | North Vancouver, Trail, |  |
| Creston, | Kamloops, | Parksville, | Upper Sumas, |
| Cumberland, | Kelowna, | Penticton, | Vancouver (4), |
| Enderby, | Ladysmith, | Prince George, | Vernon, |
| Fanny Bay, | Lumby, | Prince Rupert, | Victoria (2) and |
|  |  |  | Windermere. |

## DESTRUCTION OF HAIR SEALS

The year under review has been no exception to previous ones in the way of complaints with regard to the depredations of this menace to the salmon industry. It has been found from the experience of recent years that the most efficacious method of dealing with the situation is by means of a bounty paid on presentation of the nose to the proper officer.

Statement No. 18 shows the amount paid each year in the way of bounty and the number of seals on which the bounty was paid.

## STAFF

Due to the decease of the supervisors at New Westminster and Nanaimo, respectively, and the transfer of the Prince Rupert supervisor to the Vancouver office, it became necessary that three new appointments be made. The appointments made by the Civil Service Commission were all by way of promotion and resulted in Mr. R. W. MacLeod being appointed to New Westminster, Mr. J. Boyd to Prince Rupert and Mr. J. F. Tait to Nanaimo.

In order that the services of competent men might be retained it was found necessary to make permanent a number of positions that heretofore had been on a seasonal basis. The advantages of retaining in the service officers of long experience, rather than changing from year to year, is obvious.

An additional officer was added to the Vancouver staff, primarily for the purpose of taking care of statistics and publicity. The requirements under both these headings have become so pressing that it became imperative to make a special appointment.

## OBITUARY

I very much regret to have to report the passing of the following officers during the year:-

Edward Grey Taylor, Supervisor of Fisheries at Nanaimo, who entered the fisheries service on March 13, 1905, and died on January 31, 1930.

Captain Frederick Charles Laird, the senior officer in the patrol service, who entered the service July 1, 1908, and after serving successively as captain of the Alcedo, Fispa, Givenchy and Malaspina, died on March 24, 1930.

John McIsaac, Superintendent of Pitt Lake Hatchery, who entered the service July 1, 1912, and died October 6, 1930.

## ANNUAL MEETING OF FISHERY OFFICERS

The usual annual gathering, at the office of the Chief Supervisor in Vancouver, of the supervisors, inspectors, and a number of patrolmen, was held on March 18 and 19. The Chief Supervisor first met the officers of each of the three districts separately and held a final meeting of the whole on the evening of the 19th.

These meetings are more or less informal as in this way much more can be obtained from the resultant free discussions and arguments. The agenda for the general meeting this year covered forty separate items and dealt largely with regulations and their interpretation but considerable attention was given to court procedure, a thorough knowledge of which is so necessary in the proper performance of the duties required of each supervisor and inspector particularly.

An effort is being made to increase the value of these annual meetings in future seasons and to this end it is expected that the officers of the Biological Board will assist, and in addition, experience will be given the officers by means of mock trials, which should prove both interesting and instructive.

Of recent years it has been found more and more necessary that the supervisors and inspectors become better qualified in the way of legal procedure as the industry is looking more and more to counsel for advice and it is imperative that the value of the Fisheries Regulations be not nullified owing to the loss of court cases through technicalities.

## indians-SALMON SPAWNING GROUNDS

It would appear fitting to comment again on the large quantities of adult salmon taken each season off the spawiing grounds by the Indians for food purposes. Statement No. 19, dealing with Districts Nos. 1 and 2 only, gives some indication of the seriousness of the situation.

In addition to the quantity shown for the Fraser watershed, 12,000 sockeye salmon were handed to the Indians by the fish cultural officers after they had been spawned.

During the year a number of cases of canned pilchards were supplied by the salmon canners on the coast for the purposes of ascertaining whether the Indians would substitute this variety of food for salmon. The cans were distributed with the co-operation of the local Indian agents in the Stuart lake and Vanderhoof areas. The results cannot be considered as satisfactory. Arrange-ments are being made to experiment in the same way with smoked chum salmon and in view of the excellence of this food, compared with the poor condition of the fish taken from the spawning grounds, it would seem to be reasonable to expect better results.

POLLUTION OF STREAMS
Much difficulty is experienced from time to time in preventing the pollution of waters through the operation of sawmills, mines, paper and pulp mills. When these industries are at their height it is found to be almost impossible at times to take care of the situation. In the case of sawmills precautions are taken to see that all sawdust and other refuse is burned on shore and not allowed to get into the streams. In the case of mines the situation is somewhat different due to the fact that the liquids escaping find their way to the streams or lakes, particularly at isolated points which are so difficult to keep under close observation.

The operations of pulp and paper mills in British Columbia up to date have not given as much trouble as on some other portions of the Pacific coast, but these must in the future be kept very carefully under observation.

An unusual situation has existed during the last two seasons in the Naas river area, where a so-called drifting silt has been found in the waters of Observatory inlet and Portland canal. This substance, at times, has become so dense as to sink a number of salmon gill-nets, which means a loss of from $\$ 250$ to $\$ 300$ in each case. One firm claims to have lost in one season nets to the value of $\$ 3,000$. The officers of the Biological Board at the present time are conducting an investigation with a view to determining whether this difficulty is the result of natural causes or is due to the operations of a smelter.

## ENGINEERING DEPARTMENT

The two civil engineers attached to the Vancouver office had an extremely busy year, which covered, amongst other matters, the clearing of obstructions in salmon streams, construction of retaining ponds, wharves, floats and marine ways, construction and repairs to hatchery buildings, construction of counting fences, the erection of buildings for the Biological Board, the examination and investigation of numerous plans of power and other schemes which might result in the obstruction of streams and which would probably require fishways. In addition, considerable time is consumed in the office in the way of drafting and correspondence.

Whilst the total of $\$ 6,013.10$ expended during the year in the way of clearing of obstructions from streams is not large, it is no indication of the amount of work performed and the time involved.

In view of the great distances in the province much time is spent in travelling from point to point, and often after a trip of some distance it is found that there is no reason to take any action or that what work is necessary can be done by the department's own officers at no expense.

During the year two consultations were held in Vancouver with Messrs. Shirley Baker and W. B. Gilroy, consulting engineers. These officers have been employed by the Government of the United States to investigate existing devices for the purpose of overcoming obstructions placed in streams and to devise, if possible, better methods to take care of the fisheries interests in such projects and in connection with irrigation schemes. It is felt that much good will come from these conferences.

## MEETINGS WITH FISHING INDUSTRY

The usual meetings were held in the fall with the several branches of the industry in Vancouver, New Westminster, Nanaimo, and Prince Rupert. An opportunity was given at these meetings for a full discussion of fisheries matters. The Vancouver meeting was attended by the Minister and the Deputy Minister, the other meetings by the Deputy Minister only. The industry generally was particularly appreciative of the opportunity of placing before the Minister personally their views on several of the major fisheries problems.

## REPORT ON SALMON SPAWNING AREAS, 1930

## Queen Charlotte Island.s

At Massett inlet, owing to the year under review being that of the big cycle run of pink salmon, it was expected that a good supply of fish would arrive. All expectations, however, were greatly exceeded. The quantities passing up Yakoun river and the streams tributary to Juskatla inlet were even more satisfactory than two years ago, notwithstanding the fact that a large pack was put up by the operating canneries. The streams along the east coast received a better seeding than in 1928, due largely to the fact that the fishing boundaries were placed so far out as to guarantee a very liberal escapement, made necessary by intensive fishing during recent years.

The supply of chums was quite a satisfactory one and the fishery regulations, of course, permitted a greater percentage than usual of each run to pass to the spawning grounds, which, in practically every case, were abundantly seeded.

## Naas Area

There were more sockeye observed in the Meziaden district than in any previous year. Many thousands were observed in Meziaden river and in the fishway on their way up to the lake, and great numbers were observed on all the spawning beds.

The escapement of spring salmon had also apparently been large and the spawning areas were well supplied with this variety.

By means of seaplane service an inspecting officer was able to examine closely conditions in the Bowser lake district, but found that this area is not an important one from the standpoint of sockeye.

A greater effort was made this year to obtain information from the upper reaches of the Naas system, although the travelling in this area is most difficult and hazardous. In the opinion of the inspecting officer the streams usually frequented by salmon have been again reasonably well stocked by spawning fish.

The supply of pink salmon to the streams in the lower portion of the Naas watershed has been large and the inspecting officer feels that the conditions are 50 per cent better than those of the brood year of 1928.

The quantity of chums observed on the spawning areas was also found to be an improvement over previous seasons and the spawning beds were adequately sceded.

The run of cohoes was found to be eminently satisfactory, and the spawning grounds are particularly well seeded with this variety.
Sheena Area
The season was an exceptionally good one in practically all portions of the Skeena watershed and included all varieţies of salmon, with the possible exception of the cohoe.

The inspecting officer states that this was a splendid year in the Babine lake district, the principal sockeye spawning area for the Skeena system. This also applies to the springs. The pink run, of course, was not expected to be large as it was the "off season" for this variety of salmon.

Some difficulty was experienced owing to the unusually dry season, which resulted in some of the streams being too low to permit the salmon to ascend. It is not felt, however, that this condition will prevent a large return of sockeye five years hence.

Quite a large run of spring salmon appeared in the Morice river and there is no doubt that the spawning beds of this area are well suplied.

The streams in the lower part of the Skeena watershed received a good seeding of pinks and chums.

At Lakelse lake a most satisfactory quantity of sockeye appeared and, in addition to the hatchery requirements being met, there was a considerable amount of natural seeding.

## Grenville-Principe Area

The supply of sockeye on the spawning grounds was found to be very satisfactory, no doubt partly as a result of the extended weekly closed time and the early final closure of the area.

A heavy run of pinks appeared and all spawning grounds were well supplied with this variety, showing a large increase over the brood year.

This is not a particularly prolific chum salmon area but the run was normal.

A heavy escapement of cohoe reached the spawning grounds, a condition which is partly attributed to the early closure of fishing. The quantity shows an increase over the brood year.
Butedale Area
The unusual fishing restrictions enforced in this area, notwithstanding the unfavourable weather conditions, permitted a good escapement of salmon to the spawning grounds in this area.

The escapement of sockeye was equal to that of the brood year and considerably better than 1929.

The escapement of pink salmon exceeded that of the brood year of 1928 by approximately twenty-five per cent.

The supply of chums was very satisfactory, there being runs of this variety to many streams after fishing was closed for the season. The escapement was estimated as exceeding that of last year by about thirty per cent.

The supply of cohoe salmon is estimated at approximately forty per cent greater than that of the year 1927.
Bella Bella Area
The escapement of sockeye was excellent and in such streams as Koeye, Kismet, Kwakusdis, and Tinkey were above normal.

Pinks appeared in good numbers and while the run was possibly not as large as that to the area immediately to the north, yet a larger quantity than usual reached the spawning grounds, which were heavily seeded.

The supply of chums was above normal.
Bella Coola Area
In the Bella Coola river system spawning conditions were found to be very satisfactory.

While the escapenent of sockeye was not as large as the preceding season, it compared very favourably with recent years.

The seeding by pink salmon was found to be very heavy.
Chums also were found in most satisfactory quantities.
The escapement of cohoes was also good, although on final inspection they had not all reached the spawning areas.

The spawning conditions in the case of the springs were found to be normal.
In the Kimsquit river portion of the area conditions were also found to be good. While it is difficult to obtain absolutely definite information, there is
every reason to believe that there was an adequate supply of sockeye on the spawning grounds.

The quantity of pinks appears to have been better than in recent years.
Indications point to a splendid seeding by chum salmon. Cohoe were seen in sufficient quantities to justify the statement that there was a better showing than in the previous year and conditions in this respect are satisfactory.

Spring salmon do not frequent the Kimsquit river in large quantities but the supply this year was normal.

The inspecting officer sums up with the statement that the supply of pinks and chums, particularly, shows improvement as compared with the previous year.

The streams along the Burke and Dean channels which are frequented by pinks and chums were found to be well supplied with both varieties.
Rivers Inlet Area
Two trips of inspection were made in this area by the federal fishery officer. One between the 16th and 19th of September and the other between the 18th and 26th of October.

Rivers inlet is primarily a sockeye area and the examination of the streams tributary to Owekano lake showed a most satisfactory spawning in practically every case, and while possibly it was not as great as in the brood year of 1925, it was sufficiently large to justify the expectation of a good return in 1935.

No obstructions were found which would prevent the salmon from passing up to their spawning areas.

There is a run of chums and cohoes to the streams in the lower part of the inlet, to such areas as Moses inlet, Draney inlet and Kildala bay. These chums and cohoes were observed in very satisfactory numbers as also were pinks, except in Draney inlet.

Rivers inlet has never been considered an important pink area.

## Smiths Inlet Area

This is primarily a sockeye area, although there is a small run of good quality chums to the tributaries of Broad reach, and a run of pinks to the Ketite river. This latter run appears to be increasing in size as a result of the protection being given it in recent years.

Satisfactory quantities of cohoe were also found on the spawning beds.
The chief sockeye streams are the Geluck and Delabah rivers. Between October 4 and 6 these streams were found to be well supplied with sockeye.

It has been suggested that the quantity of sockeye appearing in the Smiths inlet area this year was possibly not as large as might have been expected from the seeding of 1925, but one must remember that fishing operations have been extended considerably farther out into Queen Charlotte sound of recent years, both by fishermen from Rivers inlet and Smiths inlet. It is quite possible that the more intensive fishing in the outside areas may be intercepting a larger portion of the run passing to Smiths inlet.

## Alert Bay Area

This area extends from cape Caution to Tuna point, Johnston straits, and includes all the inlets on the mainland side as well.

The principal sockeye streams are the Nimpkisk and Glendale rivers. A thorough inspection of the former was made by means of a seaplane and the spawning beds were found to be splendidly seeded by large numbers of salmon. With the present regulations at this point, there would appear to be no fear of depletion.

The usual run appeared at Glendale and there is nothing unusual to report.
The " creek" sockeye variety run to such localities as Hardy bay, Shushartie bay and Nahwitti river, and practically all passed to the spawning grounds before the fishing season opened. The supply was normal.

The local officer reports the run of pink salmon to the whole Alert Bay area as the heaviest he has ever observed in the district. The situation from the standpoint of this variety on the spawning grounds is most satisfactory.

All streams have an abundant supply of chums and there is no doubt that the present system of protection is taking care of this species.

The cohoe variety appeared in very satisfactory numbers and although possibly the runs were not quite as good as in the preceding season yet an excellent supply reached the spawning grounds.

In the case of the springs there was no particular outstanding factor warranting special notice but the supply was ample.
Quathiaski area
This embraces the area between Tuna point and cape Mudge, including the numerous inlets on the mainland side.

The only sockeye areas of any importance are Hayden bay and Phillips arm. The run to Hayden bay creek is comprised of the "creek" variety which in the past have mostly passed to the spawning grounds before the fishing season opened. This year the spawning grounds were well seeded. The run to Phillips river is a more valuable variety and the supply this season was satisfactory.

The inspecting officer reports the supply of pinks as the best since 1926. It would seem that here also the present regulations are increasing the supply.

The showing of chums was not as encouraging as was hoped for, but it is felt that there has been sufficient seeding to take care of the cycle year.

The cohoe run was only medium, generally speaking, but the supply of bluebacks which are, of course, young cohoe, and are taken in considerable quantities in the vicinity of cape Mudge by means of trolling, has been unusually good. The inspecting officer remarks that there have been few runs that have exceeded the one this fall.

The supply of spring salmon to the Campbell river, to which district large numbers of sportsmen are attracted each year for sport fishing, was not as good as expected, although there were some fair catches made.

## Comox Area

This is not a sockeye area but the supply of pink salmon was most gratifying. Streams such as the Oyster river, which appeared a few years ago to have been depleted, have not been restored to the original state of productivity, due to energetic conseryation measures.

Chum salmon have also been reasonably plentiful and it is felt that the action taken by the department in moving out the boundaries at the mouths of several streams is having the desired effect.
Pender Harbour Area
The only sockeye stream of any value in this area is the Sauchen-Auch. Although the supply of parent salmon this year on the spawning grounds was not more than normal, at the same time there is every indication that this area, by means of protective measures, is being made of greater importance.

Although 1930 was an "off" year for pink salmon, the supply on the spawning grounds was entirely satisfactory.

The chum salmon were as plentiful as usual and there would appear to be reason to expect that the supply of this variety can be well maintained.
Nanaimo Area
The streams in this area are frequented by the fall varieties of salmon. The officer's reports show a good seeding of pinks and chums, with a reasonable supply of cohoes. In the Ladysmith district, particularly, the inspecting officer reports, the salmon run in general was exceptionally good during the entire season and the run of chum salmon exceeded any previous period of which he had knowledge.

## Cowichan-Victoria Area

Again trouble was experienced with low water conditions in the Cowichan river and the fall runs of spring salmon and the cohoes met very great difficulty in overcoming the falls. The chums, which mostly spawn between the falls and the mouth of the river, although late were finally able to spawn in good numbers. Plans with regard to the righting of conditions at the falls have so far advanced as to permit of the necessary remedial measures being taken before the next year's run arrives.

Sport fishing in the Cowichan river, lakes and bay continues reasonably good, although the early run of spring salmon has been disappointing. The supplies of steelhead and cutthroat trout as well as cohoes and the late springs have given sportsmen a fairly good season.

## Sooke-Alberni Area

Sockeye areas in this district are the Nitinat, where a small run of the "creek" variety occurs, and the Anderson, Sproat, and Great Central lake systems. The quantity of spawning fish at Nitinat was normal. The natural seeding at Anderson lake was not up to expectations but there is reason to believe that the natural seeding, together with the hatchery operations, will provide a good return four years hence.

Increasing quantities of sockeye are reaching the Sproat and Great Central systems each year. The fishway at Stamp falls is most efficient and the success in the way of building up the run to these two systems has been most gratifying.

There are few pinks in this area although some are to be found occasionally at Sarita river. Most of this variety caught in the district are taken by seines in Wreck bay, Pachena bay and at the Klanawa river.

The season under review was not expected to produce a very large run of chums but it is observed that the catch has been 100 per cent greater, for instance, than in 1926, and there has been a very satisfactory supply of parent fish found on the spawning grounds.

Cohoes appear to be increasing in recent years and whilst there was a heavy run in 1929 there was an even greater supply found on the spawning grounds in 1930 .

The Nahmint and Somass rivers show steady increase in the number of spring salmon on the spawning areas and the quality in 1930 was unusually good. The largest catches of course, of this variety are taken by fishermen operating off the west coast of Vancouver island, usually in extra-territorial waters. Weather conditions very materially affected the catch but there is no reason to believe that the supply is not being maintained. In this connection it is interesting to note that tagging operations by the officers of the Biological Board show that approximately sixty per cent of the spring salmon passing the west coast of Vancouver island are heading for the Columbia river on the United States side.
Clayoquot Sound Area.
This area is frequented principally by sockeye, chums, and cohoes. There is a run of pinks to the Megin river and this year's was the best observed by the local officer. He states that the river was very heavily seeded.

The main sockeye stream is the Kennedy river. Conditions on the spawning grounds of the system drained by this stream were found to be unusually good. The superintendent of the hatchey at Kennedy lake states that all beach spawning grounds have been heavily seeded, as well as other areas in the district. No difficulty was experienced in filling the hatchery to capacity.

The local officer estimates that the supply of cohoes on the spawning grounds in the clayoquot sound area exceeded that of 1929 by about thirty per cent.

Weather conditions were such at the time of the arrival of the chums that they passed up the streams without waiting as usual at the mouthis. The spawning grounds were adequately seeded.

The run of springs to Megin river, Camp river, Sidney inlet and Kennedy river was reported to be only fair.

## Nootka Sound Area.

The sockeye species frequents the Good and Queens Cove rivers and the streams entering at the head of Muchalat arm, Esperanza inlet, Zeballos river and Owas-sit-sa river. It is only in Gold river that the quantity is sufficient for commercial purposes. Indications would point to a reasonably good seeding in these streams.

The pink variety only appears in small quantities in the several streams in the area. Although the runs have had every opportunity to increase, the supply appears to be no more than holding its own.

The chum salmon is the most valuable variety in the Nootka district. In the opinion of the inspecting officer the spawning grounds were sufficiently well seeded to take care of the cycle year.

The cohoe salmon do not frequent this area in any large numbers but the 1930 supply was normal.

The spawning grounds of the spring salmon were well supplied with eggs. No fishing operations for this variety have been carried on inside the sound, which helps materially in adequate seeding of the several streams.

## Kyoquot Sound Area.

This is not an important sockeye salmon area but the streams frequented by the "creek" variety, which is the only one running to this area, received a normal seeding.

Pinks are not an important factor in the district and the supply on the spawning grounds was small.

Chum salmon are the only variety taken in any large quantities and although the catch was reasonably good the spawning grounds showed an average seeding.

The spawning grounds contained a normal supply of cohoe salmon eggs, but the area has never been a large producer of this variety. The information with regard to cohoes also applies very largely to the case of the springs. The seeding of the spawning grounds was normal.
Quatsino Sound Area.
The only salmon which arrive in this area in large quantities are the chums, spring, and cohoes, although there is quite a fair run of pinks to the river at the head of Rupert arm. The usual supply arrived in the river this season.

There was some doubt as to there being a sufficient quantity of chum salmon, but as the season advanced, the spawning grounds received a quite reasonable supply of eggs, sufficient for an adequate seeding.

Marble creek is the main spring salmon spawning area and the beds were well taken care of.

The cohoe supply may be considered as only normal but it is expected that the seeding will produce a reasonable return in the cycle year.
Fraser River Watershed.
What has been in past seasons known as the early run of sockeye to the Fraser river system was this year disappointing. It is the sockeye salmon which pass into the river up to approximately August 15 which are headed for the upper reaches of the-Fraser river. These are unusually excellent in quality and produce the finest pack of sockeye salmon in the world. The areas frequented by this run in past years are the Stuart lake, Bowron lake, Quesnel lake and the Chico lake systems.

An inspection of the spawning grounds in these areas produces the following information: The first sockeye reached the Stuart lake area early in August, a few showing in Souche, Kynock, Middle, Rosette, and Forfar creeks.

The quantity was, however, very small and did not compare favourably with that of recent years.

It was estimated that 300 sockeye passed through Francois lake and spawned in Nadina river. Apparently these salmon spawned on the ground where plantings were made by the fish cultural staff in 1926. While it is possible that these may be the result of such plantings, it must be remembered that there was still a remnant of the old run left and the natural spawning would take place in the most suitable gravel banks. These would also be chosen for fish cultural operations.

The second and somewhat larger run to this system in 1930 was mostly captured by the Indians of the Nautley and Stella Indian reserves, notwithstanding the arrangements which had been made to the end that the Indians would not molest this run. It is estimated that out of a possible 800 adult sockeye in the second run some 700 were captured by the Indians. This is a great pity in view of the effort being made to restore the runs, which, if successful would be a marked benefit to the Indians themselves.

There were a few sockeye observed in the Bowron lake area, and this was true also at Quesnel lake.

In the Chilco area there were very few sockeye compared to the preceding two seasons. The local guardian, who has had considerable experience in his duties, estimated that not more than 900 adults appeared on the spawning grounds compared with 70,000 in 1929, 20,000 in 1928, 400 in 1927, and 1,500 in 1926. Obviously, it is impossible to estimate correctly the number of fish in any stream or system but these figures are valuable in a comparative way.

In the Anderson-Seton lakes system a few sockeye were observed on the spawning grounds but not in sufficient quantities to be particularly encouraging. The number observed by the guardian stationed at the rapids, just above the mouth of Bridge river, was this year small although owing to the conditions at that point, the result of such observations is not always a sure indication of the actual situation.

In the brood year of 1926 it was estimated that there were between four and five hundred thousand parent sockeye spawning in the Shuswap area in Adams river and Little river. These had evidently passed into the Fraser river in September and did not reach the Shuswap area until well into October. (They were poor in quality, from the marketable standpoint, although many were taken and packed). It was expected that in 1930 there would be a large return from the natural seeding. A large run did materialize and, although it is not safe to estimate numbers, at the same time the quantities were apparently considerably greater than in 1926. No sockeye were observed in any other portion of the Shuswap area, apart from the odd two or three at the head of Seymour Arm.

The large run had very little difficulty in passing through Hell's gate and in fact all the eddies along both sides of the Fraser river for miles both below and above Hell's gate were red with sockeye on their way to the spawaing grounds In view of the number observed safely above the gate it is not conceivable that they all reached the Shuswap area, although no real evidence has been obtained as to any portion of the run arriving at any other spawning grounds above the gate. It is, however, possible that a considerable portion spawned in the Soutlr Thompson river itself. Very few ascended the North Thompson. Sockeye were observed passing Hell's gate well into the month of 'December and the local guardian, who has had sixteen years' experience in his present position, stated under date of November 29 that every stream below Hell's gate for sixty-five miles had large numbers of spawning sockeye salmon.

A portion of the run of 1926 reached Kakawa lake and river in the Coquihalla system. This year this area was again well seeded.

At Cultus lake 10,272 spawning sockeye were counted on their way through the hatchery fence to the spawning grounds. This number compares favourably with that of the brood year.

In the Birkenhead river system there was again a very excellent run. Thirty-five million eggs were taken by the hatchery staff, and the spawning grounds were well seeded naturally. This applies to the streams in the Lillooet lake district as well as the main spawning grounds in the Birkenhead.

In the Harrison lake area the hatchery staff made a collection of $3,372,245$ eggs. These were practically all from Morris creek, where conditions from a standpoint of spawning fish were found to be more satisfactory than in recent seasons.

At Pitt lake the supply of sockeye was large. The hatchery obtained its full quota of eggs and there was an abundant seeding of the spawning grounds naturally.

Undoubtedly the run of sockeye salmon to the Fraser river system during 1930 has been the largest since the last "big" year-1913. Unfortunately, however, these fish were practically all what is known as the "late run" and the quality on reaching the river was inferior. There is every reason to believe that the races frequenting the spawning areas from the Shuswap area to the mouth of the river which are known as the late fish are increasing in numbers.

The year 1930 was an "off" year for the Fraser river system, as far as pink salmon were concerned. No real run was expected, although a few reached the streams emptying into Burrard inlet.

Owing to the Fraser river being closed from September 20 to October 20 to all salmon fishing the catch of chums was very small, compared with other years, as the closure occurred at the height of the run. Evidently many fish got through during this period as there was an unusually large number found on the spawning beds. The closure also effected the run of cohoe and the escapement to the spawning grounds was found to be abnormally large.

In the case of the spring salmon an examination of the spawning grounds also shows a supply greater than found in normal years.

## General

With few exceptions every spawning area in British Columbia receives unusually large quantities of practically every variety of salmon in 1930. Evidently conditions on the spawning grounds in the brood years or conditions at sea, where the salmon spend their time before returning for reproduction, have been unusually favourable to salmon due to return in 1930. These conditions, coupled with the conservation measures enforced by the department during recent years, have resulted in a record pack of salmon in British Columbia waters. While it was expected there would be a reasonably good supply of sockeye in the northern areas the large catch obtained was greater than anticipated.

The huge runs of pinks reaching British Columbia streams was very remarkable and spawning fish of this variety were observed in many creesz where they had never been seen before.

Whilst the pack of chum salmon was not as great as usual this cannot be taken as an indication of a poor run. The demand for chums was not so great during the season under review owing largely to market conditions. The runs were also, as a rule, from one to two weeks later than usual, but investigation of the spawning grounds has shown ample qualities for spawning requirements.



Nore--Licences issued 1923, 1924, 1925, 1026, 1927 and 1928 include transfers from one district to another.
*For the years 1876 to 1001 and 1903-particulars of varieties not available-practically all sockeye.

PACK OF CANNED SALMON ON THE NAAS RIVER-1881 TO 1930

| Year | Num-ber orcan-neriesoper-ated | Number of salmon licences issued. |  |  |  |  |  | Red Spring | Pink Spring | White Spring | Bluebacks | Steelheads | Cohoes | Pinks | Chums | Totals |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | G.N. | Troll | P.S. | D.S. | T.N. |  |  |  |  |  |  |  |  |  |  |
| 1881. | 1 |  | . |  |  |  |  |  |  |  |  |  |  |  |  | 7,700 |
| 1882. | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 16,100 |
| 1883. | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 20,383 |
| 1884. | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 8,500 |
| 1885. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1886. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1887. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1888. | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 12,318 |
|  | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $19,410$ |
| $1890 .$ | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $23,906$ |
| $1891 . . .$ | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 10,323 25,434 |
| $1892 .$ | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 25,434 |
|  | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 15,180 |
| 1804. | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $19,587$ |
| $1890 .$ | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & 19,550 \\ & 14,649 \end{aligned}$ |
| 1896. | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1887. | 1 |  |  | ..... |  |  |  |  |  |  |  |  |  |  |  |  |
| 1898. | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 18,953 |
| 1809. | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 19,443 |
| 1000. | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 18,238 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 14,790 |
| 1902. | 2 |  | ..... |  |  |  | 20,953 | (Other | varietios | 2,365) |  |  |  |  |  | 23,318 |
| 1903. | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 12,100 |
| 1904. | 2 |  |  |  |  |  | 15,000 | 2,357 | (Red \& | h. Spri) |  |  | 1,697 |  |  | 10,085 |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 3,085 |  |  | 32,725 |
| 1006. | 3 |  |  |  |  |  | 22,166 | . 858 |  | $6^{63}$ |  |  | 5,097 | 3,450 | and Ch.) | 32,534 |
| 1907. | 3 |  |  |  |  |  | 17,813 | 1,288 |  |  |  | ${ }^{681}$ | 6, 093 | 5,957 | and Ch.) | 31,832 |
| 1008. | 3 |  |  |  |  |  | 27,584 | 3,203 |  |  |  | 1,101 | 8,348 | 6,612 | , and Ch:) | 46,008 |
| $1000 .$ |  | … 240 |  |  |  |  | 28.246 30.810 | 2,280 |  | 157 |  | 140 | 6,818 6,285 | 3.589 | and $\mathrm{Ch}_{351}$ | $\begin{aligned} & 40,900 \\ & 39,720 \end{aligned}$ |



[^0]

*Approximately.
$\dagger$ Pack of fish caught at Skeena River regardless where canned. $\ddagger$ Pack at Skcena River regardless where caught. Note.-Licences issued 1923, 1024, 1925, 1926, 1927 and 1928 include transfers from other districts.
For the years 1877 to 1903 . Particulars of varietics not available-practically all sockeye.

| Year | Number of canneries operated | Number of salmon licenses issued |  |  |  | Sockeye | Red Spring | Pink Spring | White Spring | Bluebacks | Steelheads | Cohoes | Pinks | Chums | Varieties other than sockeye packed at Smiths Inlet | Totals |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | G.N. $\mid$ Troll $\mid$ | P.S. | D.S. | T.N. |  |  |  |  |  |  |  |  |  |  |  |
| 1881. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1882. | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5, 235 |
| 1883.. | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 10,780 |
| 1884.. | 2 |  |  |  |  |  | . $\times$ |  |  |  |  |  |  | ...... | . . . . ${ }^{\text {a }}$ | 20, 383 |
| 1885. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1886. | 1 |  |  |  |  |  |  |  |  |  |  | . . . . . . . | . . . . . ${ }^{\text {c }}$ | - |  | 15,000 |
| 1887.. | 2 |  |  |  |  |  | . ..... | , |  |  |  | . . . . . . | . . | - |  | $11,203$ |
| 1888... | 2 |  |  |  |  |  |  |  |  |  |  | . . . . . . . | . . . . . . |  | . . . . . . . . . . . . | 20,000 |
| 1889. | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 25,704 |
| 1890. | 2 | . ..... |  |  |  |  |  |  | . . . |  |  | . ...... | ., |  |  | 32,961 |
| 1891. | 2 |  |  |  |  |  |  |  |  |  |  |  | . . |  |  | 34,924 |
| 1892,... | 2 | $T$ |  |  |  |  |  |  |  |  |  |  |  |  |  | 15,126 |
| 1893.. | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 35, 266 |
| 1894. | 2 | . . . . . . . . . |  |  | … . . . | $\cdots$ | . . . . . . |  | - |  | . . . . . . |  |  | . . . . . . |  | 39,351 |
| 1895. | 3 |  |  |  |  |  |  |  |  |  |  |  | . . . . . . |  |  | $58,579$ |
| 1896... | 4 |  |  |  |  |  |  |  |  |  | . . . |  |  | . . . . . . | . | 107, 408 |
| 1897. | 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 40,207 |
| 1898. | 6 | f |  |  |  |  |  |  |  |  |  |  |  |  | - | 104,711 |
| 1899. | 6 | $\theta$ |  |  |  |  |  |  |  |  |  |  |  | .... . $\cdot$. | . | 71,079 |
| 1900. | 6 | . ..... . . . . . |  |  |  |  |  |  |  |  |  |  |  | - $\cdot$ - | . $\cdot . . . . . . . . . . .$. | 75,413 |
| 1901. | 6 | . |  |  |  |  |  |  |  |  |  |  |  |  | , | 66, 840 |
| 1909. | 6 | . |  |  |  | 74,019 | (Other | varietie | 1,479) |  |  |  |  |  | -............ | $75,498$ |
| 1903..... | 5 |  |  |  |  |  | … | ...... | - |  |  |  |  |  |  | $75,530$ |
| 1904........ | 5 | $\ldots$ |  |  |  | 101, 542 | (11 R | d \& Wh | Spr.) |  |  | 358 | 61 |  | . ............. | 101,972 |
| 1005. | 6 |  |  |  |  | $90,713$ | (351 R | ed \& Wh | Spr. |  |  |  |  |  |  | 91, 064 |
| 1906... | 8 |  |  |  |  | 132, 621 | 181 | ........ | \|. . . . . . |  |  | -60 |  |  |  | $132,878$ |
| $1907 .$ | 8 |  |  |  |  | 97,874 | $\begin{array}{r}750 \\ \hline 1.251\end{array}$ |  |  |  |  | 6,240 | 700 (P | k. \& Ch. $)$ |  | $105,564$ |
| 1908...... | 8 |  |  |  |  | 74, 452 | 1,254 |  |  |  |  | 9,505 | 4,679 (P | k. \& Ch, |  | 89,880 |
| 1909. | 8 |  |  |  |  | 102,527 | 1,087 |  |  |  |  | 1,400 | 300 (Pl | \& Ch.) |  | $105,314$ |
| 1910. | 8 | , . . . . . . . . . . . |  |  |  | 141,921 | 1,383 |  |  |  |  | 2,075 |  | … 5 安 |  | $144,398$ |
| 1911. | 8 | … |  |  |  | 105,763 129,217 | 1,317 1,452 |  | . 468 |  |  | 8,287 11,095 | 6.411 11.723 | 5,288 4,843 |  | $\begin{aligned} & 127,066 \\ & 158,798 \end{aligned}$ |


| 1913. | 8 |  |  |  |  |  | 79,345 | 1,589 |  |  |  |  | 3,708 | 4,2871 | 2,015 |  | 90,944 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1914. | *7 |  |  |  |  |  | 89, 890 | . 568 |  |  |  |  | 7,789 | 5.784 | 5,023 |  | 109,052 |
| 1915. | 8 |  |  |  |  |  | 162,651 | 1,022 |  |  |  |  | 7,115 | 2,964 | 5,387 | 292 | 179,431 |
| 1916. | 9 |  |  |  |  |  | 58,192 | 1,033 |  | 380 |  |  | 15,314 | 3,567 | 20,144 | 13,990 | 112,629 |
| 1917. | 10 | 815 |  |  |  |  | 75,326 | 715 |  | 102 |  |  | 9,124 | 8,005 | 16,101 | 4,325 | 113,758 |
| 1918. | 10 | 815 |  |  |  |  | 68,447 | 957 | 85 | 367 |  |  | 12,074 | 29,542 | 6,729 | 10,736 | 128,937 |
| 1918. |  |  |  |  |  |  | 66, 842 | 957 | 85 | 867 |  |  | 12,074 | 29,542 | 6,729 | 10,786 | 127,532 |
| 1919. | 11 | 918 |  |  |  |  | 73,754 | 967 | 234 | 241 |  | 2 | 9,038 | 6,538 | 7,089 | 13,053 | 110,736 |
| 1919. |  |  |  |  |  |  | 72,072 | 967 | 234 | 241 |  | 2 | 9,038 | 6,588 | 7,089 | 13,053 | 109,284 |
| 1920. | 10 | 1,044 |  |  |  |  | 142,793 | 1,537 | 81 | 190 |  |  | 2,922 | 26,189 | 1,220 |  | 174,938 |
| 1920. |  |  |  |  |  |  | 188,245 | 1,537 | 81 | 190 |  |  | 2,982 | 26, 189 | 1,226 |  | 165,390 |
| 1921. | 10 | 1,215 |  |  |  |  | 50,849 | 383 |  | 44 |  |  | 4,055 | 3,055 | , 173 |  | 58, 562 |
| 1921. |  |  |  |  |  |  | 49,729 | 408 |  | 44 |  | 97 | 4,784 | 5,836 | 175 |  | 60,569 |
| 1922. | 10 | 1, 101 |  |  |  |  | 68,818 | 218 | 69 | 38 | 82 |  | 1,145 | 24,311 | 311 |  | 04,900 |
| 1922. |  |  |  |  |  |  | 65,518 | 216 | 69 | 38 | 82 |  | 1,145 | 24,911 | 311 |  | 92,690 |
| 1023. | 10 | 1,172 |  |  |  |  | 118,502 | 230 | 256 | 113 |  |  | 1,526 | 10,057 | 3,246 |  | 133,930 |
| 1988. |  |  |  |  |  |  | 112,350 | 250 | 256 | 113 |  |  | 1,5¢6 | 10,057 | 3,246 |  | 127,778 |
| 1924. | 10 | 983 |  |  |  |  | 91,764 | 215 | 261 | 149 |  | 32 | 1,880 | 15,103 | 4,908 |  | 114,318 |
| 1925. | 11 | 1,127 |  |  |  |  | 201, 180 | 344 | 311 | 116 |  | 10 | 4,887 | 7,075 | 11,501 |  | 220,030 |
| 1325. |  |  |  |  |  |  | 170,581 | 215 | 311 | 57 |  |  | 4,866 | 8,625 | 11,477 |  | 196,192 |
| 1820. | 12 | 1,483 |  |  |  |  | 89, 860 | 535 | 240 | 130 |  | 27 | 10,348 | 8,493 | 14,690 |  | 124,341 |
| 1929.. |  |  |  |  |  |  | 74,629 | 479 | 189 | 142 |  | $1 t$ | 7,448 | 13,508 | 11,751 |  | 108,146. |
| 1927. | 13 | 1,842 |  |  |  |  | 101,053 | 403 | 530 | 321 |  | 19 | 5,475 | 1,383 | 5,027 |  | 114,271 |
| 1927.. |  |  |  |  |  |  | 87, 145 | 322 | 590 | 321 |  | 17 | 4,980 | 1,402 | 3,617 |  | 98,384 |
| 1928.. | 11 | 1,541 |  |  |  |  | 93,361 | 458 | 443 | 157 |  | 13 | 0,781 | 3,130 | 9,200 |  | 116, 523 |
| 1928. |  |  |  |  |  |  | 88,875 | 156 | 448 | 162 |  | 18 | 1,008 | 16,708 | S,626 |  | 111,066 |
| 1929. | 13 | 1,577 |  |  |  |  | 79,548 | 546 | 215 | 127 |  | 47 | 8,270 | 3,112 | 0,536 |  | 98,401 |
| 1929. |  |  |  |  |  |  | 77,669 | 164 | 216 | 107 |  | 41 | 1,340 | 1,840 | 1,091 |  | 88,866 |
| 1030. | 12 | 1,833 |  |  |  |  | 150,398 | 814 | 383 | 229 |  | 182 | 6.700 | 17,476 | 18,372 |  | 194,414 |
| 1980. |  |  |  |  |  |  | 141,884 | 275 | 388 | 215 |  | 208 | 2,084 | 34,698 | 2,186 |  | 181, 62\% |

Nore.-Figures shown in black are packs from fish caught at Rivers Inlet or Smiths Inlet. Figures in black for years previous to 1018 are actual packs. Figures shown in italics, 1918 to 1930 are actual packs irrespective of where fish taken and not including fish shipped out for canning in other districts
*1014 figures include River Inlet pack only, no figures being available for Smiths Inlet for that year.
Nore.-Re column "Varieties other than sockcyo packed at Smiths Inlet." For the years this column is utilized, figures of the different varieties other than sockeye packed at Smiths Inlet were not available, and had to be shown as a total. Sockeye for these years are shown under their proper heading.

Note.-Licences issued 1923, 1924, 1925, 1926, 1927 and 1928 include transfars from other districts.
*For the years 1882 to 1884 and 1886 to 1901 and 1903 -particulars of varieties not available-practically all soekeye.


| $\begin{aligned} & 1007 . \\ & 1908 . \end{aligned}$ | 18 16 | 1,726 1,374 |  |  |  |  | 50;815 | 3,448 1,427 |  | $\begin{array}{r}557 \\ \hline 18\end{array}$ |  |  | 35,766 24,198 | 03,530 415 | \& \& Ch.) ${ }^{\text {\& }}$ | $\begin{array}{r} 163,116 \\ 89,184 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1909. | 38 | 2,688 |  |  |  |  | 542,248 | 1,428 |  |  |  |  |  |  |  |  |
| 1910 | 21 | 1,577 |  |  |  |  | 133, 045 | 1,018 |  | 8,925 |  |  | 21,540 | 1,987 (Pk 128 | \& Ch.) | 567,203 |
| 1911. | 15 | 1,396 |  |  |  |  | 58,487 | 7,028 |  | 6,751 |  |  | 27,850 | , 128 | 52,177 | 223,148 301,344 |
| 1912. | 15 | 1,430 |  |  |  | 2 | 108,784 | 14,655 |  | 8,373 |  |  | 38,574 | -38,574 | 12,961 | $\begin{array}{r} 301,344 \\ 173,921 \end{array}$ |
| 1913. | 35 | 2,560 |  |  |  | 2 | 684,596 | 3,573 |  | 49 |  |  | 11,648 | , 973 | 220 | 732,059 |
| 1914. | 20 | 2,656 |  |  |  |  | 185,483 | 9,485 |  | 14,000 |  |  | 38,639 | 6,057 | 74,726 | $732,050$ |
| 1915. | 22 | 2, 616 |  |  |  |  | 89,040 | 15,388 |  | 3,532 |  | 31 | 34, 114 | 128,555 | 74,726 | $\begin{array}{r} 328,390 \\ \because 289,119 \end{array}$ |
| 1916. | 21 | 2,240 |  |  |  |  | 27,394 | 11,090 |  | 9,217 | 3,096 | 33 | 24, 580 | 128, 840 | -30,184 | $\begin{array}{r} 289,119 \\ 106,440 \end{array}$ |
| 1917. | 20 | 2,626 | 8 |  |  |  | 123, 614 | 10, 197 |  | 18,916 | 4,944 | 7 | 5, 895 |  | 3 |  |
| 1918. | 18 | 1,582 | 19 | 1 |  |  | -16,849 | 15.192 | $\bigcirc 579$ | 24, 274 | - 3,760 |  | 20,885 | 134, 442 | 69,973 | 377,988 |
| 1910. | 14 | 1,337 | 24 | 1 |  |  | 29, 628 | 14,519 | -704 | 24,274 3,502 | 3,760 15,613 | 635 328 | 40, 111 | 18,388 | 86,215 | 206, 003 |
| 1020. | 11 | 1,288 | 28 |  |  |  | 44, 598 | 19,961 | 2,188 | -3,582 | 10,013 4,488 | 328 34 | 39,253 22,934 | 39,363 12,830 | 15,718 23,884 | $\begin{aligned} & 158,718 \\ & 132,860 \end{aligned}$ |
| 1021. | 13 | 1,437 | 25 |  |  |  | 35,900 | 11,360 | 467 | 5,480 | 1,323 |  |  |  |  |  |
| 1922. | 11 | 1,296 | 17 |  |  |  | 48,744 | 10,561 | 2,433 | 5,480 3,867 | 1, 323 | $\begin{array}{r}8 \\ 5 \\ \hline\end{array}$ | 29,978 | 8,178 29,578 | 11,223 | 103,917 |
| 1923. | 11 | 984 | 25 |  |  |  | 29,423 | - 3,854 | -6b4 | - 3,615 |  | 15 | 20,173 | 63,645 | 103,248 | $\begin{aligned} & 137,482 \\ & 294 \end{aligned}$ |
| 1924.. | 9 | - 989 | 48 |  |  |  | 36,200 | 2,982 | 502 | 4,056 | 1,757 | 65 | 21,935 | 631,968 | 103, 495 | $\begin{array}{r} 224,637 \\ 209,050 \end{array}$ |
| 1925. | 10 | 969 | 50 |  |  |  | 31,523 | 7,335 | 873 | 25,482 | 5,107 | 45 | 36,717 | 99,800 | 66, 111 | 272,093 |
| 1926. | 10 | 1,063 | 59 |  |  |  | 83,589 | 11,774 | 1,030 | 20,130 | 14,036 | 39 | 21,787 | 32,256 | 88,493 | 273,134 |
| 1927. | 10 | 1,249 | 111 |  |  |  | 57,085 | 6,553 | 1,351 | 10,493 | 10,62t | 37 | 24,079 | 102,535 | 67,250 | 280;013 |
| 1928. | 8 | 1; 303 | 109 |  |  |  | 26,530 | 1,173 | 248 | 3,661 | -795 |  | 27,061 | 12,881 | 193,106 | 255,455 |
| 1929. | 9 | 1,473 | 113 |  |  |  | 60,407 | 2,984 | 912 | 5,077 | 11,960 | 53 |  | 158,290 | 144,208 | 425, 131 |
| 1930. | 8 | 1,523 | 115 |  |  |  | 107,896 | 8,300 | 3,066 | 9,761 | 27,857 | 22 | 25,535 | 30,754 | -68;946 | 282,137 |

Note--Licences issued 1923, 1924, 1925, 1926, 1927 and 1928 inelude transfers from other districts.
*For the years 1876 to 1901, particulars of varietics not available-practically all sockoyc.

163,116 89, 184 2301,344 173,921

Statement No. 6
PACK OF CANNED SALMON OF PUGET SOUND FROM 1887 TO 1930

| Year | Number of canneries operated | Spring | Sockeye | Cohoe | Chum | Pink | Steelhead | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1887. | 4 | Partie | ${ }_{6}{ }_{6}$ ars of vari | cties not a | vailable. |  |  | $\begin{aligned} & 22,000 \\ & 21,975 \end{aligned}$ |
| 1889. | 2 | 240 |  | 7,480 | 1,145 | 2,890 |  | 11,674 |
| 1890. | 1 | 1,000 |  | 3,000 | 4, 000 |  |  | 8,000 |
| 1891. | 2 | 1,382 | 5,538 | 5,869 | 3,093 | 5,647 |  | 20,529 |
| 1892. | 2 | 86 | 2,954 | 7,206 | 16, 180 |  |  | 26,426 |
| 1893. | 3 | 1,200 | 47,852 | 11,812 | 11,380 | 17,530 |  | 89, 331 |
| 1894. | 3 |  | 41,781 | 22,418 | 22,152 | 9,049 |  | 95,400 |
| 1895. | 7 | 1,542 | 65,143 | 50,865 | 38,785 | 23,633 |  | 179,968 |
| 1896. | 11 | 13,495 | 72,979 | 82,640 | 26,550 |  |  | 195,664 |
| 1897. | 12 | 9,500 | 312,048 | 91,900 | 23,310 | 57,268 |  | 494,026 |
| 1898. | 18 | 11,200 | 252,000 | 98,600 | 38,400 |  |  | 400,200 |
| 1899. | 19 | 24,364 | 499,646 | 101,387 | 31,481 | 252,733 |  | 919,611 |
| 1900. | 19 | 22,350 | 229,800 | 128, 200 | 89, 100 |  |  | 469,450 |
| 1901. |  | Partic | ulars of vari | eties not a | vailable. |  | A. | 1,380,590 |
| 1902 | 21 | 30,049 | 372,301 | 85,817 | 93,492 |  |  | 581,659 |
| 1903. | 22 | 14,500 | 167,211 | 103,450 | 12,001 | 181,236 |  | 478,488 |
| 1904. | 13 | 14,441 | 109,264 | 118,127 | 49,656 |  |  | 291,488 |
| 1905. | 24 | 1,804 | 825,453 | 79,335 | 41,057 | 70,992 |  | 1,018, 641 |
| 1906. | 16 | 8,139 | 178,748 | 94,497 | 149,218 |  |  | 430,602 |
| 1907. | 14 | 1,814 | 93,122 | 119,372 | 50,249 | 433,423 |  | 698,080 |
| 1908.. | 22 | 95,210 | 170,951 | 128,922 | 47,607 | 6,075 |  | 448,765 |
| 1909. | 11 | 13,019 | 1,097,904 | 143,133 | 53,688 | 370,993 |  | 1,632,949 |
| 1910. | 24 | 10,064 | 248,014 | 162,755 | 146, 942 | 108 |  | 567,883 |
| 1911. | 15 | 21,823 | 127,761 | 256,124 | 104,321 | 1,046, 992 |  | 1,557,029 |
| 1912. | 20 | 20,252 | 184,680 | 149,727 | 60,760 | 700 |  | 416,120 |
| 1913. | 22 | 1,234 | 1,673,099 | 61,019 | 56,225 | 791,886 |  | 2,583,463 |
| 1914. | 31 | 26,044 | 335, 230 | 151,893 | 278,801 | -892 |  | 792,860 |
| 1915. | 41 | 28,466 | 64,548 | 180, 783 | 411,724 | 583, 649 |  | 1,269,206 |
| 1916. | 32 | 37,030 | 84,637 | 155,832 | 427,878 | 1,887 |  | 707,278 |
| 1917. | 45 | 57,543 | 411,538 | 114,276 | 216, 285 | 1,124,884 |  | 1,921,554 |
| 1918. | 32 | 63,366 | 50,723 | 235, 860 | 267, 538 | 6,605 | 106 5076 | 624,198 |
| 1919. | 35 | 68,542 | 64,346 | 210, 883 | 525,541 | 421, 215 | 5,076 | $1,295,625$ 166,520 |
| 1920. | 11 | 25,846 | 62,654. | 24,502 | 48,849 | 4,669 |  | 166,520 |
| 1921. | 23 | 25,567 | 102,967 | 89,412 | 30, 831 | 404,713 |  | 653,490 |
| 1922. | 16 | 20,615 | 48,566 | 111,711 | 65,552 | 2,225 |  | 248,729 |
| 1923. | 18 | 15,777 | 47,402 | 122,000 | 97,081 | 475,849 | 29 | 758, |
| 1924. | 12 | 19,968 | 69,369 | 87,879 | 134,360 | 5,945 | 128 | 317,649 |
| 1925. | 23 | 28,268 | 106, 064 | 171,587 | 41,635 | 555,848 | 141 | 903,543 |
| 1926. | 14 | 27,763 | 44,569 | - 120,846 | 112,411 | - 2,125 | 63 | 307,778 |
| 1927. | 21 | 43,443 | 96,343 | 133,528 | 37,414 | 585,506 | 216 | 896,450 |
| 1928. | 12 | 24,628 | 61,044 | 92,770 | 145,735 | 5,816 | 265 | 330,258 |
| 1929. | 21 | 32, 600 | 111,855 | 101,363 | 150,867 | 727,748 | 280 | $1,124,715$ |
| 1930. | 13 | 29,378 | 352,194 | 122,691 | 64,234 | 3,712 | 397 | 572,600 |

Statement No. 7
STATEMENT OF HALIBUT LANDINGS-BRITISH COLUMBLA 1913 TO 1930

|  | crwt. |  |  | cwt. |
| :---: | :---: | :---: | :---: | :---: |
| 1913. | 223,465 |  | 1922. | 293, 184 |
| 1914 | 214,444 |  | 1923. | 334,667 |
| 1915. | 194,896 |  | 1924. | 331, 382 |
| 1916. | 123, 062 | $)$ | 1925. | 318, 240 |
| 1917. | 113, 529 |  | 1926. | 315,095 |
| 1918 | 186,229 |  | 1927. | 271,354 |
| 1919. | 210,777 |  | 1928. | 302,820 |
| 1920. | 238,770 |  | 1929. | 304,364 |
| 1921. | 325,868 |  | 1930 | 254,796 |

## Statemenfi No. 8

STATEMENT OF DRY SALT HERRENG PACKS, 1918-1930-BRITISH COLUMBIA

|  | Yeax | District No. 1 | District No. 2 | District No. 3 |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | East Coast | West Coast |  |
|  |  | cwt. | cwt. | cwt. | cwt. | cwt. |
| 1918. |  | 20,000 |  | 109,900 | 42,710 | 172,610 |
| 1919. |  | 4,000 |  | 43,000 | 208,058 | 255, 058 |
| 1920. |  | 807 | 1 | 176,640 | 334,720 | 512, 168 |
| 1921. |  | 249 |  | 231, 240 | 248,482 | 479,971 |
| 1922. |  |  |  | 297,871 | 224,897 | 522,768 |
| 1923. |  |  | 8,935 | 250;420 | 484,681 | 744, 036 |
| 1924. |  |  |  | 305, 266 | 548,277 | 853,543 |
| 1925. |  |  | 4,120 | 591, 162 | 487, 892 | 1,083,174 |
| 1926. |  | 11,134 | 4,192 | 596, 114 | 327, 207 | 938,647 |
| 1927. |  | 24,380 | 7,600 | 542,385 | 473,825 | 1,048, 190 |
| 1928. |  | 46,995 | 5.100 | 748,032 | 277, 161 | 1,072,188 |
| 1929. |  | 78,800 | 5, 160 | 691, 673 | 140,751 | 916,384 |
| 1930. |  | 19,114 | $\cdots$ | 546,342 | 240,517 | 805,973 |

Statement No. 9
GANNED PILCHARD PAEK-BRITISH COEUMBIA
1917 TO 1930

|  | Cases |  | Cases |
| :---: | :---: | :---: | :---: |
| 1917. | 1,090 | 1924. | 14,898 |
| 1918. | 63,693 | 1925. | 37,182 |
| 1919. | 63,065 | 1926. | 26,731 |
| 1920. | 91,929 | 1927. | 58,501 |
| 1921. | 16,091 | 1928. | 65,097 |
| 1922. | 19,186 | 1929. | 98,821 |
| 1923. | 17,195 | 1930. | 55, 166 |

Statement No. 10
PRODUCTION FISH OIL AND MEAL—BRITISH COLUMBIA, 1920-1930

| Year | From Pilchards |  | From Herring |  | From Whales |  |  | From Other Sources |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Meal and Fertilizer | Oil | Meal | Oil | Whalebone and Meal | Fertilizer | Oil | $\begin{aligned} & \text { Meal } \\ & \text { and } \\ & \text { fertilizer } \end{aligned}$ | Oil |
|  | tons | gals. | tons | gals. | tons | tons | gals. | tons | gals. |
| $1920 \ldots$ $1921 . .$. |  |  |  |  | 503 | 1,035 | 604, 070 | 466 | 55,669 |
| 1922.... |  |  |  |  |  | 230 |  | 489 | 44, 700 |
| 1923... |  |  |  |  | 485 | 910 | 283, 314 | 911 | 75, 461 |
| 1924. |  |  |  |  | 4292 | 926 | 645, 657 | 823 | 180.318 |
| 1925... | 2,083 | 495,653 |  |  | 347 | 835 | -645,657 | 1, 09 | 241,376 |
| 1926., | 8,481 | 1,898,721 | 310 |  | 340 | 666 | 556,939 | 2,468 | 354, 853 |
| 1927. | 12,169 | 2,673,876 | 1,838 | 170, 450 | 345 | 651 | 468,206 | 1,752 | 217, 150 |
| 1928. | 14,500 | 3,995,806 | 1,831 | 68,411 | 376 | 754 | 571,914 | 2,512 | 375, 130 |
| 1929. | 15,826 | 2,856,579 | 392 | 34,924 | 416 | 779 | 712,597 | 3,658 | 411,207 |
| 1930. | 13,934 | 3,204,058 | 915 | 60, 373 | $\stackrel{416}{273}$ | 581 | 525, 533 | 3,671 2,420 | 181,915 182 |

## Statement No. 11

## WHALE CATCH LANDINGS, BRITISH COLUMBIA, 1918 TO 1930

| Species | 1918 | 1919 | 1920 | $\dagger 1921$. | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sperm | . |  |  |  | 38 | 94 | 83 | 76 | 80 | 82 | 83 | 146 | 147 |
| Sulphur |  |  |  |  | - 4 | 62 | 56 | 29 | 14 | 10 | 47 | 16 | 10 |
| Fin... |  |  |  |  | 94 | 166 | 125 | 135 | 124 | 138 | 140 | 168 | 62 |
| Hump |  |  |  |  | 50 | 78 | 47 | 40 | 25 | 21 | 21 | 9 | 12 |
| Sei..: |  |  |  |  | -1 | 53 | 100 | 68 | 25 | 7 | 13 | 67 | 89 |
| Right..... |  |  |  |  |  |  | 2 |  | 1 |  | 1 | 1 |  |
| Bottlenose |  |  |  |  |  | 2 | 1 | 3 |  |  | 1 | 1 |  |
| Total | 500 | *432 | * 493 |  | 187 | 455 | 414 | 351 | 269 | 258 | 305 | 407 | 320 |

* All varieties. $\quad \dagger$ No whaling plants operated 1921.

Statement No. 12
STATEMENT OF FUR SEAL SKINS TAKEN AND LANDED, BRITISH COLUMBIA, 1912-1930

|  | Year | District No. 1 | $\begin{aligned} & \text { District } \\ & \text { No. } 2 \end{aligned}$ | $\begin{aligned} & \text { District } \\ & \text { No. } 3 \end{aligned}$ | Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1912. |  |  |  | 205 | 205 |
| 1913. |  |  | 285 | 119 | 404 |
| 1914. |  |  | 95 | 257 | 352 |
| 1915. |  |  | 39 | 400 | 439 |
| 1916. |  |  | 21 | 138 | 159 |
| 1917. |  |  | 14 | 204 | 218 |
| 1918. |  | . | 78 |  | 88 |
| 1919. |  | . | 53 | 17 | 70 |
| 1920. |  |  | 502 | 556 | - 1,088 |
| 1921. |  |  | 270 | 2,079 | 2,349 |
| 1922. |  |  | 291 | 639 | 930 |
| 1923. |  |  | 678 | 3,746 | 4,424 |
| 1924. |  |  | 370 | 1,862 | 2,232 |
| 1925. |  |  | 810 | 3,655 | 4,463 |
| 1926. |  |  | 655 | 2,169 |  |
| 1927. |  |  | 188 | 1,288 | 1,470 |
| 1928. |  |  | 465 | 1,625 | 2 ,090 |
| 1929 |  |  | 1,119 | 2,264 | 3,383 |
| 1930. |  |  | 195 | 2,102 | 2,29 |

## DESTRUCTION OF SEA LIONS

| - | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Virgin Rocks- |  |  |  |  |  |  |  |  |  |  |
| - Pups... |  | 649 | 903 | 1,067 | 565 | 635 | 375 | 522 | 568 | 5, 220 |
| Adults. |  | 1,111 | 1,333 | 1, 520 | 877 | 858 | 632 | 695 | 440 | 7,460 |
| Pearl Rocks |  |  |  | 102 |  |  |  | 7 |  | 638 |
| Pups... | 220 | ${ }_{120}^{5}$ | 312 158 | 138 | 146 368 | 130 | 30 | 119 | 36 | 1,319 |
| Solander Rock |  |  |  |  |  |  | 103 | 16 |  | 119 |
| Totals | 220 | 1,885 | 2,706 | 2,827 | 1,956 | 1,663 | 1,142 | 1,359 | 1,068 | 14, 826 |

STATEMENT OF FISIEIRY LICENCES ISSUED, BTRTISH COLUMDIA, SEASON 1930-31

| Variety of Licence | 'Issued: |  |  |  | Transfers: |  |  |  | Operating: |  |  |  | Remarks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | White | Ind. | Others | Total | White | Ind. | Others | Total | White | Ind. | Others | Total |  |
| Salmon trap-net. | 7 |  |  | 7 |  |  |  |  | 7 |  |  | 7 | \% |
| Salmon purse-seine. | 294 | 49 |  | 343 |  |  |  |  | 204 | 49 |  | 343 |  |
| Salmon drag-seine. | 18 | - 3 |  | 21 |  |  |  |  | 18 | 3 |  | 21 |  |
| Salmon gill-net. . . | 2,709 | 1,267 | 953* | 4,929 | 1,044 ${ }^{\text {a }}$ | 87 | 21 | 1,132 | 3,753 | 1,334 | 974 | 6,061 | *Incl. 43 RuS. |
| Salmon trolling. . . . . . . . . . . . . . . . . . . . . . | 2,268 | 648 | 162* | 3,078 | 34 |  | 2 | 37 | 2,302 | 649 | 164 | 3,115 | * Incl. 6. R.S. 'and 1 cancelled. |
| Asst. salmongill-net. | 191 | 390 | 525 | 1,106 |  |  |  |  | 191 | 390 | 525 | 1,106 |  |
| Capt, salmon seine... | 96 | 151 | 525 | 1, 247 |  |  |  |  | 96 | 151 | 525 | 1,247 | ! |
| Asst, salmon seine. | 949 | 862 |  | 1,811 |  |  |  |  | 949 | 862 |  | 1,811 |  |
| Cod. | 235 | 26 | 156* | 417 |  |  |  |  | 235 | 26 | 156 | - 417 | *Incl. 8 R.S. |
| Crab. | 135 | 12 | $4{ }^{\prime \prime}$ | 151 |  |  |  |  | 135 | 12 | 4 | 151 | *Incl. 3 R.S. |
| Grayfish | 90 | - 2 | 228 | 320 |  |  |  |  | 90 | 2 | 228 | 320 |  |
| Smelt... | 54 | 3 | 22* | 79 |  |  |  |  | 54 | 3 | - 22 | 79 | *Incl. 8 R.S. |
| Abalone. | 2 |  | 1* | 3 | :.... |  |  |  | 2 |  | 1 | 3 | *Incl. 1 R.S. |
| Whale fishery. | 6 |  |  | 6 |  |  |  |  | 6 |  |  | 6 |  |
| Capt. vessel using otter trawl............ | 1 |  |  | 1 |  |  |  |  | 1 |  |  | 1 |  |
| Capt. small Canadian fishing vessel. .'. | 18 |  | 14 | 32 |  |  |  |  | 18 |  | 14 | 32 |  |
| Miscellaneous fishery . . . . . . . . . . . . . . . . . | 92 | 9 | 42* | 143 | 1 |  | 1 | 2 | 93 | 9 | 43 | 145 | *Incl. $16 \mathrm{R} \cdot \mathrm{S}$. |
| Herring pound.... | 5 |  |  | 5 |  |  |  | . . . . . . | 5 |  |  | 5 |  |
| Herring purse-seine. | 75 | 3 | 3 | 81 |  |  |  |  | 75 | 3 | 3 | 81 | . - |
| Herring gill-net.... | 38 |  | 3 | 41 |  |  |  |  | 38 |  | 3 | 41 |  |
| Capt. herring seine...... . . . . . . . . . . . . . . . | 46 | 10 | 6 | 62 |  |  |  |  | 46 | 10 | 6 108 | 62 |  |
| Asst. herring seine. . . . . . . . . . . . . . . . . . . . | 485 | 70 | 162 | 727 |  |  |  |  | 495 | 70 | - 162 | 727 |  |
| Totals............................ | 7,824 | 3,505 | 2,281* | 13,610 | 1,079 | 88 | 24 | 1,171. | 8,903 | 3,573 | 2,305 | 14,781 | *Incl, 85 R.S. |

LICENCES ISSUED BY PROVINCIAL GOVERNMENT
Angling permits. ..... 1,349
Indian permits. . ..... 1,20


Statement No. 15
STATEMENT OF SALMON LICENSES ISSUED.-BRITISH COLUMBIA, 1919-1930

| Kind of Licence | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| District No. 1- | 14 | 11 | 13 | 10 | 11 | 9 | 10 | 10 | 10 | 10 | 9 | 11 |
| Salmon cannery | 1,337 | 1,288 | 1,437 | 1,296 | 964 | 969 | 969 | 1,063 | 1,249 | 1,303 | 1,473 | 1,523 |
| District No. 2- |  |  |  |  |  |  |  |  |  |  |  |  |
| Salmon cannery | 45 | 41 | 32 | 41 | 37 | 38 | 41 | 50 | 48 | 47 158 | 45 | 26 |
| Salmon purse-seine | 35 | 79 | 13 | 73 | 126 | 107 | 137 | 193 | 244 | 158 | 153 | 152 |
| Salmon drag-seine. | 81 | 38 | 30 | 30 | 20 | 19 | 15 | 14 | 16 | 9 | 9 | 9 |
| Salmon gill-net:- |  |  |  |  |  |  |  | 316 | 302 | 263 | 246 | 282 |
| Naas River. | 300 1,153 | 342 1,153 | 338 1,109 | 304 1,091 | 244 900 | $\stackrel{210}{941}$ | 210 1,068 | 316 1,129 | 1,198 | 1,208 | 1,143 | 1,202 |
| Rivers Inlet |  | 871 | 1,000 | 1,012 | 987 | 770 | 891 | 1,115 | 1,273 | 1,117 | 1,149 | 1,449 |
| Smiths Inlet | 916 | 1373 | 215 | 179 | 197 | 193 | 236 | 368 | 570 | 424 | 428 | 384 |
| Bella Coola |  | 193 | 241 | 165 | 134 | 146 | 139 | 192 | 195 | 173 | 236 | 359 |
| Kimsquit. . |  |  |  | 120 | 122 | 96 | 137 | 100 | 104 | 80 | 194 | 31 |
| Butedale. | 421 | 61 | 5 |  | 63 | 32 | 60 | 37 | 108 | 58 | 56 | 71 |
| Namu. |  | 136 | 138 | 136 | 215 | 87 | 109 | 139 | 180 | 77 | 116 | 142 |
| Queen Charlotte Islands |  | 14 | 1 | 4 | 1 | 1 | 17 | 27 | 42 | 22 | 3 | 6 |
| Total, District No. 2. | 2,490 | 2,943 | 3,047 | 3,011 | 2,863 | 2,476 | 2,867 | 3,423 | 3,972 | 3,422 | 3,571 | 3,895 |
| District No. 3- |  |  |  |  |  |  |  |  |  |  |  |  |
| Salmon cannery | 23 | 13 | 11 | 14 | 13 | 15 | 16 | 19 252 | 18 | 19 239 | 17 | 191 |
| Salmon purse-sein | 103 | 76 | 46 | 74 | 97 | 135 | 192 | 252 | 308 | 239 | 218 | 191 |
| Salmon drag-seine | 23 | 53 | 5 | 10 | 11 | 13 | 22 390 | 27 364 | 30 422 | 13 454 | 13 565 | 12 643 |
| Salmon gill-net. | 771 | 530 | 293 | 176 | 142 | 251 | 390 | 364 | 422 | 454 | 565 | 643 |
| Salmon cannery Salmon | 138 | 65 155 | 59 | 147 | 223 | 242 | 329 | 445 | 552 | 397 | 371 | 243 |
| Salmon drag-seine | 104 | 45 | 35 | 40 | 31 | 32 | 37 | 41 | 46 | 22 | 22 | 21 |
| Salmon gill-het.. | 4,598 | 4,761 | 4,777 | 4,483 | 3,969 | 3,696 | 4,226 | 4,850 | 5,643 | 5,179 | 5,609 | 6,061 |

[^1]Statement No. 16
STATEMENT OF POWER BOATS OPERATED IN DISTRICT No. 2, BRITISH COLUMBIA, IN CONNECTION WITH SALMON GILLNET OPERATIONS


Statement No. 17
AIR PATROL SERVICE-1930


Statement No. 18
bOUNTY PAID BY DEPARTMENT ON HAIR SEALS AND SEA LIONS

| Fiscal year | Hair seals |  |  | Sea lions |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Rate | Number | Amount | Rate | Number | Amount |
|  | \$ ets. |  | \$ cts. | \$ cts. |  | 8 ets. |
| 1914-15. | 350 | 2,237 | 7,829 50 |  |  |  |
| 1915-16. | 1000 100 1 | 749 | 74900 | 200 | 2,875 | 5,750 00 |
| 1917-18. |  | 748 |  |  |  |  |
| 1927-28. | 350 | 567 | 1,984 50 |  |  |  |
| 1928-29. | 350 | 3,209 | 11,231 50 |  |  |  |
| 1929-30.. | 250 | 5,944 | 14,860 00 |  |  |  |
| 1930-31 (April 1st to Dee. | 250 | 5,598 | 13,995 00 |  |  |  |
| - Totals |  | 19,837 | 52,182 50 |  | 2,875 | 5,750 00 |

Statement No. 19
SALMON TAKEN BY INDIANS FROM ABOVE THE COMMERCIAL FISHING BOUNDARY OF THE FRASER RIVER WATERSHED, 1930

| Area | Sockeye | Springs | Cohoes | Pink | Chums | Cured | Used fresh | Totals |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Prince George District- |  |  |  |  |  |  |  |  |
| Stuart Lake........ | 16 |  |  |  |  |  | 16 | 16 |
| Francois Lake | 750 | 150 |  |  |  | 200 | 700 | 900 |
| Quesnel District. | 750 | 450 |  |  |  | 900 | 300 | 1,200 |
| Okanagan District- |  |  |  |  |  |  |  |  |
| Shuswap River. |  | 1,000 | 5,000 |  |  | 4,900 | 1,100 | 6,000 |
| Okanagan River.. | 900 |  |  |  |  | 600 | 300 | 900 |
| Kamloops District-- Thompson River Sstem | 33.500 | 9200 | 1,800 |  |  | 41,000 | 3,300 | 44,500 |
| Hope District- | 3, |  |  |  |  |  |  |  |
| Bridge River. | 3,858 | 950 |  |  |  | 3,800 | 1,C08 | 4,808 |
| Fraser River. | 4,000 | 200 | 10 |  |  | 2,807 | 1,403 | 4,210 |
| Squamish District- | 20,000 | 1,500 | 4,000 |  |  | 21,000 | 4,500 | -25,500 |
| New Westminster District- |  |  |  |  |  |  |  |  |
| Harrison Lake and River... | 2, 500 | 1,800 | 500 | 150 | 3,000 | 6,930 | 1,000 | 7, 950 |
| Chilliwack Area............ | 3,775 | 470 | 4,190 | 100 | 5,260 | 10,000 | 3,795 | 13,795 |
| Total cured. | 60,041 | 12,717 | 12,500 | 250 | 6,649 | 92,157 |  |  |
| Total used fresh | 10,008 | 3,003 | 3,000 |  | 1,611 |  | 17,622 |  |
| Grand totals. | 70,049 | 15,720 | 15,500 | 250 | 8,260 |  |  | 109,779 |

[^2]Statement No. 20
SALMON TAKEN BY.INDIANS FROM ABOVE COMMERCIAL FISHING BOUNDARY, DISTRICT 2-1930


Statement No. 21
STATEMENT OF NUMBERS OF DIFFERENT SPECIES OF SALMON AND METHOD OF CAPTURE, REPORTED BY OPERATORS OF SALMON PURSE-SEINES, DRAG-SEINES, AND TRAP-NETS, AND BY SALMON CANNING, CURING AND COLD STORAGE ESTABLISHMENTS, OF GILL-NET AND TROLL CAUGHT FISH, BRITISH COLUABBA, 1930.

| Method of capture | Sockeye | Springs | Bluebacks | Steelheads | Cohoes | Pinks | Chums | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Troll. |  | 158,815 | 723,230 | 45,134 | 556, 082 | 60,535 | 9,237 | 1,553;033 |
| Gill-net | 4,761,231 | 339,666 | 546 | 92,258 | 359,105 | 7,332,631 | 684:534 | 13,569,971 |
| Purse-seine | 391,605 | 9,124 | 2,519 | 2,580 | 230,175 | 16,461,273 | 4;410;779 | 21,508,055 |
| Drag-seine. | 133, 985 |  |  | 2 | 3,642 | 11,817 | 839 | 150,285 |
| Trap-net. | 56, 257 | 31,776 | 875 | 1.536 | 58,761 | 6,651 | 8,748 | 164,604 |
| Totals | 5,343,078 | 539, 381 | 727,170 | 141,510 | 1,207,765 | 23,872,907 | 5,114,137 | 36,945,948 |

Statement No. 22
STATEMENT SHOWING, BY SEINING AREAS, THE SALMON REPORTED CAUGHT BY PURSE SEINES, SEASON 1930

| Area | Sockeye | Springs | Steelheads | BIuebacks | Cohoe | Pinks | Chums | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area 1. | 316 | 17 |  |  | 991 | 4,538,375 | 29,246 | 4,568,945 |
| " 2. | 8 |  | 2 |  | 5,275 | 310,478 | 1,029,280 | 1,345,043 |
| 3 | 3,182 | 208 | 35 |  | 1,519 | 2,183,022 | 32,260 | 2,220,226 |
| 5 | 57,962 |  | 3 |  | 10,623 | 1,959,660 | 31,536 | 2,059,784 |
| 6 | 37,737 | 204 | 6 |  | 42,934 | 3,744,713 | 71,078 | 3,896,672 |
| 7 | 35, 544 | 2,050 | 1,583 | 21 | 25,674 | 1,064,076 | 509,637 | 1,638,585 |
| 8. | 246 | 67 | 37 |  | 1,069 | 296,399 | 24,986 | 322,804 |
| " 9 | 73 | 3 |  |  | 525 | , 240 | 52,383 | 53,224 |
| " 10. | 384 | 9 | 399 |  | 459 | 1,246 | 30,292 | 32,789 |
| " 12. | 104,893 | - 3,923 | 256 |  | 30,960 | 1,536,998 | 169,492 | 1,846,522 |
| " 13. | 40,296 | 1,211 | 64 | 2,498 | 10,991 | 449,961 | 308,437 | -813,458 |
| " 14 | 265 | 52 | 1 |  | 2,348 | 10,684 | 183, 118 | 196,468 |
| " 15. |  |  |  |  | 382 |  | 10,525 | 10,907 |
| " 16. | 395 |  |  |  | 1,838 | 17,218 | 44,042 | 63,493 |
| 17 |  |  |  |  | 1,001 | 6 | 35,253 | 36,260 |
| " 18 | 30,957 | 63 |  |  | 466 | 14 | 262 | 31,762 |
| 19. 20. | 52 |  |  |  | 926 | 7,600 | 136,550 | 145,128 |
| " 21 | 4,292 | 574 | 12 |  | 12,545 | 39,653 | 146,580 | 203,656 |
| " 22 | 20,130 |  |  |  | 1,070 |  | 193,968 | 215,168 |
| " 23. | 11,643 | 717 | 182 |  | 10,785 | 64,579 | 525, 814 | 613,720 |
| " 24. | 42,249 |  |  |  | 9,723 | 96,407 | 119,040 | 267,419 |
| " 25 |  |  |  |  | 18,020 | 69,626 | 569, 661 | 657,307 |
| " 26. | 959 | 26 |  |  | 10,859 | 4,662 | 87,563 | 104,069 |
| " 27. | 22 |  |  |  | 29,192 | 65, 656 | 69,776 | 164,646 |
| Totals. | 391,605 | 9,124 | 2,580 | 2,519 | 230,175 | 16,461,273 | 4,410,779 | 21,508, 055 |

Statement No. 23
PACK OF SOCKEYE SALMON FROM RUNS TO FRASER RIVER

| Year | Fraser River canneries | Conadian traps in Juan de Fuea. Straits | Puget cannerics | Total |
| :---: | :---: | :---: | :---: | :---: |
| 1876. | 9.847 |  |  | 9,847 |
| 1877. | 64,387 |  |  | 64,387 |
| 1878. | 105, 101 |  |  | 105, 101 |
| 1879 | 50, 490 |  |  | 50,490 |
|  | 42,155 |  |  | 42,155 |
| 1881. | 142,516 |  |  | 142,516 |
| 1882 | 199, 104 |  |  | 199, 104 |
| 1883. | 109,701 |  |  | 109,701 |
| 1884. | 38,437 |  |  | 38,437 |
| ${ }_{1885}^{1885}$ | 89,617 |  |  | 89,617 |
| 18886 | 99,177 |  |  | 99,177 |
| 1887. | 130,088 |  |  | 130,038 |
| 1888. 1889. | 76,616 |  |  | 76,616 |
| 1890 | 303,875 |  |  | 303,875 |
| 1891. | 178,954 |  | 5,538 | 241,889 |
| 1892. | 79,715 |  | 2,954 | 82, 669 |
| 1893. 1894. | 457,797 |  | 47,852 | 505,649 |
| 1899. 1895. | 400,368 |  | 41,781 | 442, 149 |
| 1896. | 356,984 860,459 |  |  | ${ }_{933}^{42,127}$ |
| 1897. | 256,101 |  | 312,048 | 568,149 |
| 1898. | 510,383 |  | 252,000 | 762,383 |
| 1899. | 316,522 |  | 499,646 | 816,168 |
| 1901. | -990,313 |  | Ap 2298800 | 1,220,113 |
| 1902. | 293,477 |  | Ap. 372,301 | 1,665,778 |
| 1903. | 204,809 |  | 167,211 | 372,020 |
|  | 72,668 |  | 109,264 | 181,932 |

Statement No. 23-Concluded

## PACK OF SOCKEYE SALMON FROM RUNS TO FRASER RIVER-Concluded

|  | Year | Fraser river canneries | Canadian traps in Juan de Fuca Straits | Puget Sound canneries | Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1905. |  | 837,489 | 26,149 | 825,453 | 1,729,091 |
| 1906. |  | 183,007 | 4,220 | 178,748 | 365,975 |
| 1907. |  | 59,815 | 2,802 | 93,122 | 155,739 |
| 1908. |  | 62,126 | 11,448 | 170,951 | 245,523 |
| 1909. |  | 542,248 | 43, 187 | 1,097,904 | 1, 683,339 |
| 1910. |  | 133,045 | 17,387 | 248,014 | 398,460 |
| 1911.. |  | 58,487 | 4,330 | 127, 761 | 190,578 |
| 1912. |  | 108,784 | 15,095 | +184,680 | 308,239 |
| 1913. |  | 684,596 | 52,065 | 1,673,099 | 2,409,760 |
| 1914. |  | 185,483 | 12,700 | 335, 230 | 533,413 |
| 1915. |  | 89, 040 | 2,090 | 64,548 | 155,678 |
| 1916. |  | 27,394 | 4,752 | 84,637 | 116, 88 |
| 1917. |  | 123,614 | 24, 550 | 411,358 | 359,410 |
| 1918. |  | 16,849 | 2,848 | 50,723 63,346 | 10,410 |
| 1919. |  | 29,628 | 6,194 | 63,346 | 100,108 |
| 1920. |  | 44,598 | 3,801 | 62,654 | 111,033 |
| 1921. |  | 35,900 | 3,731 | 102,967 | 142,598 |
| 1922. |  | 48,744 | 3,088 | 48,566 | 100,328 |
| 1923. |  | 29,423 | 2,232 | 47,402 | 79,071 |
| 1924. |  | 36,200 | 3,543 | 69,369 | 109,112 |
| 1925. |  | 31,523 | 3,862 | 106,064 | 141,419 |
| 1926. |  | 83,589 | 2,091 | 44,569 96,343 | 130,299 |
| 1927. |  | 57,085 | 4,337 | 96,343 | 1577 90, 317 |
| 1928. |  | 26,530 | 2,769 3,480 |  | 175, 74 |
| 1929.. |  | 60,407 93,416 | 3,480 5,334 | 115,856 | 450,941 |
| 1930. |  | 93,416* | 5,334 | 352,194 | $450,4 \pm$ |

Nore.-The years 1876 to 1901 on the Fraser River canneries include the whole pack of all varieties, particulars of different species not being available. The packs were nearly all sockeye.
*This figure allows for 14,480 cases sockeye caught in other districts and packed in the Fraser district.
Statement No. 24
SHIPMENTS OF CANNED SALMON FROM VANCOUVER

| By countries | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Australasia. | 255,470 | 331,270 | 250, 092 | 269,029 | 307,922 | 171,175 |
| Belgium | 42,403 | 40,710 | 41,035 | 53,296 | 84,285 | 40,47 |
| British India. | 5,215 | 1,983 | 1,809 | 2,630 | 2,351 | 4, 105 |
| C. and S. America | 27,651 | 22,819 | 31, 076 | 90,421 | 53,399 | 41, 681 |
| Can. Atlantic Coast. | 82,485 | 95,351 | 102,894 | 85, 269 | 117,507 | 11, 120 |
| Ceylon. | 125 | 1,130 | 4,222 | 1,200 | 1,748 | 1,203 |
| Greece. | 3,827 | 23,938 | 14,461 | ${ }^{6} 685$ | 605 | 3,316 |
| China. | 6,671 | 90 | 3,993 | 10,035 | 7,448 | 3,113 |
| Denmark. | 447 | 1,848 | 602 | 1,080 | 1,610 | 3, 120 |
| Dutch East Indies. | 7,980 | 9,202 | 14,323 | 4,371 | 855 |  |
| Egypt. | 3,505 | 5,680 | 5,065 | 1,375 | 750 17 | 2,103 $12 ; 99$ |
| Fiji. | 12,959 | 11,889 | 23, 363 | 16,386 | 17,680 251,075 | - |
| France. | 374,176 | 231,601 | 185, 295 | 333,670 | 251,075 40,709 | 146,915 2,107 |
| Germany | 2,362 83,425 | 1,222 $-14,866$ | 5,677 26,786 | 19,067 34,340 | 40,709 10,653 | 2, ${ }_{9}^{2,264}$ |
| Holland | 83,425 58,566 | 14,866 102,700 | 56,786 168,624 | 34,340 40,409 | 10,653 136,960 | 132,499 |
| Italy. | 58,566 | 102,700 | 168,624 300 | 40,409 140 | 136,960 3,043 | 5 |
| Malta. |  | 1,714 | 2,943 | 535 |  | 880 |
| Philippines | 23,177 |  | 2,900 | 15,690 | 805 |  |
| South Africa | 33,464 | 36,822 | 44,340 | 50,044 | 40,271 | 27,891 |
| Straits Settlements | 22,763 | 24,511 | 22,843 | 3,770 | 2,125 | 2,80 |
| Sweden. | 250 | 400 | 224 | 575 | 800 | 258,7378 |
| United Kingdom. | 489,938 | 263,302 | 322, 356 | 257,970 | 194,172 | 258,400 4,40 |
| U.S. Atlantic Coast. | 285 | 600 | 1,693 | 14,552 5 | 23,223 2,792 | 4,9 10,91 |
| West Africa. | 12,359 | 12,105 | 11,207 | 5,033 13,102 |  | 17,283 |
| West Indies. | 20,541 760 | 15,543 | 14,516 19,954 | 13,102 19,894 | 16,906 11,510 | 17,980 |
| Unclassified | 760 | 2,991 | 19,954 | 19,094 |  |  |
| Totals | 1,571,004 | 1,254,304 | 1,322,597 | 1,344,568 | 1,331,204 | 1,021,64 |

## APPENDIX No. 2

## REPORT OF THE WORK OF THE BIOLOGICAL BOARD OF CANADA FOR 1930

## I. THE ATLANTIC BIOLOGICAL STATION

Director, Dr. A. G. Huntsman

A building, 20 feet by 40 feet in dimensions, has been erected to serve as a fish culture laboratory. In starting work at this laboratory the board was fortunate in being able to arrange for a brief visit to the station of Prof. G. C. Embody, of Cornell University, who gave freely from his experience in the problems of fish culture.

The library, of the station has now, by purchase and exchange, become of considerable value. It is located in one of the rooms of the main laboratory, a frame building, and is therefore exposed to the danger of destruction by fire. A fireproof library building is much needed and with it there might be combined an assembly room, there being at present no suitable room for meetings of the workers for general discussion and for the evening lectures that are given regularly throughout the session.

The scientific staff of the station during the year has consisted of seven fulltime investigators, six with seasonal appointments, and twenty-five volunteer workers.

The work carried on at this station may be listed under various headings as follows:-
(a) Oceanography.

The taking of water samples and temperatures at various stations in the bay of Fundy was continued and three new stations were established at the mouth of Passamaquoddy bay for the purpose of determining the distribution of the mixed water found there. Especial attention was given to the determination of the phosphorus contelit of the waters both at St. Andrews and at Halifax, this factor playing an important part in the growth of the planktonic plant life. Experiments were also conducted with a view of determining the quantitative relations of the phosphorus content of the sea-water and the growth of planktonic diatoms. Studies were also made of the silicate content of the waters in the vicinity of St. Andrews and of water movements in Passamaquoddy bay.

Additional stations for the collection of water samples and temperature observations were established at North point, P.E.I., cape Gaspe, P.Q., Entry island, P.Q., and St. Mary's, P.Q.

Observations on the penetration of light in sea-water were continued, special attention being given to the effects of ultra-violet radiation on marine animals, to the antagonistic effect on marine animals of rays of different wave-lengths, and to the effect on transmitted light of matter suspended in the water.

A study was made of the distribution and migrations of cod in the strait of Belle Isle and their relation to water temperature, and observations on the natural history of the capelin were continued, attention being given to a determination of the optimum temperature and salinity for "beach spawning" and the development of the eggs, and also to the distribution of the year classes. A study of the distribution and migrations of the herring in the bay of Fundy was also undertaken, including observations on the range of temperatures at which successful hatching of the eggs took place.

Investigation was made of the spawning habits of several species of bivalve molluses and the relation of the spawning to tidal influences. The natural history of the soft shell clam (Mya arenaria) was studied and also that of the round whelk (Polynices heros), one of the forms used as bait for the cod. Qualitative and quantitative studies were made of the plankton of Passama. quod.dy bay and at Halifax.

The hydrographer of the station was enabled to accompany an expedition to Hudson bay, during which he collected a considerable amount of data bearing on the hydrographic conditions of the bay. Plankton collections were made as well as collections of the marine fauna and these are now being distributed to specialists for study and report; a report on the diatoms has already been prepared.

## (b) <br> Fish Culture.

The studies that have been carried on for some years on the propagation of brook trout were continued. A careful examination was made of the food consumed by both young and adult trout in Forbes creek, P.E.I. A count of the survivors from a planting of fry in a stretch of the creek, from which all enemy fish and birds had been excluded, showed only $30 \cdot 4$ per cent after a period of three months, the loss being probably largely due to cannibalism. Other problems investigated were the effects of feeding on egg production, and a comparison of the effects of spring and creek water on the development of eggs planted on artificially prepared beds. Data were also collected on the quantity and quality of naturally spawned eggs.

Experiments were conducted on the artificial "fertilization" of more or less sterile waters with organic material. These experiments were carried on both in the experimental tanks at the station and in the Chamcook lakes, which offer excellent facilities for the purpose. In connection with the experiments studies were made of the effect of the pollution of the water on the chemical methods for the determination of dissolved oxygen and on the effect of light intensity on the vertical distribution of plankton.

A study was made of the effects of varying temperatures and salinities on the artificial hatching of shad eggs.

It was found that the water supplied to the aquaria of the station had an injurious effect upon the animals placed in it and the cause of the defect was investigated. It was found to be due to contamination by the zinc of the galvanized iron pipes by which the water is brought to the station and means of lessening or avoiding the trouble were suggested. The study is of importance in connection with the use of metal containers for the transportation of fish fry.

Of other studies that have a bearing on fish culture there may be mentioned one on the effect of temperature on digestion in fishes as exemplified by the shore minnow (Fundulus) and another on the effect of the same factor on certain physiological process in the amphopod crustacea. One of these, belonging to the genus Gammarus, is of considerable importance as food of certain fresh water fishes and a study was made of the factors which determine its distribution. A successful attempt was made to introduce it into a pond at Gien Major, where it had previously been lacking.
(c) Fish Handling.

Under this heading may be mentioned observations on the effect of variations of temperature on the preservation of fish in cold storage, the chemistry of the slime of the haddock and hag fish (Myxine), the histology of frozen fish muscle under different conditions of storage, and the quantitative determination of trime-thylamine oxide in the muscle juices of various fishes.

In the course of experiments designed for comparison of the digestibility of beef and haddock flesh it was found that soup made from haddock with the
skin still on caused a much greater flow of the gastric juices than that prepared from the flesh alone. This observation led to a study of the extractives of hadfrom skin, with results that may possibly prove to be of considerable therapeutic value.
(d) Oyster Investigation.

The board has secured a small piece of property on the shore of Richmond bay, P.E.I., not far from the village of Ellerslie, and has erected thereon a small laboratory building to serve as a centre for intensive study of the oyster population in the neighbouring waters. This laboratory has been placed in charge of Dr. A. W. H. Needler, with Dr. A. B. Needler as volunteer assistant.

The board was fortunate in being able to secure the services for the entire summer of Mr. H. P. Sherwood, of the Fisheries Experiment Station at Conway, North Wales. Mr. Sherwood was of great assistance in suggesting lines along which the problems of oyster culture might be carried out and made a quantitative study of the intensity of spawning in Bideford river, a determination which will serve as a basis for further work in that line. He also experimented with the spawning of oysters retained in concrete tanks, but the results were not satisfa ctory.

Mrs. Needler has found evidence that indicates a sex reversal from male to female in our oyster with increasing age and has also made obervations on the onset and duration of the spawning season and on the rate of growth. Dr; Needler has investigated the relation of spawning to temperature, the vertical distribution of the spat, the time of spatting, the efficiency of different varieties. of cultch, the planting of spat and the transplanting of both young and adult oysters. Stations were established for the regular collection of plankton, the source of the oyster's food, and a tide gauge was installed for the study of the very irregular tides of Richmond bay.
(e) Lobster Investigation.

The lobster investigation was carried on by Professor Chaisson with the assistance of Mr. Templeman and was mainly directed toward the determination of the sizes of lobsters taken in different districts. Some 75,000 measurements were made in 100 districts and charts were prepared showing the distribution of the different sizes, the productivity of the different districts during the last three years, and the activity in canning and shipping. In the hope of obtaining information on the directions and extent of migration 500 lobsters were tagyed and released in the Northumberland strait.
(f) Atlantic Salmon Investigation.

Material was collected at various localities in New Brunswick and Nova Scotia with the object of obtaining information as to the existence of local morphological or physiological races of the Atlantic salmon as might be shown by the length and weight of the fish, by the time spent in fresh water and in the sea, the rate of growth, the time of reaching maturity and the proportion of previously spawned fish. This material is now being studied together with some collected for the purpose of determining whether or not there are distinct seasonal races in the Miramichi river.
(0) Pathology.

The pathologist of the station, Dr. McGonigle, visited a number of hatcheries which showed an excessive mortality and reported on the conditions found that might be responsible. He also investigated the conditions that might be responsible for an excessive mortality of the salmon in the retaining ponds at Saint John, N.B., and in the St. Croix river, reports upon which will shortly be issued.

Studies were made of certain fish diseases, such as the " white spot" of salmon, an ulcerous protozoan disease of the winter flounder, an unknown disease of the cod, various types of disease in trout, and the incidence of parasitism in herring. Reports were made upon a number of pathological specimens sent to the station from various points in Canada.

Dr. McGonigle also investigated the effects of the effluent from certain lead mines on fish life and shared in the study of the fisheries of lake Champlain under the international fact-finding commission.

## (h) Physiological.

Much uncertainty prevails in our knowledge of the physiological activities of the organs of fishes, although such knowledge is of great scientific value and essential to a proper understanding of the vital activities of that group of animals. It is, accordingly, a matter for congratulation that the facilities of the station have been utilized for studies on fish physiology by Dr. B. P. Babkin, of McGill University, and by students working under his direction. One of these studies has been mentioned under the heading of fish handling; others are as follows: Dr. Babkin, with Dr. McGonigle, has continued studies on the respiratory mechanism and has also investigated the pancreatic secretion and the excretion of waste nitrogenous material (urea). A study has been made of the duct system of the pancreas, of the histology of various fish tissues, of the effect of various hormones or hormone-like substances on the blood circulation, and the isolated heart of the skate.

## II. THE FISHERIES EXPERIMENTAL STATION (ATLANTIC)

Director, Dr. A. H. Leim

The new demonstration building has been completed and the equipment Jargely installed. Grave fears have been awakened as to the condition of the wharf used by the station, which is the property of the Department of National Defence. Expert advice has been obtained as to the means to be adopted to prevent its threatened collapse and it is hoped that arrangements may be made for its repair.

During the year the station suffered the loss by resignation of two members of its staff, Dr. J. R. Sanborn, Chief Bacteriologist, and Dr. J. H. Mennie, Chief Chemist. The vacancies so made have not yet been filled. The permanent scientific staff has consisted of five permanent investigators, seven seasonal appointments and two volunteer workers.

The researches conducted at the station have been as follows:-

## (a) Fish Handling.

Further observations were made on the chemistry of wood smoke with the object of determining the active substances in the preservation of smoked fish. Investigation was made into possible means of diminishing the amount of insoluble material in fishery salt and into the effect of salt solutions on the weight of fish muscle. Studies were also made of the factors affecting the solubility of the soluble proteins of fish muscle, on heat production after death in sorted fish and on the sulphur content of lobster flesh.

## (b) Refrigeration.

Studies were made on the biochemistry of frozen fish, on the bacterial flora of frozen fillets, and on the effect on "drip" of a preliminary dip before freezing.

## (c) Fish Oil and Fish Meal Investigations.

The investigation of fish oils was continued and routine analyses of fish meals, fish oils, and fishery salts were made.
(d) Canning.

At the suggestion of Dr. G. B. Reed the problem of the effect of canning dying lobsters on the quality of the pack was investigated. An attempt was made to determine the way in which sulphur is released during the process of dying. The availability of sulphur is expected to have a relation to the blackening of cans.

While inspecting lobster canneries at Point du Chene, Mr. Hess packed several dozen cans of lobster with a view to testing the quality of enamel on the cans, the effect of acetic acid pickle on the enamel, and the effect of acid pickle on crystal formation in the cans. These cans are stored for observation at stated periods.

Experimental packs of lobsters in various stages of low vitality subsequent to death were made and these are stored for examination.

Four hundred pounds of mackerel was brine frozen, after being gutted, and is being held for canning. a bulletin has been prepared for publication by Mr. Hess entitled "The Canning of Brine Frozen Mackerel".

An equation was developed for the time required for cans of fish to reach a given temperature during processing. This was tested experimentally.
(e) Standardization of Lobster Canneries.

The inspection of the lobster canneries of the Maritime provinces was continued for the purpose of grading them according to their efficiency. The question of the standardization of the methods of lobster canning was also studied.
(f) Miscellaneous.

Other problems bearing on the fisheries that were studied were the relative digestibility of fish muscle, the heat capacity of gelatine gels, and the chemical composition of sea-weeds.
(g) Educational Work.

1. A course of instruction for fishermen, to be given at the Experimental Station, was arranged for the six weeks beginning January 22. By the courtesy of the Post Office Department the course was widely advertised in the post offices of the coast of the Maritime Provinces and forty-one applications were received, although the number actually attending was only twenty, together with two fishery officers from the Magdalen islands. The full return railway fare was paid each man attending throughout the course and an allowance of $\$ 45$ was added for expenses. In addition the Rural Conference of the Roman Catholic Church made an allowance of $\$ 15$ to each man in attendance from the Diocese of Antigonish, without regard to his religious persuasion.

The subjects included in the course, together with the number of hours devoted to each and the names of the instructors were as follows:-

The preparation of dried and boneless fish, 34 hours-Mr. George Earl, Yarmouth, N.S., and Mr. Joel Smith, Sandford, N.S.
The preparation of pickled fish, 32 hours-Mr. Robert Gray, Supervisor of Fisheries, Halifax.
Motor Engines, 36 hours-Mr. C. Johnson, Halifax.
Navigation, 34 hours-Captain H. M. O'Hara, Halifax.
Chemistry and Physics, 17 hours-Dr. H. R. Chipman, Halifax Experimental Station.

Biology and Oceanography, 19 hours-Dr. A. H. Leim, Halifax Experimental Station.
Bacteriology, 6 hours-Dr. J. H. Sanborn, Halifax Experimental Station.
Refrigeration, 8 hours-Dr. A. H. Leim.
Fish Oils, 2 hours-Dr. H. R. Chipman.
Food Chemistry, 1 hour-Mr. S. A. Beatty, Halifax Experimental Station,
Economics, 10 hours-Professor Maxwell.
Cultivation of the Soil, 7 hours-Dr. M. Cumming.
Marketing, 6 hours-Professor W. V. Longley.
The Utilization of Natural Resources, 1 hour-Dr. M. M. Coady.
The Marketing of Fish, 1 hour-Mr. A. H. Whitman, Halifax.
Fish Handling, 2 hours-Dr. A. H. Leim.
In addition, five evening lectures were given at which the attendance was excellent, although not compulsory, and films showing sport and commercial fishing on both coasts, lent by the Government Motion Picture Bureau, Ottawa, were shown.

Special acknowledgment should be made of the courtesy of the Nova Scotia Public Cold Storage Terminals, which permitted the men to be conducted through their plant, and of the Acadia Gas Engine Company and the Lunenburg Foundry Company in loaning engines for demonstration.
2. Dalhousie Course for B.Sc. in Fisheries.-During the spring academie term the following classes in this course were given at the Station:-

1. General Fisheries. Dr. A. H. Leim (with some assistance by Dr. Huntsman). Five hours per week.
2. Physics and Chemistry of Fish Curing. Dr. J. H. Mennie. Five hours per week.
3. Fish Culture. Dr. A. H. Leim. Five hours per week.
4. Bacteriology of Fish Curing. Dr. J. R. Sanborn. Seven hours per week.
5. Biochemistry of Fish Curing. Mr. S. A. Beatty. Nine hours per week.

Courses 1, 2 and 3 were given to four students and courses 4 and 5 to one student.

During the present fall academic term the following courses only are being given to three students, there being no students in the third year in Fisheries:-
4. Bacteriology of Fish Curing. Mr. E. Hess. Seven hours per week.
5. Biochemistry of Fish Curing. Mr. S. A. Beatty. Eight hours per week.

## III. THE EASTERN PASSAGE LABORATORY

Circumstances beyond the control of the Biological Board prevented the full use of this laboratory as originally contemplated. The course in marine zoology for fishery students and the oceanographic studies that were planned had to be abandoned, but the laboratory was made use of in connection with some of the problems being studied by members of the staff of the Fisheries Experimental Station. Plans are under way looking to a full resumption of the work for which the laboratory was established.

## IV. THE PACIFIC BIOLOGICAL STATION

Director, Dr. W. A. Clemens

During the greater part of the summer the permanent staff of the station numbered five, but later it was possible to add the services of a capable assistant chemist, much needed in connection especially with the oceanographical researches that are being carried on. Eleven seasonal assistants were engaged, mainly for
work in the field, during the summer months. The number of volunteer workers availing themselves of the facilities of the station was twenty-two. There is urgent need for additional accommodation; for the junior members of the staff and for the volunteer workers.
(a) Salmon Investigation.

The experiments that have been carried on for some years under the direction of Dr. R. E. Foerster at Cultus lake were continued. Female sockeye to the number of 3,437 arriving at the fences erected at the outlet of the lake were stripped, yielding over $12,000,000$ eggs, which were consigned to the hatchery, and the resulting fry, amounting to $79 \cdot 4$ per cent of the fertilized eggs, were transferred to the lake. A count was made of the seaward migrants resulting from $2,000,000$ eggs planted the previous year in streams flowing into Cultus lake. The result was a total of 38,000 yearling fish, with which were 66,000 twoyear olds.

For comparison with an experiment of last year on the effect of transplanting eggs from one spawning area to another, half a million young fish are being held at Taft in the Shuswap lakes region until they are old enough to be marked, when they will be transferred to Eagle river.

To test the efficiency of retaining the young fish in ponds with artificial feeding, until they are ready for their seaward migration, the necessary ponds were prepared and 500,000 young sockeye were placed in them. Half of these were marked and liberated in the lake this fall, while the remainder will be differently marked and released next spring. The number of seaward migrants of each group will be counted.

A good run of pinks occurs in alternate years at Masset inlet, Queen Charlotte islands, and a beginning was made of a study of these fish and plans were laid for transplanting eggs from other spawning grounds to McClinton creek, in the hope that the run of the off year might be improved. A beginning was also made of a study of the life history of the chum salmon.

It is desirable that the runs of fish in the Skeena river should be maintained at their maximum and a study of the conditions in the river was begun by a survey of certain streams in the Babine Lake district.

The tagging of adult fish was continued, spring and coho being tagged at the northwest end of the Queen Charlotte islands, off Porcher island and in the Goose island area. Pink and chum were tagged in Queen Charlotte sound and in Johnstone straits.

Dr. and Mrs. Clemens continued their analyses of the data collected by the provincial Fisheries Department regarding the sockeye runs in the Fraser, Skeena and Naas rivers and in Rivers inlet.

## (b) Pilchard and Herring Investigations.

The pilchard investigations, conducted conjointly with the provincial Fisheries Department, were continued on essentially the same lines as in previous years, the catches being sampled for the determination of length, weight, sex, and other items which might throw light on the question of a possible depletion of the supply. Studies were also made as to the movement and mingling of schools and as to the relationship of the pilchard to the California sardine.

The Herring investigation was conducted along similar lines to that of the pilchard and plans were made for an annual inspection of the spawning areas, so that data might be obtained that would allow of predictions as to future supplies of the fish. Alleged injurious pollution of the spawning areas in Berkeley sound by effluents from reduction plants was investigated, chemical analysis of the water being made at different periods of the year.

## (c) Trout Investigations.

The study of the Kamloops trout in the Kootenay district was continued and included observations on the effect of different temperatures on the development and growth. A study of the kokinee (land-locked salmon) was begun.

## (d) Shellfish Investigation.

Intensive investigation of the oyster was continued at Boundary bay and Ladysmith harbour. In each of these localities there are now three species of oysters, natives, imported eastern and imported Japanese. Studies of the physical and chemical conditions favourable for the spawning, spatting and growth of each species were carried on.

Attention was given to the distribution, reproduction and growth of crabs in the Prince Rupert region, and especially to the time of onset and duration of the mating season, information on these points being essential if regulation of the fishery should be found adviseable.

## (e) Oceanography.

The investigation of the oceanographic conditions of the straits of Georgia, under the direction of Prof. A. H. Hutchinson, of the University of British Columbia, were continued, especial attention being given to the silicate, phosphorus and nitrate content of the water, the distribution of these substances and their relation to the fertility of the water. A beginning was made of an intensive study of the oceanographic conditions of three of the fiords of the British Columbian coast, with a view to a correlation of these conditions with the fishery productivity of the fiords. In connection with this an investigation of the bottom fauna of the fiords was begun.

Other investigations carried on concern the efficiency of the present methods of collecting plankton and an inquiry into the possibility of standardizing these methods; the qualitative and quantitative distribution of zoo-plankton in the straits of Georgia; the identification of the diatoms and an inquiry as to their importance as a source of food for the copepod and schizopod crustacea, which, on their part, are important as a source of food for various fishes; the identifcation of the ostracode crustacea; the marine and fresh water infusoria; and the marine worms of the Nanaimo district.

## (f) Fish Culture.

Studies were made of the identification and life histories of the British Columbian flatishes (Pleuronectidae); of the life history of the Pacific dogish (Squalus suckiii) and of the ling cod; and on the relation of sea fowl to the fisheries.
(g) Pathology.

Under this heading may be mentioned a study of the water moulds that attack fish eggs; another on the tapeworm parasites of cottid fish; and another, by Prof. Wardle, of the University of Manitoba, on the tapeworms of salmon and trout.

## ( $h$ ) Physiology.

Certain problems in fish physiology were also attacked at the Pacific station. Briefly stated, these were nitrogen metabolism in the dogfish; the relation of the nitrogen metabolism to cardiotonus in the dogfish; the physiology and 'pharmacology of fish gut; and the creatine and creatinine content of fish muscle and body fluids.

## EDUCATIONAL WORK

On the Pacific coast a two-weeks' course was given at the University of British Columbia to fifteen assistants, to superintendents of hatcheries in the
province. The course was given by members of the staffs of the west coast stations, Dr. W. A. Clemens, Dr. R. E. Foerster and Mr. L. F. Smith, and consisted of lectures and demonstrations in elementary physics and chemistry, and biology and on the application of these to fish culture.

## V. THE FISHERIES EXPERIMENTAL STATION (PACIFIC)

## Acting Director, Mr. H. N. Brocklesby

The year brought two serious losses from the staff of the Fisheries Experimental Station at Prince Rupert. One is due to the resignation of the Director, Mr. D. B. Finn, who has retired from the services of the Biological Board to aceept a much more lucrative position in connection with the fishing industry. Mr. Finn's energy and enthusiasin have been potent influences in the development of the station and his services will be greatly missed. The other loss is due to the death, after a prolonged illness, of Dr. T. Ingvaldsen, Associate Biochemist, whose quiet, earnest and careful devotion to his duties was greatly appreciated. Attempts that have been made so far to find suitable incumbents for these positions have been unsuccessful, but a committee has the matter in hand and it is hoped that the vacancies will be filled ere long. In the meantime Mr. H. N. Brocklesby, Associate Chemist, has been appointed acting director.

The basement story of the new building, that is being erected on the high land back of the present laboratory, has been completed and on grounds of economy it has been decided to postpone the erection of the remaining stories. The basement story has been roofed in and will provide space for two additional laboratory rooms and for a refrigeration and cold storage plant, which has been installed a much needed equipment in connection with the fishing industry of the Pacific cuast.

At present the station is without any suitable boats. Plans and specifications have been drawn up for a 75 -foot boat on the type of a halibut schooner. Such a boat is very much needed, especially in connection with the halibut fishery; and it is hoped that the building of it may be proceeded with during the coming year.

The investigations that have been carried on at the station during the wear may be listed as follows:-
(a) Fish Handling.

The discovery of the cause and source of the infection producing discolouration of halibut naturally led to attempts to combat the evil. The sterilization of the ice used in packing the fish, the main source of the infection, was first tried but did not seem feasible. A partial sterilization of the fish by immersing them in brine for about half an hour was, however, found to be effective and further studies along this line are being undertaken.

The conditions responsible for the deterioration of fresh salmon after they have been landed on the cannery floor were given consideration and experiments Were made to determine the relative amounts of deterioration in fish in the round and gutted. The effects of heaping the landed fish on the cannery floor were also studied and the necessity for more frequent sterilization of certain portions of the cannery equipment, such as the washing tanks and the "Iron Chink," especially during the large runs, was found to be indieated.

An investigation of the losses suffered by certain local canneries as the result of the putrefaction and blackening of canned shrimps was made. The trouble was found to be due to insufficient sterilization, and therefore capable of easy remedy.

A study was begun of marine bacteria and their relation to the deterioration of fish. Various species were isolated and their biological characteristics determined.

## (b) Refrigeration.

The installation of a refrigeration plant was taken advantage of to begin a study of the relation between the area of the cooling coils and the temperature of the cooling medium when the system is in equilibrium, the rate of desiccation being also noted. An experimental jacketed cold storage chamber was constructed, designed for the purpose of obviating desiccation.
(c) Fish Oil, Meal and Glue Investigations.

The lack of sufficient knowledge of the chemical composition of fish oils has made necessary a considerable amount of fundamental investigation of the constituents of pilchard oil and the dogftsh liver oil. Thus, the composition of the mixed fatty acids of pilchard oil has been studied and the properties of the highly unsaturated fatty acids with especial reference to their polymerization of unsaturated fatty acids from other sources, the purpose of the study being to discover a treatment that will make the oil a good drying paint oil. Tests of the drying properties of the oil have been continued. Experiments have been carried on to determine the effects of hydrogenation on pilchard oil and it has been found that at one stage of the process a clear, inodorous oil, that might be used as a salad oil, is obtained and the final result is the production of a white, solid substance, possibly utilizable as shortening.

The composition of dogfish oil has also been studied and the nature of its unsaponifiable constituents determined. Three experiments on the hydroxylation of the oil have been undertaken for the purpose of obtaining from it an oil suitable for lubricating purposes, and observations have been made on the effect of ingested fish oils on the nature of the body fats.

Fish glues prepared by electro-dialysis have been found to equal the best commercial glues both in strength and in their resistance to moisture.

## (d) The Naas River Problem.

Complaints having been received that a peculiar silt formation was doing extensive damage to nets in the Naas river, the director of the station and two members of the staff visited the locality. The effluent from a smelter was suspected as being the source of the trouble and analyses were made of it, of the silt, and of the river water above the smelter. The results seemed to indicate that the problem was one of colloidal chemistry and a committee of the board is now endeavouring to secure the services for a time of a competent man to continue the investigation.

## VI. THE PRAIRIE LAKES INVESTIGATIONS

The study of the fisheries of the Manitoban lakes was continued by Mr. Bajkov, opportunities for prosecuting them being greatly increased by the rental of a small cottage near the shore of lake Winnipeg at Gimli to serve as a field station and by the purchase of a small motor boat. The board is still under abligations to the University of Manitoba for accommodation during the winter months.

The study of the conditions in the lakes of the Prince Albert National Park was continued by Dr. D. S. Rawson with two assistants, with the object of ascertaining the suitability of the various lakes for the introduction of game fish. A field station was established at Waskesiu narrows and observations were carried on through the summer on the amount of fish food available in the lake and especially on the variation in quantity of the insect larvae which are the staple food of bottom feeding fish.

A visit was made to the MacLennan river during late July and early Augustr when the water was at its lowest level. Long stretches of the river seemed to present suitable conditions for speckled trout, except that the temperature of
the water at this season was rather high. It remains to be determined whether the rapidity of the streams and the high oxygen content of the water may not offiset this effect.

Three weeks were spent in continuing the survey of Sandy lake, begun in 1929. The conditions were found to be very similar to those prevailing in Kingsmere lake and it is suggested that both lakes might be profitably stocked with ciscoes and eventually with lake or Kamloops trout.

## PUBLICATIONS

The publications sponsored by the Biological Board for the purpose of making known the results of investigations carried out under its auspices are four in number, the Contributions to Canadian Biology and Fisheries, in which more lengthy, technical papers find place; Bulletins, for briefer, more popular articles of immediate interest to the fishery industry; Studies, consisting of reprints of papers based on work done at one of the stations, but published elsewhere than in the board's publications; and Progress Reports, containing brief, more popular accounts of researches carried on at the stations:'

During the year twenty-one papers have been published in the Contributions and two others are now in press and due to appear in December. Four Bulletins have been issued, their authors and titles being as follow:
A. G. Huntsman. Arctic Ice on Our Eastern Coast. 12 pages, 4 figs.
A. D. Pritchard. Pacific Salmon migration: the Tagging of the Pink Salmon and the Chum Salmon in British Columbia in 1928. 17 pages, 9 figs.
W. A. Clemens. Pacific Salmon Migration: the Tagging of the Coho Salmon on the East Coast of Vancouver Island in 1927 and 1928, 19 pages, 4 figs.
L. L. Bolton. Sockeye Tagging on the Lower Fraser River, 1928. 6 pages, 1 fig.
Eighteen papers have been distributed as studies and four progress reports mere issued.

The publications of the board are sent to 154 institutions from most of which exchanges are received. Those countries to which copies are sent are: Canada, 27; England, 16; United States, 45; France, 8; Denmark, Scotland, Germany, Sweden and Russia, 5 each; Australia, New Zealand and Norway, 4 ench; Italy and Japan, 3 each; Hawaii, India, Ireland and Newfoundland, 2 each; Africa, Austria, Belgium, Bermuda, Holland, Manila and Spain, 1 each.

## APPENDIX No. 3

## FISH CULTURE

Annual Report by J. A. Rodd, Director

Fish cultural operations during 1930 were carried on by the Dominion Government in the Maritime Provinces and British Columbia-also in Manitoba, Saskatchewan and Alberta until the transfer of the natural resources to these three provinces became effective. These operations included the propagation of the more important fresh water and anadromous food and game fishes, such as Atlantic and sebago or landlocked salmon, speckled, brown, Loch Leven and rainbow trout in the Maritime Provinces; whitefish, pickerel, cutthroat, rainbow, brown, speckled, Loch Leven and salmon trout in the Prairie Provinces; and Pacific salmon (principally sockeye) cutthroat, Kamloops, rainbow and speckled trout and whitefish in British Columbia.

Facilities for retaining and feeding fry so as to afford a longer season for their distribution were enlarged at several establishments where such development was feasible. The total distribution from the hatcheries of eggs, fry and older fish amounted to over $479,000,000$. This total is somewhat smaller than that for the previous year but larger than total outputs for either 1927 or 1928. The decrease is very largely due to a smaller distribution of pickerel in the Prairie Provinces. The numbers of each species distributed were:-

STATEMENT BY SPECIES, OF THE FISH AND FISH EGGS DISTRIBUTED FROM THE HATCHERIES DURING THE YEAR ENDED DECEMBER 31, 1930

| Species | Green eggs | Eyed eggs | Fry | Advanced fry | Fingerlings | Yearlings and older | Total distribution |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Salmo salar-Atlantic salmon... | 7,920 | 600 | 3,820,690 | 3,819,115 | 13,945,821 | ........... | 21,594,145 |
| Salmo salar sebago-Landlocked salmon. |  |  |  |  |  |  | 68,5i4 |
| Salmo irideus-Rainbow trout. . |  |  | 278, 535 | 222,500 | 551, 334 | 158 | 1,052,527 |
| Salmo clarki-Cuthroat trout.. |  | 591, 100 | 424,899 | 1,035,500 | 589,809 | 4 | 2,641,312 |
| Salmo clarkii-Hybrid Cutthroat trout (CutthroatKamloops) |  |  | 545 |  |  |  | 545 |
| Salmo rivularis-Steelhead salmon. |  |  | 148, 635 |  |  |  | 148,635 |
| Salmo rivularis kamloops-Kamloops trout |  | 2,003,250 | 1,351,451 |  | 975 | 25 | 3,355,701 |
| Salmo trutta levenensis-Loch Leven trout. |  |  | 30,000 | 138,000 | 120,374 | 431 | 288,805 |
| Salmo fario-Brown trout....... |  |  | 123,500 | 225,000 | 229,740 | 1,155 | 570,395 |
| Salmo fario-Hybrid Brown trout (Brown trout-Atlantic salmon). |  |  |  |  | 29, 065 | 282 | 29,347 |
| Salmo fario-Albino Brown trout. |  |  |  |  | 28 |  | 3 |
| Oncorkynckus nerka-Sockeye salmon. | 1,507,100 | 17,484, 386 | 41,501,839 | 5,100,921 | 14,921,989 |  | 80,516, 235 |
| Oncorhynchus ischawytschaSpring salmon. |  | 1,500 | 151,389 |  | 218,852 |  | 371,71 |
| Oncorhynchus kenterlyi-Kennerly's salmon. | 260, 000 | 870,000 | 202, 437 |  |  |  | 1,332,437 |
| Oncorhynchus kisutch-Coho salmon. | 758,000 | 343,568 | 755.545 |  |  |  | 1,857,113 |
| Oncorhynchus keta-Chum salmon. |  |  | 27,000 |  |  |  | 27,000 |
| Salvelinus fontinalis-Speckled trout |  | 582,510 | 432,410 | 61,765 | 6,758,494 | 74,145 | 7,909,324 |
| Coregonus clupeiformis-Whitefish. | 12,525,000 | 10,000 | 219,998,000 |  |  |  | 232,533,000 |
| Cristivomer namaycush-SaImon trout. Stizostedion vitreum-Pickerel | 29,240,000 |  | $)^{19,500}$ |  | 202, 735 | 3 | $\begin{array}{r} 222,2,23 \\ 124,884,000 \end{array}$ |
|  | 44,298,020 | 21,886,914 | 364,910,375 | 10,671,315 | 37,569,216 | 76,203 | 479,412,043 |

This distribution represents the hatchery output of 1930 and includes results from eggs collected in the autumn of 1929 and in the spring of 1930 .

In addition to the above, 194,700 cutthroat trout eyed eggs, which were purchased from S. S. Drew, Troy, Montana, and 50,000 cutthroat trout eyed eggs received in exchange for Kamloops trout eggs from the Kittitaas County Game Commission, Ellensburg, Washington, were planted direct as follows:-


In addition to the distributions that were made from the hatcheries, twentysix lakes and streams received allotments of fry, fingerlings or older fish by transfer from other bodies of water. This work, with four exceptions, was confined to the Prairie Provinces, where there are many districts that are not readily accessible to existing hatcheries, and which have many bodies of water of indifferent quality in which the classes of fish that are handled in the Department's hatcheries are not likely to live and thrive. This work involved the capture and transfer in many instances for considerable distances of 42,754 fish, which is over twice the number that were similarly captured and transferred in the previous year.

It will be observed from the following statement that the transfers made during 1930 show a considerable number of yellow perch, which are giving good returns in many waters that were barren previous to the introduction of this species:-

| Water stocked | Transferred from | Stage | Bass | Crayfish | Kamloops | Perch | Pike. | Sockeye salmon | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wheaton lake, N.B | White Marsh creek.. |  |  | 19 |  |  |  |  | 10 |
| Lake George, Man. (Lake No. 10 or Seigneur lake), T. 15, R. 15, E. 1. |  |  |  |  |  |  |  |  |  |
| T. 15, R. 15, E. 1. | North Dakota Game and Fish Commission | Fingerlings. | 3,200 |  |  |  |  |  | 3,200 |
| Aquadell lake, Sask. T. 20, R. 6, W, | Echo lake.. | Yearlings. |  |  |  | 2,000 |  |  | 2,000 |
| Bird's lake, Sask., S. 9, T. 51, R. 8, W. 3. | Devils lake | Fingerlings. |  |  |  | 180 |  |  | 180 |
| Boggy Creek reservoir, Sask. (Qu'Appelle river), | Echo lake. | Fingerlings. |  |  |  | 2,500 |  |  | 2,500 |
| Clear Lake, Sask., S. 25, 30, 36, T. 27, R.21-22, W. 2 . | Echo lake. | Yearlings... |  |  |  | 2,000 |  |  | 2;000 |
| Ekapo lake, Sask. S. 1, 12, 13, 23, T. 16, R. 5, W. $2 \ldots$ | Round lake | Fingerlings. |  |  |  | 1, 200 |  |  | 1,200 |
| Humby's lake, Sask. T. 25, R. 16, W. $2 \ldots \ldots \ldots$ | Echo lake. | Yearlings.. |  |  |  | 1,000 |  |  | 1,000 |
| Lundeen lake, Sask. S. 15, T. 18, R. 9, W. 3. | Echo lake. | Yearlings. |  |  |  | 600 |  |  | 600 |
| Moore's pond, Sask. S.W. $\frac{1}{4}$, S. 17, T. ${ }_{6}{ }_{6} 7$, R. 22, W. 3. | Jackfish lake | Fingerlings. Advanced fry |  |  |  | 4 | 200 |  | 204 |
| Silver lake. Sask, T. 25, R. 16, W. 2. | Echo lake | Yearlings. |  |  |  | 1,000 |  |  | 1.000 |
| Dried Meat lake, Alta., T. 44, 45 , R. 29, 30. W. 4. | Mayatan lake | 2-3 yrs... |  |  |  | 120 |  |  | 120 |
| Elkwater lake, Alta., S. 22-20, T. 8, R. 2, W. 4 | Nicho lake. | Yearlings. |  |  |  | 1,200 |  |  | 1,200 |
| Fish lake, Alta. S. 2, T. 43, R. 10, W. 4. | Mayatan lake | 2-3 yrs. |  |  |  | 60 |  |  | ${ }^{60}$ |
| Half Moon lake, Alta. S. 1, T. 52, R. 22, W. $4 . . . . .$. | Mayatan lake. | 2-3 yrs.. |  |  |  | 80 |  |  | 80 |
| Hardisty lake, or lake No. 10, Alta. S. 1, T. 43, R. 10 , W. 4. | Mayatan lake. | 2-3 yrs.. |  |  |  | 60 |  |  | 60 |
| Kedris lake, Alta. T, 30, R. 21. W. 4 | Mayatan lake. | 2-3 yrs.. |  |  |  | 80 |  |  | 80 |
| Klotz lake, Alta. T. 36, R. 21, W. 4. | Mayatan lake. | 2-3 yrs.. |  |  |  | 80 |  |  | 80 |
| Little Fish lake, Alta. T. 28, R. 16, 17, W. 4. | Mayatan lake. | 2-3 yrs. |  |  |  | 200 |  |  | 200 |
| Miquelon lakes, Alta, T. 49, R. 30, 31, W. 4. |  |  |  |  |  |  |  |  |  |
| Lake No. 1. | Mayatan lake. <br> Mayatan lake | 2-3 yrs.. |  |  |  | 80 |  |  | 80 |
| Lake No. 3 | Mayatan lake | 2-3 yrs. |  |  |  | 100 |  |  | 100 |
| Pfoutz lake, Alta. S. $3,10, \mathrm{~T}, 41, \mathrm{R}, 10, \mathrm{~W} .4$ | Mayatan lake | 2-3 yrs.. |  |  |  | 80 |  |  | 80 |
| Paul lake, B.C... | Paul creek. | Fry. |  |  | 19,000 |  |  |  | 19,000 |
| Pinantan lako, ${ }_{\text {B }}$ C | Pinantan creek | Fry |  |  | 6,000 |  |  |  | 6,000 |
| Scotch creek, B,C. | Adams river. | Adult. |  |  |  |  |  | 1,691 | 1,691 |
|  |  |  | 3,200 | 19 | 25, 000 | 12,644 | 200 | 1,691 | 42,764 |

The prospecting and inspections of previous seasons were continued with a view to locating waters where fish eggs may be obtained in sufficient quantities io warrant the establishing of collecting camps and with a view to locating sites where the fish cultural service may be extended advantageously by the construction of new establishments in districts that are not readily accessible from existing hatcheries.

Some progress was made in hybridization and experiments and investigations with equipment, methods and foods of various kinds at several hatcheries. Considerable progress was made by the Biological Board and its sub-committees in investigations of various problems relating to fish culture, particulars of which are to be found in appendix 6 of the fisheries report for 1930-31. A series of lectures under the direction of Doctor W. A. Clemens, Director of the Nanaimo Biological Station, were given to permanent fish cultural officers below the rank of superintendent of hatchery in British Columbia in July, 1930. These lectures were held at the University of British Columbia, which supplied the necessary laboratory material and equipment and assisted and co-operated in various ways.

The Fish Cultural Branch participated with fish cultural units showing hatchery products and equipment in exhibits that were made to portray the natural resources of the country and held at Lunenburg, and Yarmouth, N.S., Woodstock and Saint John, N.B., Montreal, P.Q. (twice), Calgary, Alta. and Vancouver, B.C. These exhibits aroused great interest and were of considerable educational value.

Twenty-nine main hatcheries, ten subsidiary hatcheries, seven salmon retaining ponds and several egg collecting stations were operated during the calendar year 1930. The output from these establishments was as follows:-

| Established | Hatchery | Location | Species | Green egge | Eyed eggs | Fry | $\begin{gathered} \text { Advanced } \\ \text { fry } \end{gathered}$ | $\underset{\text { linge }}{\text { Finger-I }}$ | Year- <br> lings and older | Total distribution by species | Total distribution by hatohories |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1920 | Antigonish. | Antigonish county, N.S. | Atlantic salmon. |  |  | 300,000 | 00,000 | 862,038 |  | 1,342,038 |  |
|  |  |  | Spockled trout. |  |  |  |  | 1,039,585 | 299 | 1,039,884 | 2,381,922 |
| 1876 | Bedford. | Halifax county, N.S. | Atlantic salmon..... | (b) 7,020 | 600 |  |  | 1,029,058 |  | 1,037,578 |  |
| 1002 | Margaree | Inverness county, N. | Speckled trout...... Atlantic salmon.... |  |  | 1,017,000 | 445,000 | 853,000 $1,011,338$ |  | $\begin{array}{r}\text { 253, } \\ \text { 2,473, } \\ \\ \hline\end{array}$ | 1,800,603 |
| 1002 | Margaree | Invorness county, | Speekled trout....... |  |  | 1,017,00 |  | 207,726 | 242 | 207,968 | 2,681,306 |
| 1912 | Lindloff (a). | Richmond county, N.S | Atlantic salmon.. |  |  |  |  | 580,000 |  | 580,000 |  |
|  |  |  | Rainbow trout... |  |  |  |  | -63,600 |  | -63,600 | 643,600 |
| 1913 | Middleton.. | Annapolis county, N.S | Atlantic salmon. |  | . $\cdot$........ |  |  | $1,393,500$ $1,046,400$ | 23 | $1,303,500$ $1,046,423$ | 2,439,023 |
| 1029 | Yarmouth. | Yarmouth county, N.S. | Atlantic salmon. |  |  |  |  | 1,601,061 |  | 1,691,061 | 2,430,020 |
|  |  |  | Rainbow trout., |  |  |  |  | 715, 642 | 88, 025 | $784.567$ | 2,475,602 |
| 1928 | Florenceville. | Carleton county, N.B. | Speckled trout...... |  |  |  | 600,000 | 715, 8135 | 88, 225 | 1,535, 135 | 2,475,692 |
|  |  | Carleton county, N.B. | Speckled trout...... |  |  |  |  | 835,334 | 1,703 | -837,037 | 2,372,172 |
| 1880 | Grand Falls.. | Victoria county, N.B. | Atlantic salmon.... |  |  | 270,000 | 175,000 | 2, 180, 834 |  | 2,627,634 |  |
|  | Tobique (a) | Victoria county, N.B. | Specklod trout...... |  |  | 673,800 |  | 800,000 |  | 800,000 673,800 | $\begin{array}{r} 3,517,834 \\ 673,800 \end{array}$ |
| 1014 - | Saint John.. | St. John county, N.B | Atlantic salmon. |  |  | , | 460,000 | 219,184 |  | 679, 184 |  |
|  |  |  | Brown trout... |  |  |  | 25,000 | 164,193 | 1,155 | 190,348 |  |
|  |  |  | Brown trout hybrid |  | . ......... | , ......... |  | 29,005 | 282 | 29,347 |  |
|  |  |  | Brown trout albino. | ............ | ........... | ..... |  | 28 | ........ |  |  |
|  |  |  | Landlocked samon. | . . . . . . . | . . . . . . . |  | 68,514 | 38,874 | 431 | 68,514 <br> 39,305 |  |
|  |  |  | Rainbow trout...... |  |  |  |  | 23,201 | 153 | 23,354 |  |
|  |  |  | Spoeklod trout...... |  |  |  | 61,705 | 688,563 | 2,816 | 753, 244 | 1,783,324 |
| 1874 | Miramichi. | Northumberland county, N.B. | Atlantic salmon. |  |  |  | 918,000 | 3,695, 864 |  | $4.614,864$ | 4, 814,864 |
| 1874 | Restigouche. | Restigouche county, N.B..... | Atlantic salmon. |  |  | 780,000 | - 843,675 | 170,729 |  | 1,794,404 | 1;704,404 |
| 1914 | Nipisiguit (a)......... | Gloucestor county, N.B. | Atlantio salmon.... |  |  | 500,880 |  |  |  | 500, 890 | 500,800 |
| 1906 | Kelly's Pond... ...... | Queen's county, P.m.I.. | Atlantic salmon.... |  |  | 189,000 | 106,440 | 265,280 27,384 | … | 650,720 27,384 |  |
|  |  |  | Rainbow trout...... <br> Spockled trout. |  |  | 6,000 |  | 480,889 |  | 28,384 486,869 | 1,104,973 |
| 1914 | Gull Harbour......... | Big island, Lake Winnipog, Man. | Piokerel ...... |  |  | 8,274,000 |  |  |  | 8,274, 000 |  |
|  |  |  | Whitefish |  |  | 63, 300,000 |  |  |  | 63,300,000 | 71,574,000 |
| 1928 | Swan Crook. | Swan creek, Lake Manitoba, Man. . | Pickorol.. | 29,240,000 |  | 60, 700, 000 |  |  | .... | 88, 940,000 | 98, 040,000 |
| 1909 | Winnipegosis. | Snake Island, Lake Winnipogosis, | Salmon trout......... |  |  | 66,743, 000 |  | 194,735 | -.... | 06,743, 000 | 66,937,735 |
| 1915 | Fort Qu'Appolle....... | Fort Qua'Appolle, Sask............... | Whitofish........... |  |  | 60,743,000 | …134,000 | $\cdots$...55,397 |  | 0.789,397 | 60, 037,735 |
| 1015 | Fort Qu Appoll....... | Fort Qu'ppole, Sas.. | Pickerol. . . . . . . . . . |  |  | 805,000 |  |  |  | 805,000 |  |
|  |  |  | Whitefish. |  | 10.000 | 14.605,000 |  |  |  | 14, 615,000 | 15,609,397 |
| 1914 | Banff.................. | Banff, Alta. | Brown trout........ |  |  | 123,500 | -66,000 | 10,150 |  | 109, 650 |  |
|  |  |  | Cutthroat trout.... |  |  |  | $\begin{array}{r}547,500 \\ \hline\end{array}$ | 451,059 |  | - 098,563 |  |
|  |  |  | Looh Loven trout... |  |  | 30,000 | 138.000 | 81,500 |  | 249,500 |  |
|  |  |  | Rainbow trout...... |  |  | 15,000 | - 25,000 | 138,530 |  | 178, 535 |  |
|  |  |  | Salmon trout........ |  |  | 20. 1900 |  | 8.000 |  | 280.040 | 1. 2900,940 |
| 1917 <br> 1928 | Spray Lakes (a).. | Spray Lakos, Alta. | Cutthroat trout...... |  |  | 123.217 |  |  |  | 123,217 | 123,217 |
| 1027 | Lobser slavo Lako.. | . LLebeor Sluvo lake, Aitía | Pickerel.......... |  |  | 16,865, 000 |  |  |  | 10.565,000 |  |

1028
(c) Squilux Camp Lakelse Lake. Babine Lako.
Rivors Inlot.
Anderson Lako
Cowichan Lake.
$\square$Penask Lako Summerland
Wntorton Lnkos....
Cultus Lake..
(a) Lloyds Crea

Lloyds crook, Kamloops District Birkenhead river, B.C.

Pitt Lake, B.C.
Adams river, Shuswan District B. C Adams river, Shuswap District,B.C Babine Lake, B.C Owikeno Lake, B.C Andorson Lako, Vancouver island. Cowiohan Lake, Vancouver island, B,C.
(a) Subsidiary hatchery.
(b) All of these plantod from the 1030 Fall collection
(c) Colloction camp.
(d) $1,001,000$ of these planted from the 1930 Fall collection
(c) This dist ribution represents the hatchory output of 1930 and includes rosults from egegs collected in the nutumn of 1920 and in the apring of 1930
(andor Kamloops
Lower Fraser Valley-

| Nicomekl river- |  |
| :---: | :---: |
| IIeadwaters. | 20,410 |
| Twigg creek (one milo west of Murrnyville) | 81,640 |
| Kanaka creek (north of Wobster's cornors) | 62.030 |
| Sumas river- |  |
| Delair crcek (one mile east of Abbotsford) | 40,620 |

[^3]Anderson crcok.

081,000

## $9,978,942$ $1,132,000$

17,153,870
5,404,608
448,000
$1,257,100$ $1,257,100$
$8,047,195$ $8,047,195$
$6,354,197$ 10,204,983 0,642,246

# HATCHERY OUTPUT, BY PROVINCES, OF EGGS, FRY AND OLDER FISH DURING 1930 



* This distribution represents the hatchery output of 1930 and includes results from eggs collected in the autumn of 1929 and in the spring of 1930.

In addition to the above 194,700 Cutthroat trout eyed eggs were purchased from S. S. Drew, Troy, Montana, and 50,000 Cutthroat trout eyed eggs received (an exchange for Kamloops trout) from the Kittitaas County Game Commission, Ellensberg, Washington, and planted direct, as follows:-

| Lower Fraser Valley- |  |  |
| :---: | :---: | :---: |
|  |  |  |
| Headwaters | 20,410 |  |
| Twigg creek (one mile west of Murrayville) | 81,640 |  |
| Kanaka creek (north of Webster's corners) . | 52,030 |  |
| Sumas river- <br> Delair creek (one mile east of Abbotsford) | 40,620 |  |
| Fraser Valley DistrictNicomekl river- |  |  |
| Anderson creek | 50,000 |  |
|  |  | 244,700 |

The Canadian National Railway, Canadian Pacific Railway, Dominion Atlantic Railway, Kettle Valley Railway, and the Esquimalt and Nanaimo Railway Companies continued their generous assistance and co-operation by furnishing free transportation for shipments of game fish and game fish eggs with their attendants. The extent of this co-operation is indicated in the following summary:-

| Railways | Total mileage on trip passes | Number of passages | Mileage baggage car permits |  |  | Number of cases or cans |  |  | Number of permits |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Full | Empty | Total | Full | Empty | Total |  |
| C.N.R. | 11,362 | 113 | 7,867 | 7,077 | 14,944 | 608 | 531 | 1,139 | 134 |
| C.P.R. | 14,986 | 100 | 9,103 | 8,710 | 17, 813 | 464 | 449 | 913 | 122 |
| D.A.R. | 412 | 4 | 206 | - 206 | - 412 | . 14 | 14 | 28 | $\cdot 4$ |
| K.V.R. | 1,484 | 9 | 812 | 246 | 1,058 | 12 | 6 | 18 | 4 |
| E. \& N.R | 788 | 12 | 394 | 394 | 788 | 24 | 24 | 48 | 12 |
|  | 29,032 | 238 | 18,382 | 16,633 | 35, 015 | 1,122 | 1,024 | 2,146 | 276 |

Note.-Number of passages refers to transportation one way. A return trip counts as two passages Number of permits refers to one-way passage for cases or cans, either by permit, special authority or free transportation without a permit form.

Gratifying reports regarding the results that are apparent from the distribution of hatchery product continue to accumulate from all districts where fish cultural operations are carried on. In many districts private individuals and local organizations, such as boards of trade, angling and protective associations, service clubs, etc., have provided transportation and otherwise assisted in fish cultural work. In a few instances the necessary facilities were provided and allotments of eggs and fry that were made by the Department were hatched or retained and fed for several months at the expense of the local organization.

The Matamajaw Fishing Club most generously and courteously again agreed to the capture of parent salmon for hatchery purposes in their preserves. Operations were carried on under the personal direction of Superintendent Mowat of the Restigouche Hatchery. Eggs to the number of 655,200 were secured, returns from which will be distributed in the Restigouche Watershed.

The Restigouche Riparian Association again placed its power boat with its crew at the disposal of the Department for collecting parent salmon from the fishing stands and transferring them to the salmon retaining pond at New Mills, N.B.

The officials and employees of other federal departments, provincial officers, and officers and crews of fisheries patrol protection boats have been most cordial in their co-operation in all instances where they could be of assistance. The Research Committee of the Biological Board gave prompt and courteous consideration to all problems and difficulties that were referred to them. All of this assistance and co-operation is gratefully acknowledged.

From the autumn collection of 1929, exchanges of eyed Atlantic salmon eggs were made with the United States Bureau of Fisheries and the Bureau
of Fish Culture of California, details of which are given in a subsequent statement. Similar exchanges of Atlantic salmon eggs from the 1930 collection have been arranged.

## MARITIME PROVINCES, EASTERN DIVISION

## District Supervisor of Fish Culture, James Catt

Collections this year were confined to the trout stocks at the several hatcheries carrying brood fish, and to wild fish of two genera, namely, Salmo (salar and sebago) and Salvelinus (fontinalis). The usual collections of Salmo salar were increased by the use of new and more effective equipment in Morell river, Prince Edward Island, and by a larger number of fish being obtained for Allen's Lake, N.S. In the latter case the number of salmon was not as large as desired due to the wrecking of the commercial traps off the Yarmouth county coast by storms.

The scheme of operations included an innovation in the distribution of a large number of yearling speckled trout, from six inches to ten inches in length, from the Yarmouth hatchery. Large salmon and rainbow trout fingerlings were successfully reared at the Lindloff sub-hatchery for the first time. Conditions created by the extreme drought and high temperatures that prevailed in parts of the Maritime Provinces during the early summer, were partly responsible for losses of fry and fingerlings that occurred at some hatcheries. Investigations with a view to controlling future losses have been taken in hand by departmental officers and employees of the Biological Board. A heavy loss in brood salmon in the Saint John retaining pond was caused by the influx into the pond of an enormous number of young herring. Such an invasion had not previously obtained and provision has been made to prevent a recurrence.

Results of previous stocking were obvious generally throughout the Maritime Provinces. Most satisfactory conditions were reported concerning the improvement of the small mouthed black bass in Bocabec lake. A very greatly increased bag of Salmo sebago was made in Chamcook lake. As was to be expected, the fish appeared rather small and have probably not yet reached maturity, as no great number appeared on the spawning grounds. Favourablo conditions were reported generally with regard to the stock of speckled trout distributed in the vicinity of Saint John and at many other points. The commercial catch of Atlantic salmon was much above the annual average, for a good many years at least. In the Saint John area, not only was a record reached by the net fishermen but by the anglers on the main Saint John river. In June alone, the small drifters off the mouth of the river took over 20,000 salmon, while the anglers captured more than 700 fish during the season, in one pool above Fredericton. Owing to the drought and low water condition, angling was not good in many of the streams in Nova Scotia. Spawning conditions in the autumn were generally good and a Iarge natural seeding of Atlantic salmon eggs took place in many sections. Brown trout up to seven and one-quarter pounds were taken in Loch Lomond, New Brunswick. The catch of rainbow trout from Pisquid like in July alone, exceeded the total seasonal take of any previous year.

The fingerling ponds for trout were extended at the Bedford hatchery and a deep pond for brood trout was constructed at Florenceville hatchery. Additional outside batteries of hatching troughs were constructed at the Antigonish hatchery.

Selective breeding of trout and feeding experiments to determine the nutritional value of various foods and mixtures were continued at several hatcheries. Some progress was made in hybridization at Saint John and other investigations included experiments to determine the percentage of free oxygen exhausted from water by salmon fingerlings.

The examination of possible hatchery sites was continued in Nova Scotia. An examination with a view to improving the salmon runs was made on the Mersey river and East river, Sheet harbour, in co-operation with the fishery officers, and examinations to locate suitable rainbow trout waters were coutinued.

In the course of the year, trout stock was supplied for two rearing ponds established by members of the Fish and Game Association of Cape Breton county, Nova Scotia, and fish cultural officers assisted the Association by giving advice requested of them, as to the most efficient methods of operating ponds of this kind. The pond constructed by the Sydney Fish and Game Protective Association (McCann's pond) is located on King's Road, four miles from Sydney, N.S. It is twenty feet long, six feet wide and five feet deep, and screened at both ends. The wall of the building above the ground is twentymine inches high, constructed of inch tongue and groove boards. During the summer months the roof is covered with poultry netting and during the winter it has a board covering in four sections so as to be easily placed and removed. The portion of the pond underneath the surface is constructed of two inch tongue and groove plank and the space between the outside of the plank and the earth is packed with fire clay. Three tons of gravel were placed in the pond before the trout were planted. A small brook flows directly through the building, giving a continuous supply of cool, fresh water. This pond received 1,000 Rainbow trout in August from Lindloff hatchery. They made rapid growth during the summer and are being retained through the winter. The second pond (Jack Barrington's) is located on a tributary to Leitches creek, Cape Breton county, N.S., some 150 feet from McIsaacs lake. The pond is 16 feet long 14 feet wide and has a depth of water at no time less than 20 inches. It is supplied with an abundance of good clear running water at a fairly low temperature. In July it received a shipment of 3,000 speckled trout fingerlings from Margaree hatchery. These were reared and fed throughout the summer and liberated in MoIsaacs lake on December 3, 1930. Some of them had attained a length of $6 \frac{3}{4}$ inches. In New Brunswick there was co-operation with provincial authorities in carrying on investigations to ascertain suitable sites for wayside angling ponds, which would bring angling within easy reach for visitors to the province, as well as for resident citizens. Arrangements have also been made to utilize, in an experimental way, the canal of the municipal power plant at Nictaux falls for the capture and retention of parent salmon in 1931. This proposal, which is being undertaken with the consent of the town of Middleton, operator of the power plant, has several points in its favour. It is to be carried on in a river which has "early run" salmon. The initial outlay is limited and the plant is inexpensive for operation and does not necessitate any handling of the fish except when they are being stripped. As the salmon swim up the river, they ascend the fishway leading from the pool at the foot of the dam to the power canal and then into a trap with a white painted bottom, at the head of the fishway. An opening with wings leads from the trap into the canal. The white bottom of the trap makes it possible to examine the salmon for net marks and abrasions without handling. Perfect fish showing no sign of injury can be readily selected and when selection has been made, the gate across the opening from the trap to the canal is lifted and the chosen fish swim into the canal. The other fish are transferred to the power pond above the fishway and the canal and continue their ascent up river of their own accord. A census will be taken of the salmon that ascend the Nictaux river so that at the end of the season an accurate record will be available. This information will be of considerable value in determining future action for securing "early run" salmon at this point.

## ANTIGONISH HATCHERY

## George Sutherland, Superintendent

Speckled trout eggs to the number of 146,865 were collected from the two and three-year-old brood stock that are being developed in the ponds at this hatchery. This collection is almost three times as large as that of the previous year. One hundred and eighty-eight thousand, three hundred and twenty were collected from wild Speckled trout in Lochaber lake. The Lochaber lake collection is slightly smaller than that of 1929 . In addition, 495,676 and 386,698 eyed speckled trout eggs were purchased from the American Fish Culture Company and Yama Farms, respectively, and 100 speckled trout in their third year were received from the Saint Jolin hatchery. One million, two hundred and ninety-seven thousand, four hundred and fifty Atlantic salmon eggs (green) were received from the River Philip retaining pond in November and 500,000 (eyed) were received in the preceding March from the Miramichi hatchery. Over 70 per cent of the Atlantic salmon were distributed in the advanced fry and older stages, and all the speckled trout were No. 1 fingerlings or older. The total distribution, however, in all stages of growth amounted to $1,342,038$ Atlantic salmon and $1,039,884$ speckled trout. Comparative feeding tests were made with both speckled trout and Atlantic salmon fingerlings. In one of these experiments with speckled trout, raw beef liver produced a greater growth than concentrated powdered liver, but the loss was heavier with the first mentioned ration. In a second experiment with speckled trout, the fingerlings fed on beef liver made better growth, but the loss was heavier than in similar groups fed on a ration consisting by weight of one part cod liver meal, one part fish meal, one part canned salmon and three parts ground liver. In an experiment using raw beef liver the Atlantic salmon fingerlings made better growth and showed less loss than in similar groups fed a mixture of one part cod liver meal, one part fish meal, one part canned salmon and three parts ground liver. The facilities for retaining fry and fingerlings were extended by the construction of a battery consisting of 48 troughs, each 14 feet long, $10 \frac{1}{2}$ inches wide, and $6 \frac{1}{2}$ inches deep, which will be available for use in 1931.

## BEDFORD HATCHERY

## George Heatley, Superintendent

This hatchery secured $1,220,450$ Atlantic salmon eggs from River Philip egg collecting camp, 591,000 speckled trout eggs from the Cape Cod Trout Company and 421,600 from the Yama Farms. The whole output of both salmon and trout viz., $1,037,578$ Atlantic salmon and 853,025 speckled trout were distributed in the number 1 fingerling and older stages except the requirements of the Atlantic Experimental Station at Halifax, in the way of salmon and trout eggs and fry, which were supplied from this hatchery. A new type of feeding cylinder was devised which has proven quite satisfactory. It is 9 inches high and 6 inches in diameter. The bottom and the lower 6 inches of the cylinder are made of perforated zinc, the size of the perforations used being determined by the stage of the fish that are to be fed. A one and one-quarter inch round wooden handle is fixed inside across the top. Six pounds of pulped liver can be fed by this cylinder at one time. By placing it in a trough or pond with a whirling motion the food is widely distributed throughout the water. The perforated zinc is easily kept clean. Experimental feeding of speckled trout fry with canned salmon, canned salmon and beef liver on alternate days, and beef liver alone was carried out. Best results were obtained from the liver diet alone. Four concrete fry ponds each 36 feet long, 4 feet wide and from 14 to 21 inches deep were constructed, and a six foot extension added to the garage.

## MARGAREE HATCHERY

## L. J. Burton, Superintendent

Thirty-six thousand one hundred and forty eggs were secured from the small number of speckled trout retained in the ponds at this hatchery. In March, 1930, 1,000,000 Atlantic salmon eggs (eyed) were received from the Miramichi hatchery and 10,000 speckled trout eggs from the Saint John hatchery. The total production of the Margaree Salmon retaining pond amounting to $4,708,360$ green eggs were laid down in the hatchery in November and December, 1930. Nearly 60 per cent of the Atlantic salmon were distributed in the advanced fry and older stages and the whole of the speckled trout in the number 1 fingerling and older stages. Total distributions amounted to 2,473,338 Atlantic salmon and 207,968 speckled trout. Experimental lots of Atlantic salmon fingerlings were fed on canned salmon alone, equal portions of canned salmon and beef liver; and beef liver alone, results of which were definitely in favour of the last mentioned ration.

## LINDLOFF HATCHERY

## M. Kyte, Officer in Charge

The Lindloff hatchery, subsidiary to Margaree, received 600,000 eyed Atlantic salmon eggs from the Miramichi salmon hatchery in March, 1930, and 80,230 cyed rainbow trout eggs from the St. John hatchery in May. The total output of both species, viz., 643,600 , consisting of 580,000 Atlantic salmon and 63,600 rainbow trout, was distributed in the number 1 fingerling and older stages. Some large Atlantic salmon and rainbow trout fingerlings were successfully reared at this hatchery for the flrst time.

## Margaree Salmon Retaining Pond

## J. P. Chiasson, Superintendent

The salmon for the Margaree salmon retaining pond were purchased from eight of the local fishermen, who pooled their interests and operated one large small-meshed pound-net under departmental supervision instead of several small nets and delivered to the retaining pond the salmon that were selected as being suitable for fish cultural purposes. The first salmon was placed in the pond on September 27, and, between that date and November 24, 729 selected fish were delivered. During the period of retention beginning on September 27 until the last fish was liberated on December 1, a loss of only eight salmon occurred. Four hundred and eighty-six salmon, viz., 340 females and 146 males, were measured, weighed, marked with a numbered silver tag and a number of their sales taken before they were liberated. The weight of the salmon ranged from four to thirty-eight pounds. The total yield of eggs, amounting to $4,708,360$, was all laid down in Margaree hatchery.

## Middeeton Hatchery

## F. M. Millett, Superintendent

Middleton hatchery received 2,033,568 Atlantic salmon eggs from the Miramichi pond in October and 549,540 speckled trout eggs from the American Pish Culture Company in December, 1930. The total output from both salmon and trout was distributed in the No. 1 fingerling and older stages and consisted $0 \mathrm{i} 1,393,500$ salmon and $1,046,423$ trout. Feeding tests were made with speckled trout in three troughs containing 1,000 fingerlings each; one trough was fed on
beef liver, one on canned salmon and the third on a mixture of equal parts of canned salmon and beef liver. The results from the beef liver ration were definitely the best, the loss being less than half what it was with the lot fed on the mixture of salmon and liver, which was considerably better than the canned salmon ration.

## River Philip Egg Collecting Camp

## George Heatley and George Sutherland, Officers in Charge

The collection of Atlantic salmon eggs in River Philip amounted to $2,517,900$, which was somewhat smaller than the collection made in 1929. The first fish was secured on October 26, and, between that date and November 1, a total of 9111 was taken. Two hundred and ninety-three salmon, i.e., 144 females and 149 males, were measured, weighed, a number of their scales taken and a numbered silver tag attached to the dorsal fin of each before it was liberated. Twenty of these fish were marked on October 29, and, as they showed no ill effects by November 4, 80 more were similarly marked. By the time stripping operations were completed, a heavy loss had occurred in those hundred fish that were marked before they were stripped, amounting to fifteen per cent compared with approximately four per cent in the 811 that were not similarly handled. Conditions generally, however, were not as favourable as they were in previous years, which, no doubt, contributed to the loss in question. The traps and fences were placed in position on October 1, but, owing to unprecedented drought, the river was low and the salmon were not running at that time. Heavy rain fell on October 25 and 26 , and the traps and fishway in the power dam were opened. As the canal was filled with logs, it was necessary to transfer the fish in tanks to the retaining pond, which entailed considerable handling. During the last week of operations, it was necessary to divert the entire flow of the river through the power canal owing to a blowout where the flume from the power house connects with the canal. This season, a new method was tried out and the tail-race from the power canal was fenced and provided with a trap with the hope that the fish would pass through the trap into the retaining pond and be thus secured without handling. The heavier flow of water coming down the main river, however, attracted the fish coming upstream and less than 100 fish were taken in this way cluring the entire season. The greater portion were captured as they were ascending the fishway in the power dam and were transferred from that point to the retaining pond. The eggs secured, $2,517,900$, were laid down in the Bedford and Antigonish hatcheries, Bedford securing 1,220,450 and Antigonish 1,297,450.

## Yarmouth Hatchery

## H. V. Gates, Superintendent

Speckled trout eggs to the number of 376,800 were secured from fish in their second year that had been reared in the hatchery ponds, and 397,000 were received in January from Yama farms. Rainbow trout eggs in poor condition numbering 75,760 and 20,000 speckled trout eggs were received from the St. John hatchery and an experimental lot, consisting of 2,200 speckled trout eggs (Nipigon variety) from the Ontario provincial hatchery at Port Arthur. Tro hundred and fifty thousand Atlantic salmon eggs (eyed) were received in March from the Miramichi hatchery, and 767,000 (green) of the same species were received in November from Allen's lake. The total output was distributed in the No. 1 fingerling and older stages, and, in arldition, a considerable number is being carried over the winter to be distributed as yearlings. Distributions amounted to 1,691,061 Atlantic salmon, 64 rainbow trout and 784,567 speckled trout. An experimental lot of fingerlings were fed on canned salmon but they
did so poorly as compared with those fed on beef liver that the experiment was soon discontinued. An experiment was tried in 1929 using sea water in making distributions. The superintendent is convinced that diluted sea water is superior to fresh water for carrying fry long distances; that its use enables a larger number to be carried in the same volume and distributed in better condition than if fresh water alone is used. Representative lots of this hatchery's product were included in the departmental exhibits that were made at the Lunenburg and Yarmouth fairs, and members of the hatchery staff were in attendance at both places. An automatic water supply and foot tanks were installed in the hatchery and a battery of eight outside rearing tanks was constructed.

## Allen's Lake Salmon Retaining Pond

## H. V. Gates, Superintendent

Allen's lake was again fitted up as a salmon retaining pond to continue the experimental operations of the previous year. Five hundred and twenty selected salmon were purchased from floating traps off Yarmouth county between May 22 and July 9 . These fish did extremely well in the lake during the summer, and no loss was observed in the lake. Owing to the unprecedented drought, there was very little water in the inlet brook, barely sufficient for the salmon that were retained therein as they were caught. Under such conditions, the salmon did not ascend the brook in numbers as they did the previous year. On November 6 and 7, following a heavy rainfall, 120 salmon ascended and were caught in the trap, but, as the country generally was so dry, the brook soon subsided and only an occasional salmon ascended after that date. The balance was taken in a trap operated in the lake at the mouth of the brook, but, under the dry conditions that obtained, they did not congregate at any point and were dispersed generally over the whole of the lake. Two hundred and eighteen salmon, i.e., 152 females and 66 males, were measured, weighed, a wumber of their scales taken, and were marked with a silver tag before they were liberated. The collection of 767,000 eggs was laid down in the Yarmouth hatchery.

## Florenceville Hatchery

## K. G. Shillington, Superintendent

The collection of speckled trout eggs from the hatchery ponds was over two and a half times as large as it was in the previous year. The greater portion of these eggs was secured from fish in their second and third years which were devcioped since this hatchery was tablished. Eggs numbering 1,413,576 were obtained up to the end of December, 1930, at which time all of the trout were not ripe. The collection was continued until January 27, 1931, at which time the collection from pond fish was increased by 104,454 , bringing the total collection from the ponds to $1,518,030$. In January, 1930, 476,500 speckled trout eggs mere received from the Yama farms, the distribution of which appears in the 1930 returns: In December, 1930, 510,532 were received from the American Fish Culture Company. A supply of Atlantic salmon eggs amounting to 2,005,704 ras received from the Saint John salmon-retaining pond. Nearly fifty per cent of the salmon was distributed as advanced fry and the balance in the No. 1 fingerling and older stages. Over 97 per cent of the speckled trout were distributed as No. 1 fingerlings and the balance were further advanced. Total distributions amounted to $1,535,135$ Atlantic salmon and 837,037 speckled trout. Sixten hundred yearling trout during 1929 were fed $31 \frac{1}{2}$ pounds of beef liver per week. They yielded $348 \cdot 5$ eggs per fish at spawning time. Eight hundred were given the same weekly ration and yielded $406 \cdot 2$ eggs per fish. The units
in the group that were fed the larger amount of food were much larger in size and their egg yield was greater. The experimental feeding of fingerlings with canned salmon was continued with results similar to those of the previous year. While the loss in the salmon fed groups was similar, the growth was not nearly as large as the groups that were fed beef liver. A salt bath in the proportion of one to forty in which the fish were left from two to three hours was found to be more satisfactory generally and to clean up fungus quicker than the solution of one part salt to two parts water that was previously used. Specimens of this hatchery's product were supplied for exhibition at the Woodstock Fair anki a number were sent to headquarters to be preserved for exhibition purposes. A new earthen pond for brood trout was constructed.

## Grand Falls Hatchery

## W. A. McCluskey, Superintendent

In December, 1930, 514,766 eyed speckled trout eggs were received from the American Fish Culture Company and 580,650 from Cape Cod Trout Company. In October and November 3,002,800 green Atlantic salmon eggs were received from the Saint John salmon retaining pond. Over 10 per cent of the salmon were distributed as fry and the balance as advanced fry and fingerlings. All of the speckled trout were distributed in the No. 2 fingerling stage. Distributions amounted to-2,627,634 Atlantic salmon and 890,000 speckled trout.

Groups of Atlantic salmon were fed on beef liver alone, liver and canned salmon thoroughly mixed together (equal parts) and on cannerl salmon. The liver-fed salmon were hardy and developed into strong fingerlings. Those that received the mixture picked out the liver and ate only a small part of the salmon. Those that received salmon alone were thin and did not thrive.

## Toblque Hatchery

## J. W. Heatley, Officer in Charge

This hatchery, which is subsidiary to Grand Falls, is used for the distribution of Atlantic salmon in the upper waters of the Tobique river. In April, 1930, it received 750,000 eyed Atlantic salmon eggs from the Miramichi hatchery, which when incubated resulted in a distribution of 673,800 fry.

During the summer, the wings of the water-supply dam were extended, the pipe line repaired and renewed where necessary, hatchery building painted and the grounds and the driveway to the main read generally improved.

## Miramichi Hatchery

## Frank Burgess, Superintendent

Thirteen million nine hundred and four thousand six hundred and eightyseven Atlantic salmon egge, received from the Miramichi pond, were laid donn at the Miramichi hatchery. This is a considerable increase over any recent year. Various allotments of eyed eggs were sent to other hatcheries, as given below, and those that were supplied the United States Bureau of Fisheries, the Bureau of Fish Culture, California and Trout Brook Company, in exchange for the eggs of other species, that are not regularly available, were obtained from this establishment. The following transfers or shipments of eyed Atlantic salmon eggs took place: to Antigonish hatehery, 500,000 ; Margaree, $1,000,000$; Lindlofi, 600,000 ; Yarmouth, 250,000 ; Restigouche, 600,000 ; Tobique, 750,000 ; Burenu of Fish Culture, California, 28,000; Trout Brook Company, Wisconsin, 25,000; United States Bureau of Fisheries, $1,000,000 ; 4,614,864$ salmon were distributed, of which number $3,695,864$ were in the No. 1 fingerling or older stages.

## Miramichi Salmon Retaining Pond

Frank Burgess, Superintendent.
The Miramichi salmon pond is operated in conjunction with and by the same staff as the Miramichi hatchery. The parent salmon are secured by tender and contract. The necessary fences were built, pond dredged and put in commission in the latter part of August.

The summer run of salmon made its appearance about September 1. Four nets were put into commission and the first salmon were placed in the pond on September 9. Between that date and October 1, in a period of twenty-three days, 3,046 were impounded. The spawning period was also comparatively short, extending from October 17 to November 5; 15,938,255 eggs were secured, and laid down as follows: Miramichi hatchery, 13,904,687; Middleton hatchery, 2,033,568.

## New Mills Pond

## Wm. White, Superintendent

Parent salmon for the New Mills pond were purchased from twelve commercial fishermen of the district. The first salmon was received on June 3, and up to the 30th of that month 374 were accepted and impounded; 131 were secured from July 1 to 7 , making a total of 505 which is all that the pond can properly accommodate. The first eggs were secured on October 22 and between that date and November 10, 1,729,550 were taken and laid down in the Restigouche hatchery. Four hundred and nine salmon, namely: 231 females and 178 males, were weighed, measured and numbered with a silver tag attached to their dorsal fin before they were liberated. Scales from each marked fish were taken ior study. The weights of the marked salmon ranged from 6 to 25 pounds.

## Restigouche (Flatlands) Hatchery

## W. A. Mowat, Superintendent

Splendid angling was experienced in the Restigouche river. In many instances,-limits were taken in two hours. One fish, weighing 47 pounds, was recorded. The Matamajaw Fishing Club, the leasees of a portion of the Metapedia river, again most courteously agreed to the collection of Atlantic salmon eggs in its waters. The fish were taken with drift nets at night but the work in this connection was rendered more difficult by rains which eaused the fish to ascend and disperse to the headwaters beyond the reach of the hatchery crew. Two hundred and fourteen salmon were taken between September 23 and October 28 and retained in temporary enclosures in the river. The first eggs Fere secured on October 17. Operations came to a close on October 31 with a collection of 655,200 salmon eggs.

One hundred salmon, 50 females and 50 males, were tagged, weighed, measured before they were liberated and a number of their scales secured for later examination.

In March, 600,000 eyed salmon eggs were received from the Miramichi hatchery and 582,330 afterwards transferred to the Nipisiguit hatchery; $1,729,550$ green salmon eggs. were also received in October and November from New Mills pond. An experiment in feeding Atlantic salmon fingerlings in 1929 with canned salmon, and with a mixture of beef liver and canned salmon in equal parts, was tried. The tank fed on salmon alone did not thrive. The fish were always looking for some other food and would bite one another. The tank fed on liver and salmon seemed somewhat better although not up to the growth and vigor of fish fed on the regular hatchery diet, viz., liver. Forty-three per cent of the hatchery output was distributed as fry and the balance in the advanced fry and fingerling stages. Total distribution was 1,794,404 Atlantic salmon.

## Nipisiguit Hatchery

## J. T. Comeau, Officer in Charge

The Nipisiguit hatchery received 582,330 salmon eggs in April, 1930, from the Restigouche hatchery to which it is subsidiary. The total output, viz., 500,890 , was widely distributed as fry in the Nipisiguit river.

## Saint John Hatchery

## J. D. Nichol, Superintendent

The Saint John hatchery produces a greater variety of fish than any other hatchery operated by the department. It also acts as a clearing house for shipments of eggs made to the Maritime Provinces generally.

The total production of speckled trout eggs from the hatchery ponds was considerably smaller than it was in 1929, but increases were made in the yield of the eggs of rainbow, brown, Loch Leven and hybrid trout. The hatchery ponds produced 785,694 speckled, 392,972 brown, 47,580 Loch Leven, 340,271 rainbow, and 51,398 hybrid brown trout eggs. Sixteen thousand nine hundred and twenty speckled trout eggs were received from the Yama Farms and a small number, viz., 2,800, of the Nipigon strain from the Ontario provincial hatchery at Port Arthur. Atlantic salmon eggs to the number of $1,594,788$ were received in November from the Saint John salmon retaining pond. Eight thousand salmon hybrid eggs (Atlantic salmon crossed with landlocked salmon) were collected. The parent salmon came from Saint John pond and Chamcook lake.

With a view to producing improved types of game fish, some progress has been made in the development of hybrids. Hybrids developed by crossing brown trout and Atlantic salmon have shown greater growth than brown trout of like age. In appearance, they resemble brown trout, but in habits they are more like the Atlantic salmon. At four and one-half years old, they were considerably larger than brown trout of the same age retained under similar conditions. Hybrids of three-quarter brown trout and one-quarter salmon will be soon reproducing and it is proposed to continue this work until a fish with seven-eighths brown trout strain and one-eighth Atlantic salmon is obtained. A further experiment was made with crosses of landlocked salmon and Atlantic salmon in the hope that by cross breeding it may be possible to evolve an improved type superior to the strain of landlocked salmon found in some of the waters of the district. The crosses in all instances have been both ways and the best of the hybrids of the different years have been mated.

The Atlantic Biological Station at St, Andrews received its requirements of fingerlings ( 7,500 ) from this establishment. Representative specimens of the fish produced at this hatchery were exhibited at the Saint John, Lunenburg and Yarmouth Exhibitions. Outgoing shipments of eyed eggs were made as follows: to Margaree, 10,000 speckled trout; Yarmouth, 20,000 speckled trout; Lindloff, 85,230 rainbow trout; Yarmouth, 75,760 rainbow trout; and to Kelly's Pond, 61,555 rainbow trout. One hundred two-year-old speckled trout were also sent to Antigonish hatchery.

Some experimental feeding was carried on and monthly increases in weight of brown, speckled, rainbow trout and Atlantic salmon fingerlings were determined. Electric lights over the retaining ponds were arranged so as to most efficiently attract various types of insects and possibly increase the supply of natural food previously available to the fish but such efforts were not successful. Some exhaustion tests in transferring fingerlings in 1929 long distances in distributing cans were made. Experiments were also made in 1929 with various foods, and with waters from different sources.

Distribution amounted to $1,783,324$ by species as follows: 679,184 Atlantic salmon, 190,348 brown trout, 29,347 brown trout hybrids, 28 brown trout albinos, 68,514 landlocked salmon, 39,305 Loch Leven trout, 23,354 rainbow trout, and 753,244 speckled trout. The total output of all species was distributed in the advanced fry and older stages.

A combination consisting of one part Portland cement, one part sand and one part metalkote was tested with speckled trout fingerlings and showed no injurious effects.

The collection of landlocked or sebago salmon eggs for Saint John hatchery was continued in Chamcook lakes by J. M. Butler and J. W. Heatley of the Bedford and Middleton hatcheries, respectively. Low water conditions in the early part of the season delayed the setting of the traps but a satisfactory collection of 104,000 eggs was made.

## Saint John Salmon Retaining Pond

## J. D. Nichol and K. G. Shillington, Superintendents in Charge

The operations at the pond were supervised by Mr. Nichol during the greater part of the season, but $\mathrm{Mr}^{2}$. Shillington was responsible for the stripping operations and the handling of the eggs. The parent salmon are purchased from the early run commercial catch which are examined and accepted or rejected as they are delivered by the fishermen to the retaining pond. The first fish was received on May 28, and between that and August 15 a total of 1,811 was impounded. Unfavourable water conditions in the pond caused a heavier loss than usually occurs, which was further aggravated by an unusual and unprecedented run of small herring (sardines) which swarmed into the pond. The appearance of the herring was immediately followed by a loss of 342 salmon. The small herring had not previously entered the pond in any numbers and provision has been made which will prevent their entrance should they again appear. 806 salmon ( 691 females and 115 males) were weighed, measured, and marked by having a numbered tag attached to the dorsal fin, and a number of the scales taken before they were liberated. The fish this season ranged from $6 \frac{1}{2}$ to $17 \frac{1}{2}$ pounds in weight before they were stripped. The eggs secured were distributed as follows: Florenceville hatchery, 2,005,704; Grand Falls hatchery, 3,002,800; and Saint John hatchery, 1,594,788.

## Kelly's Pond Hatchery

## F. C. Hayley, Superintendent

Speckled trout eggs to the number of 537,273 were obtained from owners or lessees of privately controlled ponds. The equipment is furnished by the department. The parent fish are captured by the owners or lessees of the ponds. The fish are stripped and liberated by the hatchery employees, or under their direction. The eggs are laid down in the hatchery as they are taken and the owners or lessees are paid at the rate of $\$ 1$ per thousand for such eggs as later reach the Eyed stage. In 1930, eggs were secured on this basis from Blooming Point Pond, Dromore Stream, Essory's Brook, Ing's Pond, McKenna's Stream and York Pond. Rainbow trout eggs numbering 61,555 were received from the Saint John hatchery, $1,738,300$ Atlantic salmon eggs from the Morell Pond and 108,000 from Leard's Mill Pond. The requirements of the Biological Board in this province in the way of eggs and fry were supplied from this hatchery. Speckled trout fry fed beef liver, liver and canned salmon (equal parts), and canned salmon, showed smallest losses in the group fed the liver and salmon mixed. Eighty-three per cent, of the total output was distributed in the advanced fry and older stages. Distributions by species were: Atlantic salmon, 650,720, rainbow trout, 27,384 ; and speckled trout, 486,869 .

## Morell Salmon Retaining Pond

## F. C. Hayley, Superintendent

The collection of salmon eggs in the Morell river is carried on under the direction of the staff at the Kelly's Pond hatchery. This season the equipment for taking and retaining the parent fish was greatly improved. A large trap, the wings of which practically closed the river to the ascent of salmon, was constructed approximately in tidal water and being seven miles nearer the mouth of the river than the site of previous operations. At the old location where operations were carried on in the past heavy freshets were liable to cause damage entailing the escapement or loss of fish. A number of salmon also remained between the head of tide and the old retainer thereby escaping capture. With the trap set at the new location all the salmon that enter the river are liable to be taken. It is also easier at this new point to retain a trap and retaining pond as freshets have comparatively little influence there and consequently the danger from this source is greatly minimized. The salmon are intercepted in their ascent and led into a large retaining pound 45 feet long, 20 feet wide and 10 feet deep which is secured to piles driven in the channel of the river. This enclosure in turn leads into a second pot of the same dimensions. The catch is readily divided as may be desired between the two retainers and when the required total is secured the leads are lifted and the remaining salmon allowed to ascend the river of their own accord. The necessary watchman's shelter, spawning shed, fresh water tanks and landing stage were constructed. Shrinkage of the twine when the trap and wings were first set undoubtedly permitted some salmon to ascend, but the equipment and operations were far more efficient than anything that has been previously used at this point. Salmon were plentiful and the collection was increased to $1,738,300$ eggs, as compared with 833,800 the previous year. This collection was further augmented in 1930 by 108,000 salmon eggs which were secured from fish which were caught at Leard's Mills. All eggs taken were laid down for incubation in Kelly's Pond hatchery. Further up the river, 273 salmon, that is, 207 females and 66 males were weighed, measured and marked by having a numbered silver tag attached to the dorsal fin, and a number of scales taken before they were liberated. The salmon ranged from three to twenty pounds in weight before they were stripped.

## PRAIRIE PROVINCES, CENTRAL DIVISION

## District Supervisor of Fish Culture, S. J. Walker

As the transfer of the natural resources in the Prairie Provinces from the control of the Federal Government was imminent, no expansion of the Fish Cultural Service was undertaken during the early part of 1930 . The hatcheries in Manitoba were transferred to that province on July 15 and those in Saskatchewan and Alberta, to those provinces on October 1, with the exception of the Banf and Waterton hatcheries situated in the National Parks. This department, under an arrangement with the Department of the Interior, continues to operate the Banff and Waterton hatcheries at the expense of the National Parks Branch of the department concerned.

Gratifying reports regarding the beneficial results apparent were received from many districts that were stocked from the hatcheries in the Prairie. Provinces. Bad Water lake, Alberta, received an allotment of only forty-two young perch in 1922 and has been the productive fishing ground for that species for the past four years. As many as 1,000 fish of good size are reported to have been caught by angling in one day in this lake, which has become a well appreciated fishing ground for the people of the surrounding districts. Rainbow, Loch Leven and Brown trout are being taken in districts in which they were formerly
unknown. Loch Leven and Brown trout have been taken in Dog Pound creek, a tributary of the Red Deer river, and rainbow trout, up to four pounds in weight, have been taken in the Old Man river. Similar reports have been received from many other localities. Arrangements were made with the North Dakota Game and Fish Commissioner for an allotment of large mouthed black bass fingerlings in exchange for eyed pickerel eggs which were supplied from the Swan Creek hatchery. As the hatcheries were transferred to the province before the bass were large enough for shipment, the exchange was completed by the Game and Fisheries Branch, Department of Mines and Natural Resources for Manitoba. As the last stages of this transfer were completed by aeroplane in inclement weather, some loss was experienced but, notwithstanding difficulties, a considerable number of bass was transferred successfully to Lake George (Lake No. 10 or Seigneur lake) near the easterly boundary of Manitoba. The most gratifying spirit of co-operation with and appreciation of the department's services is found generally throughout the division. Fish and Game Associations, Boards of Trade and private individuals are invariably ready to transport for considerable distances and otherwise assist in the distribution of fish to the waters of their respective districts.

The Calgary Fish and Game Association constructed eight rearing ponds in the bed of a small creek near Keith Sanatorium, about six miles west of Calgary. These ponds are between seven and eight feet wide at the bottom, with a one in one slope to the natural bank. A plank wall, approximately sixteen inches high, has been placed above the bank. Outside of this plank the soil has been made level with the top. Cross partitions are made of two inch planking, coated with asphalt varnish. The ponds at the top of the planking are each twelve feet wide by twenty feet long. The water area is between seven and eight feet at the bottom and approximately ten feet at the water surface, with a length of twenty feet. The ponds are well constructed in all details and the bottoms covered with fine gravel, and the sides up to the planking riprapped with small stones embedded in the clay. The water supply is obtained from a spring in the immediate vicinity. Unfortunately, these ponds were constructed by the association without consulting the department regarding the temperature and quality of the water and, therefore, their initial season of operation did not prove as successful as could be desired. They were supplied with 20,000 cutthroat advanced fry and the same number of rainbow trout fingerlings from the Banff hatchery.

## Whitefish Migrations

## Lake Winnipeg and Lake Winnipegosis

As considerable speculation and difference of opinion prevailed amongst the interested fishermen regarding the movement of whitefish from lakes Winnipeg and Winnipegosis to connected waters, some having the impression that Thitefish from lake Winnipegosis migrated to lake Winnipeg and intervening waters and vice versa, the whitefish handled for fish cultural purposes at the mouth of the Dauphin river, Lake Winnipeg, and the entrance to Waterhen liver, lake Winnipegosis, were tagged in 1927 and in 1928. Aluminun tag: were attached to the caudal fins of the fish. Whitefish numbering 2,606 were so marked and released at the hatchery lagoon at Snake island in the southerly end of lake Winnipegosis in 1927. Tags amounting to 195 Were recovered from recaptured fish marked in 1927; 250 more recaptures were reported but the tags were not recovered. In addition, 60 whitefish were caught and handled at the Waterhen camp in 1928 showing indications of scars that might have been made by the tags. The location of collecting and marking eamps are indicated on the attached map of lakes Winnipegosis and Winnipeg 36710-11
and connecting waters, as well as the points at which fish carrying recovery and reporled tags were caught. The points at which recaptures were made show a definite northerly migration in the main lake from Snake island and the Waterhen camp and a much smaller migration into Waterhen lake and lake Manitoba. A total of 370 tags from the marking of the two years was recovered, 195 of which were attached in 1927 and 175 in 1928. One hundred and eighty-four out of 195 recaptured in 1927 or over 94 per cent were recaptured in the main lake, 10 at Long island near where the fish were originally caught and 1 on the easterly side of Waterhen lake. Recaptures reported without the delivery of in the abov fish showing scars that might be made by tags are not considered

In $1928,2,258$ fish were marked at the Waterhen camp in the vicinity of the point where they were originally caught and 203 caught at the same place were transferred, marked and liberated at the hatchery lagoon. One hundred and seventy-five of these tags were recovered. Two hundred and five were reported but the tags were not turned in and 52 fish were caught at the Waterhen camp in 1929 that carried scars that might have been made by the tags either from 1927 or 1928 marking. Of the recovered tags, 1 was from a fish caught in Lake Dauphin, 4 from fish caught in lake Manitoba, 39 from fish caught in Waterhen lake and river, 4 in lake Winnipegosis near its outlet into Waterhen river, 16 at the Fishery at Long island and the balance-111-at various points in the main lake, including 1 that was caught at Devil's point at the northerly end of lake Winnipegosis. Although most of the fish in 1928 were marked at the Waterhen camp near Long island in the bay leading to the outlet into Waterhen lake, 131 or nearly 75 per cent were recaptured in the main lake.

In 1927, 2,600 whitefish were marked and released at the mouth of Dauphin river, Sturgeon bay, lake Winnipeg and 2,478 in 1928. Eighteen and 240 of these fish marked in 1927 and 1928 respectively were recovered. Six or $33 \frac{1}{3}$ per cent of the recoveries from the 1927 marking were recaptured in lake St. Martin and the balance in lake Winnipeg, but all the recoveries, namely 240, from the 1928 marking were obtained in lake Winnipeg. These markings, in so far as they go, definitely indicate that there is no material migration of whitefish between lake Winnipeg and lake Winnipegosis and that there is also a definite migration after the spawning season from the southerly to the northerly end of lake Winnipegosis.

## Gull Harbour Hatchery, Lake Winnipeg

## C. P. Paulson, Superintendent

Whitefish fry numbering $63,300,000$, hatched from the eggs collected during the previous autumn, were distributed in lake Winnipeg. Pickerel eggs were again collected at Hecla and the Quarry. The lake opened early but weather conditions were unfavourable and fishing was light. The collection was smaller than 1928, but larger than 1929 and amounted to $12,239,000$ pickerel ova. The distribution of pickerel fry was $8,274,000$.

## Winnipegosis Hatchery

## George E. Butler, Superintendent

Twenty million of the whitefish eggs collected at the Waterhen camp in 1929 was transferred to Fort Qu'Appelle hatchery and the balance, viz. 86,315,000 , retained at Winnipegosis, resulting in a distribution of $66,733,000$ fry to that lake. Salmon trout eggs numbering 210,000 were received in splendid condition from the Ontario provincial hatchery at Port Arthur and the resultant hatch, viz. 194,735, was distributed as No. 1 fingerlings in Clear lake in the Riding Mountain park.


# Swan Creek Hatchery, Lake Manitoba 

## George E. Butler, Superintendent

The Swan Creek hatchery had a satisfactory collection of $174,760,000$ pickerel eggs; $5,000,000$ eyed eggs were exchanged with North Dakota Game and Fish Commission for black bass; $98,940,000$ fry and green eggs were distributed into the waters of lake Manitoba.

## Fort Qu'Appelle Hatchery

## W. C. Mapes, Superintendent

Ninety-eight thousand, four hundred brown trout eggs were received from Cedar Island Lodge, Wisconsin, in January, and 32,875,000 whitefish eggs from the Cochin fishing station in November and December. Five million whitefish eyed eggs were transferred to Nelson hatchery. Pickerel eggs were again collected in Sioux river. Every reasonable precaution was takel to combat the unfavourable conditions met with in previous seasons. The river was blocked with wire screens before the ice had moved in order to prevent fish from ascending. An ice guard was put in place above the screens, and screens were also erected to prevent the weeds and floating debris from blocking the nets. Owing to the extremely low water that prevailed, the pickerel were unable to ascend the river and the channel did not open until after the middle of April. Nets were also set inside the mouth of the river and in the bay adjoining, and the lake was tested with gill-nets at various places, but without success. The fish taken comprised, at least, 90 per cent males, and a considerable portion of the females had spawned before they entered the river. The total collection was consequently small, and amounted to $1,555,000$ eggs. Favourable reports are continually received regarding the results apparent from this hatchery's operations, and salmon trout up to eighteen inches in length and over two pounds in weight are reported from Brightsand lake, which received its first allotment of trout fry in 1926. Distributions totalled 15,609,397 lby species as follows: Brown trout 189,397 , pickerel 805,000 and whitefish $14,615,000$.

## Cochin Egg Collection Station

## O. Bright, Officer in Charge

Experimental fishing for whitefish was continued in McIntosh Creek connecting Jackfish and Murray lakes at Cochin. The creek is trapped at both ends and a record taken of the fish that enter, with a view to estimating the possibilities for collecting eggs for fish cultural purposes at this point. Climatic conditions were rather unfavourable and the creek was frozen over solidly before a small portion of the fish had ripened; 30,132 whitefish were taken, of which only 2,234 had ripened and were stripped when it was necessary to liberate the remainder; $32,875,000$ eggs were secured, which were transferred to the Fort Qu'Appelle hatchery.

## Banff Hatchery

## J. E. Martin, Superintendent

The Banff hatchery covers an extensive distribution area. Eastern speckled trout, which were introduced some years ago, are reported to be increasing in the district and 54,328 such eggs were collected in the Upper Vermilion lake. This is the first collection of eggs of this species that has been made in the province; 248,006 Loch Leven and 536,800 cutthroat trout eggs were received from the United States Bureau of Fisheries in exchange for eggs of other
species; 310,802 brown trout eggs were received from Wisconsin, and 242,210 rainbow trout eggs from Montana, with 135,520 additional for transfer to the Sub-hatchery in Jasper Park; 597,195 cutthroat trout eggs were received from Montana. A small collection of salmon trout eggs, viz., 7,663 was obtained from the fish that are held for exhibition purposes in the hatchery pond. A shipment of 20,000 each of cutthroat and rainbow trout were delivered to the retaining ponds of the Calgary Fish and Game Association and representative specimens of the trout produced at this hatchery were included in the forestry exhibit that was made at the Calgary Exhibition. The greater part of the output from this hatchery was distributed in the advanced fry and fingerling stages. Distributions amounted to $1,653,754$ by species as follows-Brown trout 199,650 , cutthroat trout 998,563 , Loch Leven trout 249,500 , rainbow trout 178,535 , salmon trout 27,503 , speckled trout 1 and Ouananiche salmon 2. Definite results are apparent from various waters that have been stocked from this hatchery, among which are lakes O'Hara, Mud, Altrude and Two Jacks which were barren of fish life before they were stocked with trout fry from this hatchery. They now afford good angling.

## Spray Lakes Hatchery

## J. E. Martin, Superintendent

Two trap nets were again operated, one at the head of the chain of lakes and the other in the creek connecting the first and second lake. A late season with low water was not conducive to the early movement of trout from the lakes to the streams or to a large collection. The number of cutthroat trout eggs taken was consequently somewhat smaller than in the previous year, amounting in all to 355,310 , the hatch from which, viz., 290,940 , was all distributed in the Spray Lakes system. Reports from the Mount Assiniboine summer camp indicated splendid angling in Marvel lake which was barren of fish life before it was stocked from this hatchery.

## JASPER SUBSIDIARY HATCHERY

In May 135,520 eyed Rainbow trout eggs were received from Montana via Banff, and laid down for incubation in Jasper hatchery. They were cared for by the park's staff, under the general direction of the Supervisor of Fisheries for Alberta; 123,217 fry developed and were distributed into tributaries of the Pembina and McLeod rivers, under the direction of Assistant O. Bright, of Fort Qu'Appelle hatchery.

The necessary assistance including trucks, pack horses, etc., was provided by the Parks Branch, Department of the Interior.

## Lesser Slave Lake (Canyon Creek) Hatchery

## H. J. Reid, Superintendent

A satisfactory collection of $67,745,000$ pickerel eggs, which is larger than the previous year, was made in Buffalo bay at Grouard. Whitefish eggs were again collected in Whitefish river and in Lesser Slave lake. The operations in Whitefish river were also very satisfactory, producing $123,475,000$ as against $48,895,000$ in 1929. The collection from the pound-nets operated in Lesser Slave lake was not, however, as large as it was in the previous year. It amounted to $23,750,000$. Distributions totalled $100,061,000$ and were by species; pickerel $16,865,000$, whitefish $83,196,000$.

The following additions were made during the season to this establishment, namely, an outside fry retaining tank, 40 feet long, 12 feet wide and 2 feet deep; a 12 foot by 14 foot icehouse, and a pound-net boat 22 feet 6 inches long, 6 feet wide and 1 foot; 11 inches deep.

## Waterton Lakes Hatchery <br> G. E. Bailey, Superintendent

Cameron lake, which is reported to have been barren previous to 1921, when it was stocked with rainbow trout, produced 201,066 such eggs, a satisfactory improvement over the initial operations of the previous year. The green eggs were transferred from this lake to the hatchery in sealers of water packed in snow, which was found to be more efficient than packing in moss. Efforts were again made to collect cutthroat trout eggs in Cottonwood, Lees, Spring, and Stoney creeks, but without suceess, as the nets were washed out by freshets and considerable difficulty was caused by beaver cutting the nets and retainers. Rainbow trout eggs numbering 253,260 were received from Wyoming and 252,720 from Montana through the United States Bureau of Fisheries in exchange for Atlantic salmon eggs. Cutthroat trout eggs to the number of 709,370 were purchased also in Montana. The total output of both species was distributed in the advanced fry and older stages. It amounted to $1,122,805$, and by species as follows: 626,750 Cutthroat trout, 496,055 Rainbow trout. Beaver dams at the head of Carpenter creek, stocked in 1929, and Alderson lake, altitude 6,000 feet, both previously barren, now contain large numbers of cutthroat trout ranging from four to six inches in the former lake and eight inches in the latter.

Four rearing ponds were completed, and an office and living room for the assistant were provided by re-arrangement of the hatchery space. Fish and game clubs, ranchers, farmers and everyone interviewed have been most courteous in their willingness to assist in the operation of this hatchery, particularly in the distribution of its output.

## BRITISH COLUMBIA, WESTERN DIVISION

## District Supervisor of Fish Culture, C. W. Harrison

The return of sockeye salmon this season to the coastal waters of British Columbia was imminently satisfactory. The outstanding feature in this connection was the heavy run of sockeye to the Fraser river system. Puget Sound commercial fishing interests obtained 343,945 cases and Canadian interests 91,345 cases, giving a total of 435,290 cases. On the basis of $12 \cdot 5$ sockeye to each case $5,441,125$ mature sockeye were taken for commercial purposes from this watershed. In addition, observations made by departmental officers indicate that a large number escaped to the various areas for natural reproduction. An interesting and original experiment was undertaken of moving parent sockeye a distance of approximately seven miles from Adams river to Scotch creek, both tributary to Shuswap lake in specially constructed pontoons, and also transferring them by motor truck for a considerable distance up to the last mentioned stream. This experiment was undertaken for the purpose of relieving the spawning grounds in Adams river where an :mmense run was expected to materialize and also to ascertain if such fish would deposit their eggs in other than the stream to which they had directly returned. A fence was constructed at the mouth of Scotch creek to prevent the return of the fish to Shuswap lake should they be inclined to do so. The fish were liberated above the fence and immediately upon liberation proceeded up stream where they deposited their eggs at favourable points. A considerable number of green water-hardened sockeye eggs collected in Adams river were also transferred considerable distances by motor truck and planted in other streams tributary to Shuswap lake, in which sockeye did not appear. These plantings were later examined and the eggs were found to be developing normally. They had apparently suffered no damage from the transfer or the planting and showed every indication that a high percentage would hatch. The distribution of game fish in this Province was on a larger scale than ever before.

A course in elementary biology combined with some practical studies from artificial and natural propagation of sockeye salmon was given to hatchery assistants of British Columbia in July. The studies were conducted under the cirection of Doctor W. A. Clemens, Director of the Pacific Biological Statiof at Nanaimo, and were held in the Applied Science Building at the University of British Columbia. Assisting Doctor Clemens were Doctor R. E. Foerster, from the Pacific Salmon Research Station at Cultus lake, and Mr. L. F. Smith of the Prince Rupert Fisheries Experimental Station. In addition to the experiments and investigations that are being made by Fish Cultural officers generally, the following major investigations are being conducted by the officers and employees of the Biological Board, viz.: The sockeye salmon investigation at Cultus lake; the Eagle river investigation to determine if the planting of eggs and fry of lower Fraser sockeye in upper Fraser areas will result in the establishing of runs; the pink salmon investigation to determine the results of introducing eggs and fry in the "off" years and if an annual run of this species can be established. The remains of the old water supply dam for the Granite creek hatchery, Shuswap lake, was removed, thus giving free access to the upper spawning grounds for the salmon that had reappeared in this stream.

## Fraser River Watershed

## CULTUS JaKe hatchery

## A. Robertson; Superintendent

Up to December 31, 1930, 867,650 coho salmon eggs were secured in Sweltzer creek, but, as the run was not exhausted, collection was continued until January 15 , by which time a total of $1,383,250$ eggs had been secured. The balance of the run, after January 15, was dipped over the fences and allowed to proceed of their own accord to the spawning ground of Cultus lake. A total of 575 coho were handled in this way. The stripped fish were placed at the disposal of the local Indians for food and any in excess of what they desired were returned to the lake and its outlet creek. Of the coho eggs secured, 758,000 were transferred to the Biological Board in connection with its investigation at Smiths Falls, Cultus lake. Steelhead eggs numbering 5,800 were collected in Sweltzer creek and 59,257 in the Allouette river. Steelhead eggs to the amount of 41,021 were also received from the Department of Natural Resources, California, in exchange for Atlantic salmon eggs; 10,056 cutthroat trout eggs were received from Montana. An experimental shipment of green sockeye eggs was made to the Pemberton hatchery and were returned to Cultus lake to determine the effect of transfer on eggs in this condition if handled with care and under good conditions. The transfer was successful and the shipment was hatched at Cultus lake with very little loss. Distributions from Cultus for the year amounted to $9,978,942$ made up of the following species:-chum salmon, 27,000 ; coho salmon, $1,001,568$; sockeye salmon, $8,853,971$; steelhead salmon, 86,403 , and cutthroat trout, 10,000 . An additional hatchery containing 36 troughs, each 16 feet long and 16 inches wide, was constructed at Smiths Falls. A new spawning fence and 18 pens stretching from bank to bank was built in Sweltzer creek at the outlet of Cultus lake.

## Lloyd's Creek Hatctery

## G. J. Morgan, Officer in Charge

1,321,000 Kamloops trout eggs were collected at the following points:Bridge lake 23,000 , Kanough lake 240,000 , Paul creek 631,000 and Pinantan creek 427,000 . Owing to the extremely light snow fall and relatively small run-
off during the spawning season, the creeks remained at such a low stage as to militate against the free ascent of the fish to the spawning grounds, consequently the majority spawned on the lake beaches. At Paul creek it was necessary to build an additional trap within a short distance of the lake, there not being sufficient water to enable the trout to ascend to the permanent trap. .One hundred pairs of adult fish were placed between the upper and lower traps for natural spawning, and the greater portion of eyed eggs allotted for restocking were planted. in this stream as Paul lake is more extensively fished than are adjacent lakes. Improvement in weight and condition of the trout at Paul and Pinantan lakes was observed this season.

The output of this hatchery viz: $1,132,000$ Kamloops trout was distributed in the eyed egg stage. The allotment of 50,000 that was supplied the Tokyo Angling and Country Club, Chuzenji, Japan, was reported to have reached its destination in excellent condition; 13,000 eggs were sent to Cowichan lake hatchery and 76,000 to Pemberton.

## Pitt Lare Hatchery

## J. McIsaac, Superintendent

An excellent run of sockeye salmon occurred in the Pitt river district, estimated to be twice as large as the runs of 1929 and the preceding cycle year 1926. The spawning grounds were consequently well seeded and the following collections, which filled the hatchery to capacity, were made without any difficulty: Four Mile creek, 705,000; Seven Mile creek, 1,567,000; Charles Peter's creek $1,327,000$ and Mountain slough 2,281,000. Total 5,880,000.

The output including 174,608 fingerlings amounted to $5,404,608$ sockeye.
Two new porches were added to the dwelling this season.

## Pemberton Hatchery

## T. W. Graham, Superintendent

The run of sockeye to Birkenhead river was equal to that of the cycle year 1926 and in addition to a collection of $35,209,925$ eggs, all suitable bars were well covered by natural spawning. In the early part of the season the run was somewhat light but increased as the season advanced. The hatchery fence was opened on October 1, and, from that time until the 20th, large numbers ascended daily to the upper waters. Seventy-six thousand Kamloops trout eggs were received in excellent condition from Lloyd's creek; 12,005,000 sockeye eggs were shipped to Harrison lake hatchery. Distributions from Pemberton amounted to 74,550 Kamloops trout and $17,079,120$ sockeye salmon.

Twenty new troughs were installed in the main hatchery.

## Harrison Lake Hatchery

## E. V. Epps and H. C. Crawford, Officers in Charge

There was an excellent showing of sockeye in Morris creek and arrangements were made to collect eggs there as well as in the hatchery creek at Harrison lake. The centre portion of the Morris creek fence, which was washed out by a heavy freshet, was not replaced but collecting operations were transferred to a tributary creek. $2,635,975$ sockeye eggs were secured at this point and 736,270 more in the hatchery creek. These local collections were supplemented by a shipment of $12,005,000$ sockeye eggs from the Pemberton hatchery. New traps were built at Morris creek and the wharf at the hatchery repaired.

Penask Lake Hatchery<br>P. B. Stratton, Officer in Charge

Kamloops trout eggs numbering $1,358,000$ were collected at this hatchery. Extremely low water conditions, aggravated by the diversion of a portion of the flow from near the head of the creek for irrigation purpose, mitigated against the movements of the fish and a normal collection. Eggs totalling 514,000 were obtained at Penask creek (forks), 577,000 at the lower trap and 267,000 at Spahomin creek, making a total which was in excess of any previous year. The first eggs were obtained on May 17, and it is estimated that there were approximately 75,000 fish on the spawning grounds of the district. In addition to a distribution of 576,380 Kamloops trout the following shipments were made of eyed eggs; to Nelson hatchery 144,000, Summerland hatchery 294,000, Powell river Co. 100,000, Kittitaas County Game Commission 50,000, Cranbrook hatchery 88,000 . The last two were in exchange for cutthroat trout eggs.

## Squilax Egg Collecting Camp

## C. R. T. Hearn, Superintendent

Between November 1 and $13,1,257,100$ sockeye eggs were collected in Adams river, a tributary to Shuswap lake. Of this number 769,500 were transferred as they were collected to the station operated by the Biological Board at Taft on Eagle river. The balance were planted as they were taken as follows: Granite creek, 95,000 ; Salmon river, 222,500; Scotch creek, 170,100. An interesting and original experiment to ascertain the actions of sockeye when transferred to streams other than those to which they had resorted for spawning, and the possible effect of such transfers in establishing runs in previously barren areas, was undertaken, and 1,691 parent fish were transferred by pontoon from Adams river to Scotch creek where they were placed above a fence some distance from the mouth of the latter. Instantly upon liberation these sockeye ascended Scotch creek, where they spawned. The fence was observed from time to time and no indications were seen of any inclination on the part of the transferred fish to return to the lake.

## Stuart Lake Hatchery

## H. C. Crawford, Superintendent

An encouraging run of sockeye, estimated at 1,000 , reached the spawning grounds of the Stuart lake district. Approximately 600 entered Kynoch creek, Middle river, which was fenced in preparation for egg collection. This is the first occasion on which efforts were made to collect eggs in this district and considerable preparatory work had to be done in clearing the streams and constructing fences and pens. The sockeye that reached the fences were large strong fish. The collection was so small that it did not warrant the operation of the hatchery and the eggs obtained were planted (some green, some eyed) on the spawning grounds near where they were obtained. A tofal of 460,000 eggs were secured. Two hundred and three sockeye that had become landlocked in Crawford and Rainbow lakes were destroyed with a view to returning these lakes to their original state, when they made excellent natural rearing ponds for sockeye fry.

## Mainland West Coast

## RIVERS INLET HatCHERY

## F. A. Tingley, Superintendent

The run of sockeye salmon to the various tributaries of Owikeno lake was generally large. The run to Genesi was heavy and a record collection was made there. The run to Quap creek was also heavy, commencing about September 1
and continuing into November after the egg collection had been finished. The spawning area in Medowse or Hatchery creek is small and according to the Indians no sockeye spawned in this stream prior to the building of the hatchery. This year there was an exceptionally good run which commenced before September 1 and continued well into November. A few remained until November 30. The sockeye run for the whole area, including Whannock river at the foot of the lake, was well above the avenage but probably not quite as heavy as in 1925. Between September 27 and October $24,8,405,000$ eggs were obtained from Genesi creek, and between September 26 and October 24, 10,785,000 were obtained from Quap creek. It is customary to give the stripped sockeye to the Indians for food but as they were not present during spawning operations the fish were placed above the fences to ascend the creeks of their own accord. The collection in Genesi creek exceeds the largest previous collection there by nearly $2,000,000$ eggs. Sockeye made their appearance in Quap creek as early as September 1, but the hatchery fence was not closed until September 26. The run into Quap was moderate until Oetober 23 when a strong run appeared, the collection that day being $2,203,000$, the largest ever taken in a single day from this stream. The fence was removed on October 25 and sockeye could be seen breaking water in the bay all through the following week. The fish this year averaged large in size in both streams and there is practically no difierence in the size of the eggs. Prior to 1927 , Genesi creek eggs averaged about 8,000 to the quart, but during the last two years they have been approximately the same size as Quap creek eggs averaging from 6,600 to 6,700 to the quart. Spring salmon eggs amounting to 214,500 were obtained under most unfavourable conditions from Wauquash river. Distributions for the season amounted to $19,294,983$ sockeye salmon. Experiments were made to determine the effectiveness of hatching eggs in gravel, and to determine the period after spawning and fertilization, and the duration of the period, during which it is unsafe to handle green eggs. A new freight scow was built, the launch Grouse repaired, eighty-five new wooden frame shipping trays were made, the flume to the water wheel repaired, a new 30 -foot bridge on the truck road and the footbridges on the trail to the post office partly renewed, the waste pipe flanges on the hatching troughs replaced, supply troughs in the hatchery and fish traps at Genesi renewed, 80 feet of cribbing built on the west bank of Quap creek, and a cabin constructed at Shumahault.

## Sigeena River Watershed

## LAKELSE LAKE HATCHERY

## C. R. T. Hearn, Superintendent

Sockeye salmon began to arrive at the hatchery fences on July 31 and spawning operations were commenced on August 4 . The rum was smaller both in size and numbers than it was in 1929, but the fish were plentiful and in good condition and the collection completed in the short, period of thirteen days. The hatchery fences were opened on August 13 and large numbers of fish which were below the fences at that time allowed to ascend to the upper waters. All the tributaries of Lakelse lake frequented by sockeye salmon were well seeded this year; $8,331,000$ eggs obtained as follows were laid down in the hatchery: Granite creek, 60,000 ; Salmon creek, 123,800; Scullabuchan creek, 1,916,200; and Williams creek, 6,231,000.

A run of approximately 500 sockeye were seen below a beaver dam in Eliza creek, which was planted with eyed eggs in 1926 . Previous to this year no sockeye in any appreciable numbers were known to ascend this stream. Lakelse lake hatchery made a distribution of $8,047,195$ sockeye this season. Twelve nerv troughs, nine outlet traps in ponds, and an extension to the garage were added to the equipment during the year.

BABINE LAKE HATCHERY

## R. H. Eaton, Superintendent

The sockeye salmon runs to the Babine lake district this year, as well as last year, showed a decided increase over the runs of 1925 and 1926. The spawning grounds as a whole were safely seeded. Considerable loss in eggs occurred in some of the creeks. In 15-Mile creek the run was heavy and the later fish kept turning over the eggs that were deposited by the earlier runs. Some loss was caused in Tache creek by the extremely low water. In some places dead fish were observed that had not spawned. Five hundred sockeye taken at random in Fulton river were opened and examined; 23 or 4.6 per cent had retained all their eggs and had died without spawning; 135 or 27 per cent contained no eggs; 182 or $36 \cdot 4$ per cent contained 2 or less eggs; 269 or $53 \cdot 8$ per cent contained 20 eggs or less; 362 or 72.4 per cent had 100 or less eggs; 411 or $82 \cdot 2$ per cent contained 200 or less. A total of 135,146 eggs were taken from the 500 fish that were examined which gives an average of 270 eggs to each. Morrison creek carried a heavy run and supplied $7,800,000$ sockeye eggs. The balance of the collection, 930,000 was secured in Pierre creek. Spring salmon eggs numbering 49,500 were obtained in Lower Babine river. Over 12 per cent of the output was distributed as No. 1 and over 6 per cent as No. 3 fingerlings. The balance were distributed as free swimming fry. The total output amounted to $6,354,197$ sockeye salmon.

## Vancouver Island

## ANDERSON LAKE HATCHERY

## David Bothwell, Superintendent

The run of sockeye to this water system was the smallest for several years. The number of salmon on the spawning grounds was estimated at 40,000 as against the estimated number of 135,000 in 1929. Between October 21 and November 24, $6,867,000$ sockeye eggs were placed in the hatchery and in addition the natural spawning grounds were fairly well seeded. The spawning grounds in Clemens creek were, however, considerably damaged by heavy freshets. The run of coho was equal to, and the run of chum was ten per cent less, than the respective runs of 1929 . A small collection of 88,000 spring salmon eggs was made in Anderson river at the outlet of Anderson lake. Natural obstructions and high water on the spawning grounds greatly interfered with seining but the rocks and sunken logs are being removed in anticipation of more extended operations next year. The output from this hatchery for the year amounted to $6,642,246$ sockeye salmon. Nineteen troughs, a skiff and a retaining pond 6 feet by 10 feet by 5 feet were built and the settling tank renewed.

## COWICHAN LAKE HATCHERY

## J. H. Castley, Superintendent

The run of coho to the Cowichan river was equal to that of 1929 , but not as heavy as the run of 1928 . These fish practically all spawned in Cowichan river and a few of the larger tributaries such as Robinson river, Sutton and Shaw creeks. The smaller tributaries were not seeded as well as usual on account of low water conditions. Eggs numbering 486,000 were obtained between November 29 and December 20. The run of spring salmon, while better than the run of 1929 was considerably smaller than the run of 1928 , largely owing to the condition as Skutz falls on the Cowichan river. There was a small freshet early in October but not sufficient to enable the spring salmon to ascend the falls, consequently a comparatively small number reached the
upper waters. An egg collecting camp was established at the falls, where 219,000 eggs were secured. The spawning grounds at this point were well seeded. The total collection of spring salmon eggs was $1,055,600$. There was a fair average run of steelhead salmon but owing to severe weather conditions, only a small collection of 65,800 eggs was made but there was a good natural seeding. There was a fair run of cutthroat trout but a large portion entered the creeks during an early February freshet, consequently, when fishing for the hatchery commenced, the fish had ascended to the headwaters. The collection, as a result, was rather small compared with previous years, amounting in all to 70,100 eggs, which were collected in Nixon and Sutton creeks. A total of 165,400 cutthroat trout eggs were received from the Cranbrook hatchery and 452,520 from Montana; 13,000 Kamloops trout eggs were received from the Lloyd's Creek hatchery; 49,200 speckled trout eggs were obtained from the hatchery ponds and 15,200 were collected in Spectacle lake; 6,100 hybrid (cutthroat plus Kamloops) trout eggs were obtained from the hatchery ponds. Speckled and Kamloops trout were supplied for the sportmen's show at Vancover and for the aquaria at Hastings Park. Spring salmon eggs were sent to the Fisheries Research Station at Cultus Lake. Kamloops trout are to be seen at Panther, McKenzie, Pearse and Douglas lakes, which were barren prior to being stocked from this hatchery with eggs from Lloyd's creek establishment. Eastern speckled trout were also taken during the summer in Wakes lake, which was also stocked from Cowichan lake hatchery. Distributions for the year amounted to $2,204,671$ by species as follows: Coho salmon, 855,545; spring salmon, 371,741 ; steelhead salmon, 62,232 ; cutthroat trout, 683,143 ; cutthroat hybrids, 545; Kamloops trout, 6,000; and speckled trout, 225,465.

## Kfnnedy Lake Hatchery

## W. P. Forsythe, Superintendent

The sockeye run to the Kennedy lake area was approximately the same as it was in the cycle year 1926 , and is estimated at 25,000 , but the proportion that ascended the Upper Clayoquot river was about twice as large. Lake shore spawning conditions were favourable during the greater part of the spawning season. At the beginning, the lake level was high and the greater proportion of the available eggs were secured in Cold creek where the loss from receding waters after the spawning season is usually the heaviest. The lake rose again at the end of the season, but, as most of the fish had spawned at that time, it is not likely that the loss this year from receding water will be serious. Spawning conditions were favourable during the greater part of the spawning season and the hatchery was practically filled to capacity with a collection of $9,197,800$ sockeye eggs. There was a splendid showing of sockeye at Muriel lake, which was first stocked from this hatchery in 1921. With the exception of last year, this area has been visited every year and never more than from 12 to 15 sockeye were observed. This year, there were from 2,000 to 3,000 on these grounds. All arailable spawning ground was fully occupied, and, in addition, numbers of fresh fish were observed in the deeper water of the lake. It would appear that a permanent run of sockeye has been established in this area by distributions from the Kennedy Lake hatchery. Two of the sockeye hatched in 1926 and, retained in the hatchery settling tank, matured and their eggs, 203 in number, were taken. Up to the time of spawning, these fish did not change in colour. The eggs appeared to be in good condition at the end of the year. They are somewhat greenish in colour and run slightly smaller in size than the eggs of the Kennedy lake sockeye. 10,340 coho eggs were also collected. The main inlet creek to Muriel lake changed its course during a heavy freshet last winter, and a heavy loss occurred in the naturally spawned eggs deposited adjacent
to its mouth. The situation was remedied, boulders cleared from the creek bed after each heavy rain and a retaining wall built to hold the creek to a definite channel. The distribution from the hatchery amounted to $\mathbf{7}, 133,915$ sockeye salmon.

## Southern Interior

## NELSON HATCHERY

## Weldon Reid, Superintendent

The creeks in the district were exceptionally low last spring. In some instances, rainbow trout were unable to reach their usual spawning grounds and it was necessary to dig a channel to enable the fish to enter the hatchery pens. Seventy-eight thousand and fifty rainbow trout eggs were collected in Cottonwood lake and 70,380 in Six Mile lake. Seven hundred and seventy-six thousand, seven hundred and fifty kokanee (Kennerly's salmon) eggs were collected in Kokanee creek, 65,000 in Nine Mile creek, and 605,000 in Redfish creek. The run in these creeks was heavier than it has been for some years. Five hundred and six thousand nine hundred speckled trout eggs were collected in Boundary lake. The collection of the latter was considerably reduced because the range of the species is not being extended, and distribution is being confined to waters in which they already occur. Thirty-two thousand cutthroat trout eggs were obtained from Cranbrook hatchery, 450,000 Kamloops trout eggs from the Gerrard hatchery, 144,000 Kamloops trout eggs from the Penask hatchery and $5,000,000$ whitefish eggs from the Fort Qu'Appelle hatchery, Saskatchewan. This last shipment was made with a view to increasing the numbers of Eastern whitefish in Okanagan lake. Kamloops and rainbow trout and kokanee eggs and fry totalling 138,538 , were supplied the Biological Station at Nanaimo from this hatchery and 192,500 speckled trout eggs were forwarded to Summerland hatchery. Several previously barren lakes in this district have been successfully stocked with Kamloops, speckled or cutthroat trout, and previously barren water areas have thus been made productive. Cutthroat introduced into Kokanee and Kaslo lakes have done well and specimens up to two pounds in weight have been reported from the former. These lakes are located at an altitude of about 6,500 feet, and were regarded as barren before they were stocked from this hatchery. A hatching battery and two tanks were set up to accommodate the whitefish eggs from Fort Qu'Appelle. Distributions from Nelson hatchery amounted to $7,368,989$ by species as follows: 31,916 cutthroat trout, 592,826 Kamloops trout, 1,332,437 Kennerly's salmon, 140,318 rainbow trout, 592,492 speckled trout, and $4,679,000$ whitefish.

## Gerrard Hatchery

## Weldon Reid, Superintendent

Fish seemed to be more plentiful on the spawning grounds than they had been for several years, and a satisfactory collection of 1,199,500 Kamloops trout eggs was made. When eyed 450,000 of these were transferred to Nelson hatchery. The parent fish were taken in a trap in the Lardeau river. The Kamloops trout in this district sometimes obtain a weight of fifty pounds and are highly regarded forl food and game qualities. The fish that are stripped are given a salt bath before they are liberated. The creek bed was cleaned out and a series of small ponds constructed therein. Gerrard distributed 687,120 Kamloops trout during the season.

## Summerland Hatchery


#### Abstract

P. B. Stratton and G. N. Gartrell, Officers in Charge

The Summerland hatchery makes no independent collection but is utilized for hatching and distribution purposes only. One hundred and ninety-two thousand five hundred speckled trout eggs were received from the Nelson hatchery and 294,000 Kamloops trout eggs from the Penask Lake hatchery. Distributions consisted of 286,825 Kamloops trout and 192,350 speckled trout.


## Cranbrook Hatchery

## A. P. Hills, Officer in Charge

The Cranbrook hatchery was built and is operated by various local organizations. The department each season loans an experienced hatchery officer, has loaned certain equipment, and contributes to the extent of $\$ 300$ annually towards the cost of egg collection. The distribution of the output is under the direction of the department, and not more than twenty-five per cent is distributed outside the Cranbrook district. The total collections of cutthroat trout eggs in 1930 were slightly less than they were in 1929, although the second highest on record since the hatchery was established. The difference in the collection of this species was mostly at Munroe lake, where improved traps are to be erected. One million, five thousand cutthroat eggs were secured in Fish lake, 53,000 in Mineral lake, 144,500 in Munroe lake, and 33,000 in Peavine creek, making the total collection of cutthroat eggs $1,235,500$. Seven thousand five hundred eggs of the Cranbrook trout hybrid (cutthroat plus Kamloops trout), were obtained in Mineral lake and 3,000 in Munroe lake. Kamloops numbering 88,000 were received from the Penask lake hatchery. Cranbrook hatchery shipped to Nelson hatchery 32,000 cutthroat trout eggs, and to Cowichan lake hatchery 165,400 of the same species.

Excellent fishing is reported from a number of previously barren lakes that were stocked with Kamloops trout from this hatchery.

Distributions for the year totalled $1,088,095$ and are shown by species as follows: cutthroat trout, 995,440 ; Kamloops trout, 82,770 ; and Cranbrook trout, 9,885 . EGGS WERE TAKEN AND WHERE LAID DOWN, WITH NUMBERS LAID DOWN IN EACH CASE

| Species | Collection area | Number collected | Laid down in | Number laid down | Sub-totals | Totals |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Atlantic salmon. | Margaree Pond, Margaree Harbour, N.S | $\begin{array}{r} 4,708,360 \\ 2,517 ; 000 \end{array}$ | Margaree hatchery.......... | 4,708, 360 | $\begin{aligned} & 4,708,360 \\ & 1,297,450 \end{aligned}$ |  |
|  | River Philip, Cumberland County, N.S. |  | Antigonish hatchery ........ | $\begin{aligned} & 1,297,450 \\ & 1,220,450 \end{aligned}$ |  |  |
|  | River Philp, Cumbernd Count, N.S. |  | Bodford hatchery.. |  | $1,220,450$ |  |
|  | Allen's lake, Yarmouth County, N.S. | -767,000 | Yarmouth hatchery. | $\begin{array}{r} 767,000 \\ 13,904,687 \end{array}$ | $\begin{array}{r} 13,904,687 \\ 2,033,568 \end{array}$ |  |
|  | Miramichi Pond, South Esk, N.B. | 15,938, 255 | Miramichi hatchery. |  |  |  |
|  | New Mills Pond, New Mills, | 1,729,550 | Restigouche hatchery | $\begin{array}{r} 2,033,568 \\ 1,729,550 \end{array}$ |  |  |
|  | Matapedia river, Matapedia County, | 655,200 | Restigouche hatchery | 655, 200 | $2,384,750$$2,005,704$$3,002,800$ |  |
|  | St. John Pond, Little river, N.B. | 6,603,292 | Florenceville hatehery | 2,005,704 |  |  |
|  |  |  | Grand Falls hatchery | 3,002,800 |  |  |
|  |  |  | St. John hatchery. | 1,594,788 | $\begin{aligned} & 1,594,788 \\ & 1,846,300 \end{aligned}$ |  |
|  | St. John Pond-Chamcook lake Lochaber lake, Antigonish County, N.S | 1,846,300 5,0 | Kelly's Pond hatchery | $\begin{array}{r} 1,846,300 \\ 5,000 \end{array}$ |  |  |
| Atlantic sailmon Hybrid... Speckled trout. $\qquad$ |  |  | Antigonish hatehery | 188,320146,865 | $\begin{array}{r} 1,846,300 \\ 5,000 \end{array}$ | $\begin{array}{r} 34,765,857 \\ 5,000 \end{array}$ |
|  | Antigonish hatchery ponds, Antigonish County, N.S. | 146,865 | Antigonish hatchery. |  | $\begin{array}{r} 335,185 \\ 36,140 \end{array}$ |  |
|  | Margaree hatchery ponds, N.J. Margaree, N.S.... | 36, 140 | Margaree hatchery. | $\begin{array}{r} 146,865 \\ 36,140 \end{array}$ |  |  |
|  | Yarmouth hatchery ponds, Yarmouth County, N.S. | -376, 800 | Yarmouth hatchery. | 376,800$1,518,030$ |  |  |
|  | Florenceville liatchery ponds, Florenceville, N.B. | (a) 1, 518, 030 | Florenceville hatchery |  | $\begin{array}{r} 1,518,030 \\ 785,694 \end{array}$ |  |
|  | St. John hatchery ponds, St.. John, N.B | 785,694 87,000 | St. John hatohery.... | $\begin{array}{r}1,785,694 \\ \hline 87,000\end{array}$ |  |  |
|  | Blooming Point pond, P.E.I | 11,000 | Kelly's Pond hatchery. | $\begin{aligned} & 87,000 \\ & 11,000 \end{aligned}$ |  |  |
|  | Essory's brook, P.E.I. | 21,265 | Kelly's Pond hatchery. | 21, 265 |  |  |
|  | Ing's pond, P.E.I. | 325, 260 | Kelly's Pond hatchery. | 325, 260 |  |  |
|  | McKenna's stream, P.E.I | 2,753 | Kelly's Pond hatchery. | 2,753 |  |  |
|  | York pond, P.E.I. | 80, 995 | Kolly 's Pond hatchery. | 89,99554,328 | $\begin{array}{r} 537,273 \\ 54,328 \end{array}$ |  |
|  | 3rd Vermilion lake, Alta.. | 54,328 | Banff hatchery..... |  |  |  |
|  | B.C | 49,200 | Cowichan lake hatchery | 49,200 | 64,400 |  |
|  | Spectacle lake, Vancouver Island, B.C | 15,200 | Cowichan lake hatchery | 15,200 |  | 4,214,750 |
|  | Boundary lake, near Nelson, B.C | 506,900 | Nelson liatchery. | 506,900 | 506,900 |  |
| Landlocked salmon. | Chamcook lakes, N.B. | 104, 000 | St. John hatchery. | 104,000 | 104,000 | 104,0003,000 |
| Landlocked salmon Hybrid | Chamcook lakes-St. John Salmon Pond, N.B | 3,000 | St. John hatchery.. | 3,000 | 3,000 |  |
| Whitefish................... | Jackfish-Murray lakes, McIntosh creek, Sask | 32, 875,000 | Fort Qu'Appelle hatchery. | 32,875,000 | 32,875, 000 | 3,000 |
|  | Lesser Slave lake, Alta. | 23,750,006 | Lesser Slave lake hatehery.. | 23,750,000 $147,225,000$ |  | 180,100,000 |
|  | Whitefish river, Alta. | $123,475,000$255,000 | Lesser Slave lake hatchery.. | $123,475,0000$ | 147,225, 000 |  |
| Piokerel. | Hecla, Lake Winnipeg, Man...... |  | Gull Harbour hatchery. | $11,984,000$ |  | - - |
|  | The Quarry, Lake Winnipeg, Man. | $\begin{array}{r} 11,084,000 \\ 174,760,000 \end{array}$ | Swan creek hatchery... |  | $\begin{array}{r} 12,239,000 \\ 174,700,000 \end{array}$ |  |
|  | Swan ereek, Lako Manitoba, Man. Qu'Appelle river, Sioux river, Sask | $174,65,000$ $1,555,00$ | Fort Qu'Appolle hatehery |  |  |  |
|  | Buffalo Bay, Alta.............. | $\begin{array}{r} 67,745,000 \\ 705,000 \end{array}$ | Lesser slave lake hatchery.. | $\begin{array}{r} 67,745,000 \\ 705,000 \\ \hline \end{array}$ | $67,745,000$ | 256,299,000 |
| Sockeye salmon. | Four Mile creek, Pitt lake, B.C |  | Pitt lake hatchery. |  |  |  |
|  | Soven Mile creek, Pitt lake, B.C | 1,567,000 | Pitt lake hatchory. | $\begin{aligned} & 1,567,000 \\ & 1,327,000 \end{aligned}$ |  |  |
|  | Charles Peter's creek, Pitt | 2,281;000 | Pitt lake hatchery. | 2, 736,270 |  |  |
|  | Hatehery creek, Harrison lake, | 736,270 | Harrison lake hatchery |  | 5,880,000 |  |
|  | Mouris creok, Harrison lake, B.C. | 2,635,975 | Harrison lake hatchery | $\begin{array}{r} 2,635.975 \\ 35.209 .925 \end{array}$ | $\begin{array}{r} 3,372,245 \\ 35,209,025 \\ 769.500 \\ 05,000 \end{array}$ |  |
|  |  | 35, 2577,100 | Biological Board. | 3. 789.500 |  |  |



Kynoch creek, Middle river, Stuart lake hatehery Genesi Genesi creek, Rivers Inlet hatchery, B.C Quap creek, Rivers Inlet hatchery, B.C. Granite creek, Lakelse lake hatchery, B.C Salmon creek, Lakelse lake hatchery, B.C. Scullabuchan creek, Lakelse lake hatchery, B.C.... Williams creek, Lakelse lake hatchery, B.C Morrison creek, Babine lake hatchery, B.C......... Pierre creek, Babine lake hatchery, B.C Anderson lake, Vancouver Island, B.C. Kennedy lake, Hatchery ponds, Vancouver Isian
 B.C

Cutthroat trout,...........

Cutthroat trout Hybrid. .
Kamloops trout............
Spray lakes, near Banff, Alta
Nixon creek, Cowichan lake, B.C
Sutton creek, Cowichan lake, B.C.
Cowichan lake hatchery ponds. B.C
Lardeau river, Trout lake, B.C.
Bridge lake, near Kamloops, B.C.
Kanough lake, near Kamloops, B.C
Paul creek, near Kamloops, B.C
Pinantan creek, near Kamloops, B.C.
Penask creek (forks) Nicola valley, B.C
Penask creek (lower trap) Nicola valley, B.C.....
Brown trout
Brown trout Hybrid
Loch Leven trout.
Rainbow trout.

Spahomin creek, Nicola valley, B.C
Spahomin creek, Nicola valley, B.C..
St. John hatchery ponds, St. John, N.B
St. John hatchery ponds, St. John, N.B
St. John hatchery ponds, St. John, N.B
St. John hatchery ponds, St. John, N.B
Cameron lake, Waterton lakes hatchery, Aita
Cottonwood lake, Nelson, B.C.
Six Mile lake, Nelson, B.C
Banff hatchery ponds, Banff, Alta.
Kokanee creek, Nelson, B.C.
Nine Mile creek, Nelson, B.C
Redfish creek, Nelson, B.C
Alouette river, Lower Fraser river District, B.C Sweltzer creek, Cultus lake, B.C
Cowichan river, Vancouver Island, B.C
Clayoquot Arm, Kennedy lake, B.C.
Cowichan river, Vancouver Island, B.C Sweltzer creek, Cultus lake, B.C.

Anderson river, Vancouver Island, B.C
Cowichan lake, Vancouver Island, B.C
Babine river, B.C


Salmon river, Shuswap lake Scotch creek, Shuswap lake

460,000 Stuart lake hatchery
8,405,060 Rivers Inlet hatchery
10,785,000 Rivers Inlet hatchery
60,000 Lakelse lake hatchery
123, 800 Lakelse lake hatchery
1,916, 200 Lakelse lake hatchery.
6,231, 000 Lakelse lake hatchery .
7,800,000 Babine lake hatchery.
930,000 Babine lake hatchery
6,867,000 Anderson lake hatchery
203
Kennedy lake hatchery
9, 197,800 Kennedy lake hatchery 355, 310 Spray lakes hatchery
32,800 Cowichan lake hatchery
37,300 Cowichan lake hatchery
6,100 Cowichan lake hatchery.
1,199,500 Gerrard hatchery
23,000 Lloyds creek hatchery
240,000 Lloyds creek hatchery
631,000 Lloyds creek hatchery.
427,000 Lloyds creek hatchery
514,000 Penask lake hatchery.
577,000 Penask lake hatchery.
267,000 Penask lake hatchery
392, 972 St. John hatchery
51,398 St. John hatchery
47,580 St. John hatchery
340, 271 St. John hatchery
201,066 Waterton lakes hatchery
78,050 Nelson hatchery
70,380 Nelson hatchery
7,663 Banff hatchery
776,750 Nelson hatchery
65,000 Nelson hatchery
605,000 Nelson hatchery
59,257 Cultus lake hatchery
5,800 Cultus lake hatchery
65,800 Cowichan lake hatchery
10,340 Kennedy lake hatchery
486,000 Cowichan lake hatchery
(a) 1,383, 250 Cultus lake hatchery

88,000 Anderson lake hatchery
$1,055,600$ Cowichan lake hatchery 49,500 Babine lake hatchery 214,500 Rivers Inlet hatchery

65, 057
65, 800
10,340
486, 000
$-625,250$
758, 000
88,000
1,055,600 49,500
214,500
( $a$ Includes small collections taken early in 1931
(b) This collection represents intake from spring and autumn spawners 1930. The fry and fingerlings resulting from the spring spawners were distributed in 1930, but most of the eggs collepted from the autumn spawners are still on hand and will not be distributed until spring of 1931.

## THE FOLLOWING SUMMARY GIVES, BY SPECIES, THE TOTAL RECEIPT OF EGGS AT ALL FEDERAL HATCHERIES DURING THE YEAR ENDED DECEMBER 31, 1930

Atlantic salmon.
Atlantic salmon $($ H.

## The following purchases were also made:-


Fort Qu'Appelle hatchery.
98, 400

Cutthroat trout eyed eggs from S. S. Drew, Esq., Troy, Montana, laid down as follows-
Banff hatchery............................................................................ . . . . 597 .195
Waterton lakes hatchery.............................................................. . . . 709 . 370

Cultus lake hatchery........................................................................... 10,056
Fraser Valley waters-
Twig creek. .......................................................................... . . . . 81,640


Delair creek. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 40,620

Rainbow trout eyed eggs from S. S. Drew, Esq., Troy, Montana, laid down as follows-
Banff hatchery..................................................................... $\quad 242,210$

377,730
Speckled trout eyed eggs from American Fish Culture Co., Carolina, R.I., laid down as
Antigonish hatchery. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 495 . 476
Middleton hatchery. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 5 . 549,540

Grand Falls hatchery.................................................................. . 514, 766

Speckled trout eyed eggs from Cape Cod Trout Co., Wareham, Mass., laid down as follows-
Bedford hatchery................................................................... 5 . 591,000

$1,171,650$


## Donations received:-

Speckled trout eyed eggs from the Department of Game and Fisheries, Ont, Port Arthur hatchery, laid down as follows-


Grand total of eggs received during calendar year 1930
(a) $592,257,722$
(a) This collection represents intake from spring and autumn spawners 1930. The fry and fingerlings resulting from the spring spawners were distributed in 1930 but most of the eggs obtained from the autumn spawners are still on hand and will not be distributed until spring of 1931.

## The following exchanges were made in 1930:-

In exchange for Atlantic salmon-Cuthroat trout eyed eggs received from "United States Bureauof Fisheries, Yellowstone Park, Wyoming,' laid down atBanff hatchery, Alberta536,800
Loch Leven trout eyed eggs received from "United States Bureau of Fisheries, Bozeman, Montana," laid down at Banff hatchery, Alberta ..... 248,006
Rainbow trout eyed eggs received from "United States Bureau of Fisheries, Bozeman, Montana;' laid down at Waterton Lakes Park hatchery, Alberta ..... 252,720
Rainbow trout eyed eggs received from "United States Bureau of Fisheries, Saratoga, Wyoming," laid down at Waterton Lakes Park hatchery, Alberta ..... 253,260
Steelhead salmon eyed eggs received from "Bureau of Fish Cul- ture, California, U.S.A.," laid down at Cultus Lake hatchery, B.C. ..... 41,021
In exchange for Kamloops trout-Cuttliroat trout eyed eggs received from the Kittitaas CountyGame Comnission, Ellensberg, Washington. Planted direct inAnderson creek, tributary of Nicomekl river, in the FraserValley District50,000Cutthroat trout eyed eggs received from the Cranbrook TroutClub hatchery. Laid down at Cowichan Lake hatchery, B.C.Cutthroat trout eyed eggs received from the Cranbrook TroutClub hatchery. Laid down at Nelson hatchery .............. 32,000165,400

STATEMENT OF EGGS AND FISH SUPPIIED TO OTHER THAN THE DOMINION GOVERNMENT HATCHERIES DURING 1930

| Species | Number | Stage of development | Source | To |
| :---: | :---: | :---: | :---: | :---: |
| Atlantic salmon. | 7,920 | Green eggs. | Bediord hatel | Dalhousie University, Dr. Hayes and Mr. Allan. |
| Atlantic salmon. | 500 | Eyed eggs. |  |  |
| Atlantic salmon. | 100 | Eyed eggs. | Bedford hatcher | Atlantic Experimental Station for Fisheries, Halifax, N.S. |
| Atlantic salmon. | 28,000 | Eyed eggs. | Miramichi hatch | Bureau of Fish Culture, California, U.S.A. Cold Creek hatchery in exchange for Steelhead salmon eggs. |
| Atlantic salmon. | 25,000 | Eyed eggs. | Miramichi hatchery | Trout Brook Co., Hudson, Wisconsin, via D. H. MeLinn; Esq., Warren Fish Hatchery, Warren, N.H. in exchange for Brown trout eyed eggs received at Fort Qu'Appelle Hatchery, 1929. |
| Atlantic salmon. | 1,000,000 | Eyed eggs. | Miramichi hatchery. | United States Bureau of Fisheries, Craig Brook Hatchery, East Orland, Maine, in exchange for Cutthroat trout eyed eggs received at Banfi Hatchery and Rainbow trout eyed eggs received at Waterton Lakes Park Hatchery. |
| Coho salmon. | 758,000 | Green eggs. | Cultus lake hatch | Biological Board at Smith Falls, B.C. |
| Cutthroat trout. | 20,000 | Advanced fry. | Banff hatchery | Calgary Fish and Game Asşociation for Pond at Keith on Bow rives (co-operative venture). |
| Kamloops trout. | $\checkmark 35,538$ | Fry | Nelson hatche | Biological Board, Mr. Mottley. |
| Kamloops trout. | 50,000 | Eyed eggs. . | Lloyds creek hatchery.. | Tokyo Angling and Country Club, Chuzenji, Japan (sold). |
| Kamloops trout | 30,000 | Eyed.eggs. | Penask lake hatchery... | Messrs. Ewing and Best, private hatchery (sold). |
| Kamloops trout. | 50,000 | Eyed eggs. . | Penask lake hatchery... | Kittitaas County Game Commission, Ellensberg, Washington, in exchange for Cutthroat trout eyed eggs received and planted direct in Anderson creek, tributary of Nicomekl river in the Fraser Valley District, B.C. |
| Kamloops trout. | 100,000 | Eyed eggs. | Penask lake hatc | Lachute, Quebec, via Powell River Co. Ltd., Vancouver, B.C. (sold). |
| Kamloops trout. | 50,000 | Eyed eggs.. | Penask lake hatcher | Stanley Park Hatchery, B.C. |
| Kamloops trout. | 50,000 | Eyed eggs. . | Penask lake hatchery | Sunnyside Trout Hatcheries, Ioco, B.C. (sold). |
| Kamloops trout | 88,000 | Eyed eggs. . | Penask lake hatchery... | Cranbrook Trout Club Hatchery, B.C. in exchange for Cutthroat trodt. |
| Kennerly's salmon.. | 100,000 | Eyed eggs.. | Nelson ha | Biological Board |
| Rainbow trout. . | 20,000 | Fingerlings. | Banff hatchery. | Calgary Fish and Game Association for Pond at Keith on Bow river (cooperative venture). |
| Rainbow trout. . | 1,000 | Fingerlings. | Lindloff hatchery | H. J. McCann, Esq., Sydney Fish and Game Protective Association (cooperative venture). |
| Rainbow trout. | -3,000 | Fry . . ...... | Nelson hatcher | Biological Board, Mr. Mottley. |
| Sockeye salmon. | 769,500 | Green eggs. | Squilax Camp. | Biological Board at Taft, B.C. |
| Speckled trout. . | 25 | Fry. . . . . . . | Bedford hatchery | Experimental Station for Fisheries, Halifax, N.S. |
| Speckled trout... | 3,000 | Fingerlings. | Margaree hatchery | Jack Barrington, Esq., North Sydney, N.S. planted in McIsaac's lake, North Sydney, N.S. (co-operative venture). |
| Speckled trout. | 7,500 | Fingerlings. | St. John hatchery . . . . . | Biological Board, Dr. McGonigle. |
| Speckled trout... | 5,000 | Fingerlings. | Kelly's Pond hatchery.. | Biological Board, Mr. White. Tratt |
| Speckled trout... | 5,000 | Fry | Nelson hatchery | R. Heddle, Esq., Heddle Troat Farms, West Kootenay (sold). |
| Spring salmon. | 1,500 | Eyed eggs. | Cowichan lake hatchery | Biological Board, Dr. Foerster. |
| Whitefish....... | 10,000 | Eyed eggs. <br> ) | Fort Qu'Appelle hatch ery. | Biological Board, A. Bajkov, Esq. |

In the interest of economy and convenience in the distribution of fry the following transfers of eyed eggs were made in 1930:-

| Species | From | To | Number |
| :---: | :---: | :---: | :---: |
| Atlantic salmon. | (a) Miramichi hatchery. | Antigonish hatchery. | 500,000 |
|  | (a) Miramichi hatchery. | Margaree hatchery. | 1,000,000 |
|  | (a) Miramichi hatchery. | Lindloff hatchery. | 600,000 |
|  | (a) Miramichi hatchery. | Yarmouth hatchery. | 250,000 |
|  | (a) Miramichi hatchery. | Restigouche hatchery | 600,000 |
|  | (a) Miramichi hatchery. | Tobique hatchery. | 750,000 |
|  | (a) Restigouche hatchery | Nipisiguit hatchery | 582,330 |
| Sneckled trout. | (a) St. John hatchery. | Margaree hatchery. | 10,000 |
|  | (a) St. John hatchery | Yarmouth hatchery. | 20,000 |
|  | (a) Nelson hatchery. | Summerland hatchery | 192,500 |
| Whitefish. | (a) Fort Qu'Appelle hatche | Nelson hatchery. | 5,000, 000 |
| Rainbow trout. | (b) St. John hatchery.... | Lindloff hatchery. | 85,230 |
|  | (b) St. Jchn hatchery. | Yarmouth hatchery. | 75,760 |
|  | (b) St. John hatchery. | Kelly's Pond hatchery. | 61,505 |
| Kamloops trout.. | (b) Gerrard hatchery | Nelson hatchery. | 450,000 |
|  | (b) Lloyds creek hatchery. | Cowichan lake hatchery. | 13,000 |
|  | (b) Lloyds creek hatchery. | Pemberton hatchery | 76,000 |
|  | (b) Penask lake hatchery. | Nelson hatchery. | 144,000 |
|  | (b) Penask lake hatchery. | Summerland hatchery. | 294,000 |
| Sockeye salmon. | (b) Pemberton hatchery. | Harrison lake hatchery | 12,005,000 |

(a) 1029 Fall collection.
(b) 1930 collection.

## MARKING OF ATLANTIC SALMON

Beginning in 1913, a portion of the Atlantic salmon that were handled for fish cultural purposes in the Maritime Provinces have been marked by a numbered silver tag attached to the dorsal fin. The weights and measurements of these fish that appear in this and previous reports were taken after the fish were stripped. This marking was originally undertaken to obtain definite evidence with regard to the feeling that exists in some quarters that, as two races of Atlantic salmon occur in the rivers of the Maritime provinces, one entering the rivers in the spring of the year and the other in the autumn, that the progeny of late run fish are always late run and vice versa, that, at some points, late fish were being propagated which are not as valuable as early ones, also to gain some information with regard to the frequency in spawning of Atlantic salmon." Up to December 31, 1926, over 70 per cent of the reported recaptures returning from the sea, which had, in the first instance, been marked as "late" fish were recaptured as "early" fish. From 1927 to 1929, inclusive, the marking was intermittent and was not continued at all the salmon retaining ponds. In 1930, however, it was renewed on an increased scale as it was expected that the returns might be of some assistance in connection with the Atlantic salmon investigation that is going on. In 1930, 2,590 salmon were marked at the points indicated in the following statment:-


The recaptures reported from 1927 to 1930, inclusive, were as follows:-
CAINS RIVER, N.B.

| Number | Weight (lbs.) | $\begin{gathered} \text { Length } \\ \text { (ins.) } \end{gathered}$ | Condition | Sex | Date | 1. Where liberated <br> 2. Where caught |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| F1107... | 12 7 | 37 | Kelt. . . . . . . Kelt........ | F F | $\begin{array}{ll}\text { May } & 1,1927 \\ \text { June } & 3,1927\end{array}$ | Cains River, N.B. <br> S.W. Miramichi river, Derby Junction, N.B. |

Margaree pond, n.s.


MATAPEDIA RIVER, QUE.

| F1376.. | 21 | 38 | Kelt.. | $\stackrel{\mathrm{F}}{\mathrm{F}}$ | $\begin{array}{lrl} \text { Oct. } & 25, & 1927 \\ \text { July } & & 1928 \end{array}$ | Matapedia River, P.Q. At Point La Garde, P.Q. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| F1455.... | 19 31 | 38 43 | Kelt. | M | $\begin{array}{lll} \text { Oct. } & 26, & 1927 \\ \text { June } & 20, & 1929 \end{array}$ | Matapedia River, P.Q. Restigouche River, P.Q., at Matapedia. |

MIRAMICHI POND, N.B.

| F1470.... | 8 | 30 | Kelt | F | Oct. 31, 1928 | M |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Kel | F | May 30, 1929 | N.W. Miramichi River, $1 \frac{1}{2}$ miles below Red Bank. |
| F1301. | $\begin{array}{r}102 \\ 84 \\ 81 \\ \hline 1\end{array}$ | 33 | Kelt | F | Oct. 31, 1928 | Miramichi River. |
|  |  |  | Kelt | F | May 28, 1929 | Miramichi River, N.B., Lower Nercastle. |
| F1500. | 738 | 31 | Kelt | F | Oct. 31, 1928 | Miramichi River. |
|  |  | 31 | Kelt | F | June 3, 1929 | N.W. Miramichi River, 12 miles below Red Bank. |
| F1507. | 8 | 31 | Kelt | F | Oct. 31, 1923 | Miramichi River. |
|  |  |  | Kelt | F | June 3, 1923 | N.W. Miramichi River, late $^{1}$ miles below Red Bank. |
| F1522.... | $8_{6}^{8 \frac{1}{2}}$ | 31 | Kel | M | Oct. 31, 1928 |  |
|  |  |  | Kelt | II | June 8, 1929 | N.W. Miramichi River, $\frac{1}{2}$ mile above hatchery. |
| F1545.... | $88^{\frac{1}{4}}$ | 31 | Kelt | M | Oct. 31, 1328 | Miranichi River. |
|  |  |  | Kelt | II | June 5, 1929 | N.W. Miramichi River, $2 \frac{1}{2}$ miles below Red Bank. |
| F1551.... | $3^{\frac{1}{2}}$ |  |  | M | Oct. 31, 1928 |  |
|  |  | 27 | Kelt........ | II | Feb. 11, 1929 | Miramichi River, Newastle. |

MORELL RIVER, P.E.I.

| Number | Weight (lbs.) | Length (ins.) | Condition | Sex | Date | 1. Where liberated <br> 2. Where caught |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | - |  |
| F1690.... | $6 \frac{3}{4}$ <br> 7 <br> $\frac{1}{2}$ | 29 | Kelt.. | $\underset{F}{F}$ | Nov. 26, 1929 May 25, 1930 | Morell River. Cardigan River. |
| F1731. (r) | 12 | 36 | Kelt. | $\frac{F}{F}$ | Nov. 26, 1929 <br> Nov. 6, 1930 | Morell River. Morell River. |
| F1754. | ${ }_{18} 8^{\frac{1}{2}}$ | 40 40 | Kelt.. | $\frac{F}{F}$ | Nov. 27, 1929 May 20, 1930 | Morell River. Morell River. |
| F1806. | 6 10 | 29 30 | Klean. | $\underset{\mathrm{F}}{\mathrm{F}}$ | $\begin{array}{ll} \text { Nov. } 28, & 1929 \\ \text { June } & 15, \\ 1930 \end{array}$ | Morell River. <br> Friday's Cove, north of Red Bay, <br> Straits of Belle Isle, Newfoundl'd |
| F1814. (s) | $\begin{aligned} & 15 \\ & 17 \end{aligned}$ | $\begin{aligned} & 38 \\ & 38 \end{aligned}$ | Kelt Clean | $\underset{F}{F}$ | Nov: 28, 1929 Nov. 8, 1930 | Morell River. Morell River. |

NIPISIGUIT HATCHERY, N.B.


RIVER PHILIP

| F2049.. | 9 11 | $32 \cdot$ | Kelt. Clean | $\begin{aligned} & F \\ & F \end{aligned}$ | $\begin{array}{lll} \text { Nov. 12, } & 1929 \\ \text { May 3, } & 1930 \end{array}$ | River Philip, N.S. River Philip, N.S. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| F2077. | 11. | 31 | $\begin{aligned} & \text { Kelt.......... } \\ & \text { Kelt........ } \end{aligned}$ | $\underset{\mathrm{F}}{\mathrm{F}}$ | $\begin{array}{lr} \text { Nov. } 16, & 1929 \\ \text { May } 3, & 1930 \end{array}$ | River Philip, N.S. River Philip, N.S. |
| F3256.... | 8 | 30 30 | $\begin{array}{\|l} \left\lvert\, \begin{array}{l} \text { Kelt. . . . . . } \\ \text { Kelt........ } \end{array}\right. \end{array}$ | $\therefore \frac{\mathrm{M}}{\mathrm{M}}$ | Nov: 20, 1930 <br> Dec. 19, 1930 | River Philip, N.S. <br> River Philip, tidal waters. |

(r) Caught in Departmental net Fall 1930, re-tagged with F1336.
(s) Caught in Departmental net, Fall 1930, re-tagged with F1841.

The "homing" instinct of the salmon is quite pronounced in the recaptures, as, with the following cxceptions, the recaptures are recorded from the vicinity of the point at which they were marked:-

One salmon marked at Buckles cove, Margaree harbour, on December 4, 1928, was recaptured at Net cove, Millville, near Stormy point, Newfoundland, on June 13, 1930. During the period between its marking and recapture, it increased in weight from 8 to 26 pounds. One salmon marked in the Morell river on November 28, 1929, was recaptured at Friday's cove, north of Red bay, Straits of Belle Isle, Newfoundland, on June 15, 1930: This fish increased in weight from 6 to 10 pounds.

During 1930, nine recaptures in all were reported, consisting of seven cleari fish that were taken on their return from salt water and two that were still in a kelt condition. On the basis of reported recaptures from all points, of fish that had been to sea after they were marked, over 84 per cent that were marked as late fish, having been caught after the close of the commercial fishing season, were recaptured as early. fish or before the close of the commercial fishing season.

ANTIGONISH HATCHERY

| - | Atlantic salmon fry | Atlantic salmon advanced fry | Atlantic salmon No. 1 fingerlings | Atlantic salmon No. 2 fingerlings | Atlantic salmon No. 3 fingerlings | Atlantic salmon No. 4 fingerlings | Speckled trout No. 1 fingerlings | Speckled trout No. 4 fingerlings | Speckled trout Older fish |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Antigonish Harbour- |  |  |  |  |  |  |  |  | $\because$ |
| South river......... | 60,000 |  |  |  |  |  | 6,200 |  | .... |
| Copper lake. |  |  |  |  |  |  | 25,000 |  |  |
| Gillis brook. |  |  |  |  |  |  | 13,985 |  |  |
| Grants lake. |  |  |  |  |  |  | 20,000 |  |  |
| Loch Katrine |  |  |  |  |  |  | 45,000 |  |  |
| Pinevale brook. |  |  |  |  |  |  | 30,000 |  |  |
| Pinevale lake.. |  |  |  |  |  |  |  |  | 299 |
| Polsonis brook. |  |  |  |  |  |  | 15,000 |  |  |
|  |  |  |  |  |  |  | 80,000 |  |  |
| Gaspereau lake |  |  |  |  |  |  | 45,000 |  |  |
| Cole Harbour (Guys- boro Co.) |  |  | - |  |  |  |  |  |  |
| Chain of lakes. . . . . . . |  |  |  | $\therefore$... |  |  | 40,000 |  |  |
| Cole Harbour lake. |  |  |  |  |  |  | 40,000 |  |  |
| Country Harbour(Guys- boro Co. | ... |  |  |  |  | - - - - | ... ... |  |  |
| Country Harbour |  | 90,000 |  |  | - |  |  |  |  |
| Eight Island lake |  |  |  |  |  |  | 20,000 |  |  |
| Goshen lake.. |  |  |  |  |  |  | 20,000 |  |  |
| Great lake.. |  |  |  |  |  |  | 35,000 |  |  |
| Ottos lake. |  |  |  |  |  |  | 15,000 |  |  |
| - Stewarts lake. |  |  |  |  |  |  | 15,000 |  |  |
| George Bay (Antigonish Co.)- |  |  |  |  |  |  |  |  |  |
| Aton river........i... | . 40,000 |  |  |  |  |  |  |  |  |
| North lake. |  |  |  | . |  |  | 40,000 |  |  |
| South lake. |  |  |  |  |  |  | 40,000 |  |  |
| Guysboro Harbour (Guysboro Co.)- | : |  |  |  |  |  |  |  |  |
| Guysboro river- |  |  |  |  |  |  |  |  |  |
| Fitz lake |  |  |  |  |  |  | 20,000 |  |  |
| Salmon river... |  |  | 70,000 |  |  |  |  |  |  |
| Head of Liscomb wat-ers- |  |  |  |  |  |  |  |  |  |
| Hatties lake (no out- |  |  |  |  |  |  | 15,000 |  | $\cdots$ |
| Indian Harbour- |  |  |  |  |  |  | 15,000 |  |  |
| Port Hilford- |  | - |  | . |  |  |  |  |  |
| Indian Harbour lake |  |  |  |  |  |  | 20,000 |  |  |
| Lochaber lake (Antigo- |  | . . . . |  |  |  |  |  |  |  |
| Cummings lake...... |  |  |  |  |  |  | 20,000 |  |  |
| Glen Alpine brook.... |  |  |  |  |  |  | 37,000 | 17,400 | ....... |
| Larry's river (Guysboro Co)- <br> Donohues lake | . |  |  |  |  |  | 0,000 |  | - |
| McLeans lake (no out- |  |  |  |  |  |  | , 00 |  |  |
| let) Pictou Co........ |  |  |  |  |  |  | 15,000 |  |  |
| Mertigomish Harbour (Pictou Co.)- |  |  |  |  |  |  |  |  |  |
| Barneys river.... | 40,000 |  |  | 32,000 |  |  |  |  |  |
| French river, |  |  | 70,000 | 32,000 |  |  |  |  |  |
| Branch..... |  |  |  |  |  |  | 30,000 |  |  |
| Chisholms lake |  |  |  |  |  |  | 15,000 |  |  |
| Sutherland river...... |  |  |  | 32,000 |  |  |  |  |  |
| Northumherland Strait- <br> - Caribou river (Pictou |  |  |  |  |  |  |  |  |  |
| - Co.)............... |  |  |  |  |  |  | 32,000 |  |  |
| Pictou Harbour (Pictou Co.)- |  |  |  |  |  |  |  |  |  |
| East river... |  |  |  | 32,000 |  |  |  |  |  |
| $\therefore$ McClellans brook... |  |  |  |  |  |  | 30, 000 |  |  |
| Middle river......... |  |  | 70,000 |  |  |  |  |  |  |
| Pomquart river (Antigonish Co.)- |  |  |  |  |  |  |  | . |  |
| Glenroy river......... |  |  |  |  |  |  | 25,000 |  |  |
| Hetherton river....... |  |  |  |  |  |  | 25,000 |  |  |
| Meadow Green river. . |  |  |  |  |  |  | 35,000 |  |  |
| PortShorham DistrictChedabucto Bay- |  |  |  |  |  |  |  |  |  |
| MacPhersons lake... |  |  |  |  |  |  | 30,000 |  |  |
| Stewarts lake (no outlet) |  |  |  |  |  |  |  |  |  |
| Pictou Co............ |  |  |  |  |  |  | 15,000 |  | . ......... |
| St. Mary's Bay (Guyshoro Co.)- |  |  |  |  |  |  |  |  |  |
| East St. Mary's rive=. | 120,000 |  | 22,000 | 32,000 | 160,000 | 4!438 |  |  | . ......... |
| Branch of East St. Mary's river |  |  |  |  |  |  |  |  |  |
| West St. Mary's river. | 50,000 |  | 78,000 | 96,000 | 121,600 |  |  |  | . |

## ANTIGONISH HATCHERY-Concluded

|  | Atlantic salmon fry | Atlantic salmon advanced fry | Atlantic salmon No. 1 fingerlings | Atlantis salmon No. 2 fingerlings | Atlantic salmon No. 3 fingerlings | Atlantic salmon No. 4 finger lings | Speckled trout No. 1 fingerlings | Speckled trout No. 4 fingerlings | $\begin{gathered} \text { Speekled } \\ \text { tront } \\ \text { Older } \\ \text { figh } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| St. Mary's river (Pictou Co.)Black brook- |  |  |  |  |  |  |  |  |  |
| - Mckinnons lake |  |  |  |  |  |  | 12,000 |  |  |
| Tracadie Harbour (Antigonish Co.) Mattie river. | 20,000 |  | - |  |  |  |  |  |  |
| Tracadie river Delhantys lake | 30,000 |  |  |  |  |  | 20,000 |  |  |
| West river (Antigonish Co.)James river. $\qquad$ | 30,000 |  |  |  |  |  | 20,000 |  |  |
|  | 300,000 | 90,000 | 320,000 | 256,000 | 281,600 | 4,438 | 1,022,183 | 17,400 | 299 |

Tatal distribution................ 2,381,922
BEDFORD HATCHERY

| - | Atlantic salmon green eggs | Atlantic salmon cyed eggs | Atlantic salmon No. 1 fingerlings | Atlantic salmon No. 3 fingerlings | Speckled trout fry | Speckled trout No. 1 - Inger- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Prospect runIndian lake |  |  |  |  |  |  |
| Tangier river (Halifax Co.) |  |  | 30,000 | 19,71i |  | 0,000 |
| - Bear lake......... |  |  |  |  |  | 25,000 |
| Mooselake |  |  |  |  |  | 20,000 |
| Mooseland river. |  |  | 35,000 |  |  |  |
|  |  |  |  |  |  |  |
| Nine'Mile river-Fraser's lake |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Sackville river: |  |  | 70,347 |  |  |  |
|  |  |  |  |  |  |  |
| Conrad's lake. |  |  |  |  |  | 25,000 |
| Cobequid Bay (Colchester Co.)- |  |  |  |  |  |  |
| Beaver brook..................................Folly river |  |  |  |  |  |  |
| Folly river- |  |  |  |  |  | 25,000 |
| Salmon river (Colchester Co.)- |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| -Christie brook <br> Upper Salmon river |  |  | 20,000 |  |  | 20,000 23,000 |
| Cole Harbour (Halifax Co.) - |  |  |  |  |  |  |
| CoLttle Salmon river................ |  |  | 16,000 |  |  |  |
| Cumberland Basin (Cumberland Co.)- |  |  |  |  |  |  |
|  |  |  | 30,000 |  |  |  |
|  |  |  |  |  |  |  |
| Economy river (Colchester Co.)- |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  | 24,000 |
| South branch. |  |  |  |  |  | 20,000 |
| Hubbards river (Halifax Co.)- |  |  |  |  |  |  |
| Mahone Bay (Lunenburg Co.)- |  |  |  |  |  |  |
| East river............. |  |  | 80,000 |  |  |  |
| Gold river......................................................... 158,000 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Spondo lake....... |  |  | 60,000 |  |  |  |
| Middle river.................................................................. 50,000 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Browns lake... |  |  |  |  |  | 20,003 |
| Higgins lake |  |  |  |  |  | 20,000 |
| Lays lake. |  |  |  |  |  | 25,000 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

BEDFORD HATCHERY-Concluded

| $\square$ | Atlantic salmon green eggs | Atlantic salmon eyed eggs | Atlantic ealmon No. 1 fingerlings | Atlantic salmon No. 3 fingerlings | Speckled trout fry | Speckled trout No. 1 fingerlings |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Shubenacadie river (Halifax Co.)- |  |  |  |  |  |  |
| Rocky lake....... |  |  |  |  |  | 98,000 |
| Waverley lake. |  |  | 60,000 |  |  |  |
|  |  |  | ......... |  |  | 60,000 |
| Stewiacke river (Colchester Co.)- |  |  |  |  |  |  |
| Otter brook. <br> Pembrook brook: |  |  |  |  |  | 37,000 |
| Pembrook brook <br> South branch |  |  |  |  | ............ | 25,000 25,000 |
| Youngs lake. |  |  |  |  |  | 25,009 |
| Youngs brook. |  |  |  |  | . ............ | 12,000 |
| St. Margaret's Bay (Halifax Co.)- |  |  |  |  |  |  |
| Hubbards river.... |  |  | 20,000 |  |  |  |
| Ojsier river.......... |  |  | 60,000 |  |  |  |
| Oisier lake- |  |  |  |  |  |  |
| Black Point lake. |  |  |  |  | . . . . . . ${ }^{\text {a }}$ | 25,000 |
| - Sheldrake lake. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . |  |  |  |  | . . . . . . . | $25,000$ |
| Terence Bay- |  |  |  |  |  |  |
| MoGrath lakeHatchet lake |  |  |  |  |  | 30,000 |
|  | 7,920 | 600 | 1,009,347 | 19,711 | 25 | 853,000 |

## LINDLOFF HATCHERY

(Subsidiary to Margaree Hatchery)


Total distribution.
643,600



| - | Atlantic salmon No. 1 fingerlings | $\begin{gathered} \text { Atlantic } \\ \text { salmon } \\ \text { No. } 2 \\ \text { fingerlings } \end{gathered}$ | Atlantic salmon No. 3 fingerlinge | Speckled trout No. 1 fingorlings | Speckled trout No. 2 fingerlings | Speckled trout No. 3 fingerlings | Speckled trout No. 4 fingerlings | Speckled trout yearlings | Speckled trout adult fish |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Atlantic ocean- |  |  |  |  |  |  |  |  |  |
| Mahone Bay- <br> Gold river (Lunonburg Co.) |  | 145,000 | 55,000 |  |  |  |  |  |  |
| Whalen lake........... |  | 185.0.... | 55,000 |  | 15,000 |  |  |  |  |
| Medway river (Queens Co.) |  | 165,000 | ....... |  |  |  |  |  |  |
| Ankle Jack lako.. |  |  |  |  | 10,000 |  |  |  |  |
| Molega lake............. Pleasant river- |  |  |  | ........... | 15,000 | ............ | . . . . . . . . . . | . . . . . . . . . | . $\cdot$. |
| Wildeat brook. |  |  |  |  | 15,000 |  |  |  |  |
| Rooky lake............. |  |  |  |  | 15,000 |  | . . . . . . . . . |  | ............ |
| Mersey river- Headwators. |  |  |  |  | 15,000 | 16,000 |  |  |  |
| Kedgemakoodgo likko |  |  |  |  | 150,000 | 10,000 |  |  |  |
| La Have river (Lunenburg Co.) | 60,000 | 40,000 | $\therefore .$. |  |  |  |  |  |  |
| North Branch of La Have.. |  | 50,000 |  |  |  |  |  |  | .............. |
| Sherbrook lake............. <br> West branch- |  |  |  |  | 45,000 |  |  |  | ............ |
| Weat branchTributary. |  |  |  |  | 6,000 |  |  |  |  |
| - Ninevah lalo |  |  |  | ............ | 6,000 |  |  |  |  |
| Rocky lako. |  |  |  |  | 7,000 | . |  |  | ............ |
| Priths brook. |  |  |  |  | 6,000 | . |  |  |  |
| Petite riviero (Lunenburg Co.) Bry of Fundy- |  | 75,000 |  |  |  | . . . . . . . . . |  |  |  |
| Annapolis Basin- |  |  |  |  |  |  |  |  |  |
| Annapolis river.. | 40,000 | 110,000 |  | ........... |  |  |  | . ..... | $\cdots$ |
| : Hatchery pond |  |  | ......... |  |  |  | 2,000 |  | , |
| Headwaters.... | .......... | . .......... | ........... | ............ | 15,000 | 5000 |  |  | ............ |
| Tily lako...... | ........... | ............ | ........... | ............ |  | 5,000 | …'.......'. |  | , |
| Miller's brook (A.........is Co.) |  | 75,000 | 78,500 |  |  | 2,500 | ............ | ..........i1 | …......'. ${ }^{\text {a }}$ |
| Nictaux Birch Bark lake......... |  | 15,00 | 7,000 |  | 15,000 |  |  |  |  |
| Curl Hole lake... |  | ........... |  | 15,000 |  |  |  | . ., , , . | ............ |
| Oakes brook. Scragg lake.. |  |  |  | 15,000 |  |  |  |  | ............. |
| Scragg lake..... |  | .......... |  |  | 15,000 |  | ........... |  | ............. |
| Shannon river. Kelly brook. . |  |  |  | 15,000 15,000 |  | 12,000 | ${ }^{6} 600$ |  |  |
| Kelly brook. |  |  |  | 15,000 15,000 |  |  | 600 |  | -.............. |
| Thirty lake. |  |  |  |  | 30,000 |  |  |  | ............ |
| Waterloo river. |  |  |  | 15,000 |  |  |  |  |  |
| Trout lake.. |  |  | . . . . . . . . . | 15,000 |  |  |  |  |  |
| Wambolts lako. |  |  |  | 15,000 | ............ |  |  |  | ............. |
| Zwicker lake.. |  |  |  | 15,000 |  |  |  |  | ............ |
| Parker brook.. |  |  |  | 20,000 |  |  |  |  |  |
| Patterson brook. |  |  |  |  | 10,000 |  |  |  |  |
| Round Hill river. |  | 75,000 | ........... |  |  |  |  |  |  |
| Skinner brook. |  |  |  |  | 15,000 20,000 | , $\ldots$........... | … ${ }^{\text {a }}$ |  |  |
| Slocomb brook. |  |  |  |  | 10,000 |  |  |  |  |
| Unnamed brook (Kings Co |  |  |  |  | 10.000 15.000 |  |  |  |  |



| $!$ | $\begin{gathered} \text { Atlantic } \\ \text { salmon } \\ \text { No. } 1 \\ \text { fingerlings } \end{gathered}$ | Atlantic salmon No. 2 fingerlings | Atlantic salmon No. 3 fingorlings | Atlantic salmon No. 4 fingerlings | Atlantic salmon No. 5 fingerlings | Rainbow <br> trout <br> No. 3 <br> fingerlings | Speckled trout No. 2 fingorlings | Speckled trout No. 3 fingerlings | Speckled trout No. 4 fingerlings | Speckled trout yearlings | Speckled trout 2-yoarolds |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Allen's lake- |  |  |  |  |  |  |  |  |  |  |  |
| Allen's alake- Darlinge' lake (Yarmouth Co.) |  |  |  |  |  |  | 10,000 |  |  | 2,000 |  |
| Darlings' brook............. |  |  |  |  |  |  | 10,000 | ........... |  |  |  |
| Atlantio pcosn- |  |  |  |  |  |  |  |  |  |  |  |
| Argyle river (Yarmouth Co. |  |  |  |  |  |  | 20,000 |  |  | 1,000 |  |
| Braringten river. |  |  |  |  |  |  |  |  |  | 2,500 |  |
|  |  |  |  |  |  |  | 30,000 |  |  |  |  |
| Chegoggin bay (Yarmouth Co.) Chegoggin river. . |  |  |  |  |  |  | 20,000 |  |  | 1,000 |  |
| Cly de river (Shelburne Co.).... | 130,000 | 45,000 | 15,000 |  |  |  |  |  |  |  |  |
| Bloody oreek........... |  |  |  |  |  |  |  |  |  | 2,000 |  |
| Four Bridges brook. |  |  |  |  |  |  | 25,000 |  |  |  |  |
| Five rivers (Quens Co.) .... |  |  | 45;000 |  | 10,000 |  | 30,000 |  |  |  |  |
| Jordan river (Shelburne Co.) ${ }_{\text {Lake }}$ (eorge (Shelburne Co.). | 100,000 | 25,000 | 45;000 |  | 10,000 |  |  |  |  | 2,000 |  |
| Six Mile brook. . . . . . . . . . . . . . |  |  |  |  |  |  | 10,000 | .......... |  |  |  |
| Medway river- |  |  |  |  |  |  |  |  |  |  |  |
| Minamkeak streamRooky lake- |  |  |  |  |  |  |  |  |  |  |  |
| - Rooky lake-lacla lake (Lunenburg Co.). |  |  |  | 01 |  | 64 |  |  | 55 | 25 |  |
| Mersey rivar (Queens Co.)................ | 155,000 | 70,000 | 120,000 |  | 10,000 |  |  |  | ........... |  |  |
| Lower Great brook (Queens Co.) |  |  | ......... | .......... |  |  | 20,000 |  | - |  |  |
| Roseway river................... |  |  | - . . . . ${ }^{\text {a }}$ | ........... |  |  | 30,000 |  | ……'. | 2,000 |  |
| Deception lake (Shelburne Co.) |  |  |  |  |  |  | 25,000 15,000 |  |  | 2,600 |  |
| Roberts Island lake.......... |  |  |  |  |  |  | 15,000 |  |  |  |  |
| Salmon river (Yarmouth Co.) | 05,000 | 20,000 | 16,000 |  | 10,000 | .......... |  |  |  |  |  |
| Arcadia river......... |  |  |  |  |  |  | 5,000 $\mathbf{5 , 0 0 0}$ |  |  |  |  |
| Brazil lake....... |  |  |  |  |  |  | -30,000 |  |  | 500 |  |
| Crosby's brook. |  |  | . $\cdot$. |  | ....... |  |  | 5,587 | ........... |  |  |
| Gardener's lake.: |  |  |  |  |  |  | 15,000 | . $\quad . .$. | -1......... |  |  |
| Goudy's lake.. |  |  |  |  |  |  | 15,000 |  |  | 2,000 |  |
| Lake Annis... |  |  |  |  |  |  | 20,000 |  |  | 3:000 |  |
| Lake Ellenwood. |  |  |  |  |  | ........ |  |  |  | 3,500 |  |
| Pleasant lako.. |  |  |  |  |  | . . . ${ }^{\text {a }}$ | 20,000 | . . . . . . . | ........... | ........... |  |
| Porter's brook |  |  | ......... | -, |  | .......... | 5,000 | . . . . . . . . |  | . ........ |  |
| Snare lake... |  |  | I........ | ........... |  | …...... | 10,000 10,000 | - |  |  |  |
| Sollows lake:.: Two Istand lake |  |  |  |  |  |  | 15,000 |  |  |  |  |
| Two Istand lake.....) |  |  |  |  |  |  | 15,000 |  |  |  |  |
| Tusket river (Digby Co.). |  | 15,000 |  |  |  |  |  |  |  | 5,000 |  |
| Sarying Road lakes.. |  |  |  |  |  |  | 25,000 |  |  | 3,000 |  |
| Silver river. |  |  |  | .......... |  |  |  |  |  | 3,000 |  |
| Spectacle lake: Wentworth lak |  |  |  |  |  |  | 30,060 |  |  |  |  |

## DEPARTMENT OF FISHERIES



Total distribution.

FLORENCEVILLE HATCHERY

| - | Atlantic salmon advanced fry | Atlantic salmon No. 1 fingerlings | Atlantic salmon No. 2 fingerling | Speckled trout No. 1 fingerlinge | Speckled trout No. 2 fingerlings | Speckled trout No. 3 fingerlings | Speckled trout No. 4 fingerlings | Speckled trout older fish |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Miramichi river- |  |  |  |  |  |  |  |  |
| South West Miramichi river- |  |  |  |  |  |  |  |  |
| Bogan brook................. |  | 10,000 |  |  |  |  |  |  |
| Clearwater brook |  | 10,000 |  |  |  |  |  |  |
| Elliott's brook... |  | 25,000 |  |  |  |  |  |  |
| North branch. | 60,000 | 80,000 |  |  |  |  |  |  |
| Simpson brook |  | 10,000 |  |  |  |  |  |  |
| Skiff lake. |  | 50,000 |  |  |  |  |  |  |
| South branch. | 60,000 | 90,000 |  |  |  |  |  |  |
| Teague brook |  | 10,000 |  |  |  |  |  |  |
| Ottava.......... |  |  |  |  |  |  |  | 28 |
| Passamaquoddy bay - |  |  |  | 100,000 |  |  |  |  |
| Digdeguash river.. |  |  |  | 100,000 |  |  |  |  |
| First Eel lake. |  |  |  | 20,000 |  |  |  |  |
| Second Eel lake. |  |  |  | 40,000 |  |  |  |  |
| St. John river- |  |  |  |  |  |  |  |  |
| Becaguimec river. | 120,000 | 80,000 |  |  | 9,994 | 6 |  |  |
| Indian lake.. |  |  |  | 10,000 | 9,994 | 6 |  |  |
| Bulls creek... |  |  |  | 60,000 | 500 |  |  |  |
| Buttermilk creek |  |  |  |  | 500 |  |  |  |
| Curry brook.... |  |  |  | 5,000 |  |  |  |  |
| Florence to Bristol. | 100,000 |  |  |  | .......... |  |  |  |
| Gesequit river....... | 100, |  |  | 36,500 70 |  |  |  | 100 |
| Big Gesequit rive |  |  |  | 70,000 |  |  |  |  |
| Hardwood creek.. |  |  |  | 15,000 |  |  |  |  |
| Hathaway brook |  |  |  | 3,000 |  |  |  |  |
| Keswick riverFish lake. |  |  |  | 5,000 |  |  |  |  |
| Lanes creek... |  |  |  | 10,000 |  |  |  |  |
| Meduxnckeag river. | 140,000 |  |  |  |  |  |  |  |
| Hagerman brook. |  |  |  | 5,000 |  |  |  |  |
| McQuade pond. |  |  |  | 5,000 |  |  |  |  |
| Monquartriver. |  | 110,000 | 135 |  |  |  |  |  |
| Nackawic river | ......... | 60,000 |  |  |  |  |  |  |
| Nigger brook Taffa lake... |  |  |  | 15,000 | - 5,000 |  |  |  |
| Nashwank river. |  | 120,000 |  |  |  |  |  |  |
| Nashwaaksis river |  |  | ..... . | 100,000 | .......... |  |  |  |
| Pokiok river .... |  |  |  | 50,000 | .......... |  |  |  |
| Davidson lake |  |  |  |  | . . . . . . . . |  | 1,050 |  |
| Tweedie lake. | 110,000 | 50,000 |  | 35,000 |  |  |  |  |
| Presquilie river... | 110,000 | 50,000 |  |  |  |  |  | 50 |
| Dingee brook.. |  |  |  | 3,000 |  |  |  |  |
| Mile creck.... |  |  |  |  | 1,284 |  |  |  |
| Little Presquille river. |  | 40,000 |  |  | .......... | . ....... | ........... | . 200 |
| Lakeville lake. |  |  |  |  |  |  |  | 20 |
| Main brook. |  |  | ........... | 10,000 10,000 |  |  |  |  |
| Risteen lake..... |  |  |  | 30,000 |  |  |  |  |
| River de Chuto. |  |  |  | 50,000 |  |  |  | 261 |
| Shiktehawk river | 100,000 | 50,000 | *......... |  |  |  |  |  |
| Glassville pond |  |  |  | 5,000 | . $\cdot$. |  |  | 20. |
| Lockhart's pond |  |  |  |  | ... $\cdot$. . . . |  |  | 150 |
| Priest's pond. |  |  |  | 15,000 | .......... |  |  | 150 |
| Little Shiktehawk river. |  | 50,000 |  |  |  |  |  |  |
| Shogomoc river. |  |  |  | 80,000 |  |  |  |  |
| White Marsh brook. |  |  |  | 20,000 |  |  |  | 500 |
| Hatchery dam............. |  |  |  |  |  |  |  |  |
|  | 690,000 | 845,000 | 135 | 817,500 | 16,778 | 6 | 1,050 | 1,703 |

GRAND FALLS HATCHERY


## TOBIQUE HATCHERY

(Subsidiary to Grand Falls hatchery)

|  | Atlantic salmon fry |
| :---: | :---: |
| Tobique river | 85,000 |
| Tobique forks | 70,000 |
| Grear flats. | 25,000 |
| Haley brook | 50,000 31,000 |
| Hatchery brook | 50,000 |
| Right hand branch | 85,000 |
| Riley brook | 50,000 |
| Rocky brook | 12,000 |
| Sission brook | 20,800 |
| Sission branch | 85,000 |
| Two brooks | 60,000 50 |
| Waters bogan | 50,000 |
| Total distribution | 673,800 |

## MIRAMICHI HATCHERY

|  | Atlantic salmon advanced fry | Atlantic salmon No. 1 fingerlings | Atlantic salmon No. 2 finger lings fingerli |
| :---: | :---: | :---: | :---: |
| Miramichi river- |  |  |  |
| Barnaby river. | 80,000 | 75,000 |  |
| Bartibogue river Bay du Vin.... |  | 130,000 |  |
| Black river. | 155,000 |  |  |
| Burnt church. |  | 80,000 |  |
| Nappan river. | 75,000 |  |  |
| Tabusintae river |  | 130,000 |  |
| North West Miramiohi river | 89,000 | 1,153,000 | 85,000 |
| Millstream.. | 80,000 | 80,000 |  |
| Sevogle river |  | 128,000 | 51;200 |
| Stewart brook |  | 40,000 | 46 |
| Trout brook.. |  | 40,000 |  |
| Wild Cat brook |  | 40,000 |  |
| South West Miramichi river- |  |  |  |
| Bartholomew river. |  | 64,000 |  |
| Cains river | 64,000 | 192,000 |  |
| Renous river. |  | 192,000 | 51,200 |
| Dungarvon. |  | 128,000 |  |
| Taxis. | 64,000 | 64,000 |  |
| Little South West Miramichi river. | 252,000 | 738,000 | 57,600 |
| Northumberland Strait- |  |  |  |
| Buctouche river. |  |  | 16,800 |
| Kouchibouguac | 60,000 |  |  |
| Richibucto river |  |  | 12,000 |
|  | 919,000 | 3,409,000 | 286,86\% |

## NIPISIGUIT HATCHERY

(Subsidiary to Restigouche Hatchery)
Atlantic salmon fry
Nipisiguit river-
Bear island, foot oi ...................................................... 40,000
Bear island, head of .............................................. 40,000
Chureh point ............................................................. 50,000
Club House pool ..................................................... 50,000
Comeau landing ......................................................... 50,000
Gilmore brook .......................................................... 30,000
Knight brook ............................................................ 31,000
Long Meadow, foot of ................................................. 30,000
Long Meadow, head of ................................................. 50,000
Marchall Boudreau beach ............................................ $\quad 50,000$
Middle beaclı .............................................................. 49,890
Pabineau river ......................................................... . 30,000
Total distribution .................................................. 500,890

RESTIGOUCHE HATCHERY

| - | $\begin{aligned} & \text { Atlantic } \\ & \text { salmon fry } \end{aligned}$ | Atlantic salmon adranced fry | Atlantic salmon No. 1 fingerlings | Atlantic salmon No. 2 fingerlings |
| :---: | :---: | :---: | :---: | :---: |
| Cbaleur BayJacquet river. | 50,000 |  |  |  |
| Matapedia river- |  |  |  |  |
| Causapseal. | 55,000 |  |  |  |
| Glen Emma, | 55,000 |  |  |  |
| Mininikek....... | 55,000 |  |  |  |
| St. Alexis. | 60, 000 |  |  |  |
| St. Florence.. | 60,000 |  |  |  |
| Routherville. | 60,000 |  |  |  |
| Restigouche river. | 230,000 | 381,675 | 5,600 |  |
| Cheaters brook |  | 230,000 |  |  |
| Dawsonville.... | 100,000 | 2,000 | 35,000 |  |
| Moores Settlement. |  |  | 30,000 |  |
| Runnymeade.. |  |  | 30,000 |  |
| Upsalquitels river. |  | 230,000 |  | 70, 129 |
|  | 780,000 | 843,675 | 100,600 | 70,129 |

Total distribution....................................................... 1,784,404

|  | Atlantic salmon | Atlantio salmon | Brown trout | Brown trout | Brown trout | Brown trout | Hybrid Brown trout | Hybrid <br> Brown trout | Hybrid <br> Brown trout | Hybrid Brown trout | Albino <br> Brown trout | Land- <br> Loeked salmon | Loch Leven trout |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\underset{\substack{\text { Advanced } \\ \text { fry }}}{ }$ | $\begin{gathered} \text { No. } 1 \\ \text { fingerlings } \end{gathered}$ | $\underset{\text { Ary }}{\text { Advanced }}$ | $\left\|\begin{array}{c} \text { No. } 1 \\ \text { fingerlings } \end{array}\right\|$ | $\left\|\begin{array}{c} \text { No. } 4 \\ \text { fingerlings } \end{array}\right\|$ | 3 to 8 years | $\begin{gathered} \text { No. I } \\ \text { fingerlings } \end{gathered}$ | No. 4 fingerlings | Yearlings | 4 yoars | $\left\lvert\, \begin{gathered} \text { No. } 4 \\ \text { fingerlings } \end{gathered}\right.$ | Advanced fry | No. 1 fingerlings |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Black river (St. John Co.) | 75,000 |  |  |  |  | ....... |  |  |  |  |  |  |  |
| Courtney Bay- |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Marsh creek- ${ }_{\text {Artificial lake }}$ No. 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Artificial lake No. 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ashburn lake....... |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Dily lake (St. John Co.).. |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hammond river- |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Blachall lake (St. John Co.) |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Cooks lake (St. John Co.). |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Donaldson lake (St. John Co.)Douglas lake (St. John Co.)... |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Douglas lake (st. John Co.) |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Horrigan lake (St. John Co.) |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Pocologan river (Char.Co.)................... 75,000 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Belvider lake (Kings Co.)- |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Nelson lake (Kings Co.). |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Biological Board- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Dr. MeGonigle, St, Androws, N.B. |  |  |  |  |  | .... |  |  |  | ... | .......... |  |  |
| Blind lake (no outlet) (St. John Co.) |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Clear lake (no outlet) (Char. Co.)Grand lake- |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lone lako atream- <br> Round lako (Kings Co.) |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Itunenburg Fair............ |  |  |  |  |  |  |  |  |  |  |  |  |  |

Magnguadavic river (York Co.)
Cranborry Ialeo Deadwater brook (Char, Co.) Kedson lake (Yorls Co.). Lake Utopia-
Red Rook lake (Char. Co.).
Linton stream (Char. Co.)
Littlo Iake (Char. Co.).
Magaguadaric lake..
Mink lake (York Co.)............
Piskahogan stream (Char. Co.
Upper Magaguadavio river-
Clinches hrook (York Co. Gihohes hrook lake (Char. Co.)
Memrameook river-
Calhouns river (Westmoreland Co.)
North East stream-
Oliver hrook (York Co.).
Oromocto river (Sunhury Co.
slim creok (sunhury Co.)
Ottawa, preserved fish
Bills lake (Char. Co.)
Bonaparte lako (Char, Co.)
Chameook lako (Char. Co.)
Digdeguash river (York Co.
Craig hrook (Char Co.)
Hitching brook (Char. Co. St. Patrick lake (Char. Co.) Tanhouse hrook (Char. Co.)
Korr lake (Char. Co.
Shepody Bay-
Crooked ereok-
MoFadden lake (Alhert Co.)
St. Croix river-
Cangus river-
Green hrook (Char, Co.).
Dennis stream-
Murchie brook (Char. Co.)
Hall brook (Char Co.)
Limehurnor lake (Char. Cö.)
Mohanas stream
Soap hrook (Char. Co.)
St. John river-
Kennohecasis river (Kings Co.) Dolan lake (King Henry lake (St. John Co.) Moss Glen lako (Kings Co Trout oreck (Kings Co.)
Lindsay hrook (Sunhury Co........
Norepis river-
Mathers lake (Kings Co.) Negro hrook (Kings Co.)


* 1 (

*After the Lunenburg Fair, 34 Brown trout No. 4 fingerlings, and 27 Hybrid Brown trout No. 4 fingerlings wore planted into Spectacle lako which is-tributary to ${ }^{2}$ the Medway river, via Minamkenk stream.


Bookn lnko (St. John Co.)
Bonaldson lake (St. John Co.
Douglns lako (St. John Co.).
Hatchery reservoir
Forrigan lake (St.John Co.)
Wolsloy lake (Kings Co.)
Mispec stream
Loch Lomond lako
Brawley lake (St. John Co.)
Otter lake (S
Musquash river (St. John Co.) -
Wast branch
West branch
Pocologan river (Char, Co.).
Wetmore brook (St. John
Belvider lake (Kings Co.)-
Balvidor atream
Nelson lako (Kinge Co.)
Biological Board
Dr, McGonigle, St. Andrews, N.B
Blind lako (no outhet) (St. John Co.)
Clear lake (no outlet) (Char, Co.).
Grand Lake-
Cumberland stream (Queens Co.)
Leng lake stream-
Round lake (Kings Co.)

* Lunenburg Fair.

Magaguadavio river-
Cranberry lake (York Co.)
Deadwater brook (Char,
Kake Utopia-
Red Hock lake (Char. Co.)
Jinton stream (Char. Co.)..
Little lake (Char. Co.).
Magaguadavic lake
Magaguadavic lake.
Piskahegan stream (Char. Co.
Upper Magaguadavic rivor-
Clinches brook (York Co.)
Momramcook lver
Calhouns river (Westmoreland Co.)
North East stream-
Oliver brook (York Co.)
Oromocto river (Sunbury Co.)
Ottawn, preserved fish
Pttawn, preserved fish
Bills lake (Char. Co.)
Bonaparte lake (Char. Co.
Chameook lake (Char. Co
Digdeguash rivor (York Co
Craig brook (Char Co.)
Hitching brook (Char. Co.
McLeod brook (Char. Co.)
Tanhouse brook (Char. Co.)


SAINT JOHN HATCHERY-Concluded

|  | Loch Leven trout | Loch Leven trout | $\begin{gathered} \text { Rainbow } \\ \text { trout } \end{gathered}$ | $\begin{aligned} & \text { Rainbow } \\ & \text { trout } \end{aligned}$ | Rainbow trout | Speckled trout | Speckled trout | Speckled trout | Speckied trout | Speckled trout | Speckled trout | Speckled trout |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Yearlings | 6 years | No. 3 fingerlinga | $\begin{gathered} \text { No. } 4 \\ \text { fingerlings } \end{gathered}$ | 3 years | Advanced fry | No. 1 fingerlings | No. 2 fingerlings | $\begin{gathered} \text { No. } 3 \\ \text { fingerlings } \end{gathered}$ | $\begin{gathered} \text { No. } 4 \\ \text { fingerlinge } \end{gathered}$ | Yearlinge | 2 to 6 years |
| Passamoquoddy Bay-Con. Kerr lake (Char. Co.). |  |  |  |  |  |  | 6,000 |  |  |  |  |  |
| Stoin lake (Char. Co.). . |  |  |  |  |  |  | 6,000 |  |  |  |  |  |
| Shepody Bay- <br> Crooked creok- <br> MoFaiden lako (Albert Co.) |  |  |  |  |  |  | 0,000 |  |  |  |  |  |
| St MeFarden lako (Albert Co.). |  |  |  |  |  |  | 10,000 | .......... |  |  |  |  |
| St. Croix riverch <br> Canous river- |  |  |  |  |  |  |  |  |  |  |  |  |
| Green brook (Char. Co.). |  |  |  |  |  |  | 15,000 | ........... |  |  |  |  |
| Dennis Murchie brook (Char. Co.). |  |  |  |  |  |  | 10,000 |  |  |  |  |  |
| Hall brook (Char. Co.) ......... |  |  |  |  |  |  | 10,000 |  |  |  |  |  |
| Limeburner lake (Char. Co.). |  |  |  |  |  |  |  | 10,000 |  |  |  |  |
| Mohanas stream- <br> Soap brook (Char, Co.). |  |  |  |  |  |  | 5,000 |  |  |  |  |  |
| St. John river- |  |  |  |  |  |  |  |  |  |  |  |  |
| Kennebecasis river (Kings Co.). Dolan lake (Kings Co.) |  |  | . |  |  | ........... | 25,000 15,000 |  |  |  |  | .......... |
| Dolan | . |  |  | $\mid \cdots, \ldots, \ldots$ |  |  | 15,000 | … $50 .$. | - |  |  | ............ |
| Henry lake (St. John Co.) |  |  | $\cdot 1$ | $\mid \cdots, \ldots, \cdots$ | …......... | 20,000 | $\cdots \cdots$ | .. |  |  |  | .......... |
| Moss Glen lake (Kings Co.) |  |  |  | . . . . . . | $\mid \cdots, \ldots,$ |  | 5,000 | . |  |  |  | ........ |
| Trout creek (Kings Co.).... <br> Wood Side lake. | ............ |  | $\text { p, }, \ldots, \ldots$ | $\mid$ | .......... | ........... |  | ….......... |  |  |  | . . . . . . . . |
| Wood Side lake. <br> Lindsay brook (Sunbury Co.) |  |  |  | $\mid \ldots, \ldots,$ |  |  |  |  | 2,000 | ..... |  | . ......... |
| Lindsay brook (Sunbury Co.).................................... Nerepis river- | ............ | .......... |  | ............ | ........... |  | 10,000 | ........... | ........... |  |  | ........... |
| Mathers lake (Kings Co.). |  |  |  |  |  |  | 10,000 |  |  |  |  |  |
| Negra brook (Kinge Co.). |  |  |  |  |  |  | 15,000 |  |  |  |  |  |
| Pokiok river- <br> Lake George (York Co.) |  |  |  |  |  |  | 10,000 |  |  |  |  |  |
|  |  |  |  |  |  |  | 15,000 |  |  |  |  |  |
| Salmon river (Queens Co.) |  |  |  |  | $\cdot 1$ |  | ........ |  |  |  |  |  |
| Lake Strenm waters (Queens Co.)....................... . . |  |  | … |  |  |  | 3,000 |  |  |  | P........... |  |
| Sears lake (Kings Co.) |  |  |  |  |  |  |  |  |  | 3,000 | ........... |  |
| Washademoak riverMill brook (Queens Co.). |  |  |  |  |  |  | 8,000 |  |  |  |  |  |
| Waweig river- |  |  |  |  |  |  |  |  |  |  |  |  |
| Bartlott lake- |  |  |  |  |  |  |  |  |  |  |  |  |
| Leng lake (Char. Co.). |  |  |  |  |  |  | 10,000 |  |  |  |  |  |
| Twin lake (Char. Co.) |  |  |  |  |  |  | 10,000 |  |  |  |  |  |
| Wood lake streamDougherty lake (St. John Co.).. |  |  |  |  |  | 15,000 |  |  |  |  |  |  |
| Yarmouth Fair. . . . . . . . . . . . . . |  | 2 |  |  |  |  |  |  |  |  |  | 3 |
|  | 410 | 12 | 23,107 | 4 | 153 | 61,765 | 622,235 | 31,000 | 31,000 | 4,328 | 2,115 | 801 |


| - | Atlantic salmon fry | Atlantic salmon advanced fry | $\begin{gathered} \text { Atlantic } \\ \text { salmon } \\ \text { No. } 1 \\ \text { fingerlings } \end{gathered}$ | $\begin{gathered} \text { Rainbow } \\ \text { trout } \\ \text { No. } 2 \\ \text { fingerlings } \end{gathered}$ | Speckled trout fry | Speckled trout No. 1 fingerling | Speckled trout No. 2 fingerlings | $\begin{gathered} \text { Speckled } \\ \text { trout } \\ \text { No. } 3 \\ \text { fingerlings } \end{gathered}$ | Speckled trout No. 4 fingerlings |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Afton lake (Queens Co.). |  |  |  | 11,000 |  |  |  |  | $\cdots$ |
| Albion Bay (Kings Co.)- |  |  |  |  |  |  |  |  |  |
| 13 rudnell river (Kings Co.) |  |  |  |  |  | 11,000 |  |  |  |
| Montague river- <br> McRaes pond (Kings Co.). |  |  |  |  |  | 11,000 |  |  |  |
| Montague Electric Light Pond (Kings Co.). |  |  |  |  |  | 11,000 |  | 1,637 |  |
| Bedeque Bay- |  |  |  |  |  |  |  | 1,037 |  |
| Dunk river (Prince Co.) | 25,200 |  | 55,000 |  |  |  |  |  |  |
| Wmerland Junction (Prince Co.) |  |  |  |  |  |  | 11,000 |  |  |
| Wilmot river- |  |  |  |  |  |  |  |  |  |
| Clarks pond (Prince Co.) |  |  |  |  |  |  | 0,400 |  |  |
| Biological Board- |  |  |  |  |  |  |  |  |  |
| Mr. White... |  |  |  |  |  |  | 5,000 |  |  |
| Cardigan Bay- |  |  |  |  |  |  |  |  |  |
| Cardigan river (Kings Co.)... | 25,200 |  |  |  |  |  |  |  |  |
| Now Perth stream (Kings Co.) |  |  |  |  |  | 11,000 |  |  |  |
| Cascumpeque Bay- ${ }_{\text {Cains stream ( }}$ (Pince Co.) |  |  |  |  |  |  |  |  |  |
| Cains stream (Prince Co.) |  |  |  |  |  |  | 12,000 8,000 |  |  |
| Stewarts pond (Kings Co.) |  |  |  |  |  |  | 8,000 |  |  |
| Trout river (Prince Co.). |  |  |  |  |  |  | 12,000 |  |  |
| Charlottetown Harbour- |  |  |  |  |  |  |  |  |  |
| Hatchery pond (Queens Co.) |  |  |  |  |  |  |  |  | 102 |
| Cove Head Bay- |  |  |  |  |  |  |  |  |  |
| Black river (Queens Co.). |  |  |  |  |  | 11,000 |  |  |  |
| Essorys brook (Queens Co.) |  |  |  |  |  |  |  | 2,000 |  |
| Egmont Bay- |  |  |  |  |  |  |  |  |  |
| Enmore river (Prince Co.) |  |  |  |  |  |  |  | 1,000 |  |
| Fortune Bay- |  |  |  |  |  |  |  |  |  |
| Fortune river- |  |  |  |  |  |  |  |  |  |
| North branch (Kings Co.) |  |  |  |  |  |  | 13,560 |  |  |
| West branch (Kings Co.), |  |  |  |  |  |  | 13,560 |  |  |
| Gulf of St. Lawrenee- |  |  |  |  |  |  |  |  |  |
| Bear river (Kings Co.) |  |  |  |  |  |  | 8,000 |  |  |
| Big pond (Kings Co.) |  |  | 8,120 |  |  |  | 12,000 |  |  |
| Big Tignish (Prince Co.). |  |  | 31,080 |  |  |  |  |  |  |
| Blooming Point Pond- |  |  |  |  |  |  |  |  |  |
| McCormac's brook. <br> O'Harn's brook |  |  |  |  |  | 10,000 |  |  |  |
| O'Hara's brook... |  |  |  |  |  | 10,000 | 10,000 12,000 |  |  |


|  | Atlantic salmon fry | Atlantic salmon advanced fry | Atlantic salmon No. 1 fingerlings | Rainbow trout No. 2 fingerlings | Speckled trout fry | $\begin{gathered} \text { Speckled } \\ \text { trout } \\ \text { No. } 1 \\ \text { fingerlings } \end{gathered}$ | Speckled trout No. 2 fingerlings | Speckled trout No. 3 fingerlings | Speckled trout No. 4 fingerlings |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |
| Goose river (Kings Co.) |  |  |  |  |  |  | 12,000 |  |  |
| Hay or Crooked river (Kings Co.) |  |  |  |  |  |  | 12,000 |  | ....... |
| Haywood pond (Prince Co.)....... |  |  |  |  |  |  | 1,000 |  | ........ |
| Naufrage river (Kings Co.) |  |  | 27,840 |  |  |  | 1,0... |  |  |
| Naffrage pond (Kings Co.) |  |  |  |  |  |  | 4,000 |  |  |
| North lake (Kings Co.)........ |  |  |  |  |  |  | 12,000 |  |  |
| Norlh river (Kings Co.) |  |  | 8,120 |  |  |  |  |  |  |
| Priests pond (Kings Co.) |  |  |  |  |  |  | 12,000 |  |  |
| Round pond (Prince Co.) |  |  |  |  |  |  | 1,000 |  |  |
| Schooner pondLewis stream (Kings Co.) |  | 14,000 |  |  |  |  |  |  |  |
| Hillsboro Bay- |  |  |  |  |  |  |  |  |  |
| Hillsboro river. |  | 25,320 |  |  |  |  |  |  |  |
| Glenfinnan lake (Queens Co.) |  |  |  | 0,762 |  |  |  |  |  |
| Johnstons river (Queens Co.)..... |  |  | 28,120 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Gates Mill pond (Queens Co |  |  |  |  |  |  | 3,000 |  |  |
| Matton stream (Queens Co.) Warren's pond (Kings Co.). |  |  |  |  |  | 6,000 |  |  |  |
| New London Bay- |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Newton river (Qucens Co.). |  |  |  |  |  |  | 4,000 |  |  |
| Vernon river- |  |  |  |  |  |  |  |  |  |
| McMillan's pond (Queens Co.) |  |  |  |  |  | 11,C00 |  |  | .......... |
| Northumberland Strait- |  |  |  |  |  |  |  |  |  |
| Bell river (Queens Co.). |  |  |  |  |  |  | 8,000 |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Chichester Cove- |  |  |  |  |  |  |  |  |  |
| Tulpin pond $\qquad$ |  |  |  |  |  |  | 5,550 |  |  |
| Darnley Busin- ${ }^{\text {Britic river ( }}$ ( ${ }^{\text {a }}$ ) |  |  |  |  |  |  | 5, 200 |  |  |

Malpeque Bay
Barlow pond (Prince Co.).
Bedciord river (Prince Co.)
rout rivor (Prince Co.
Rustico Harbour-
Campbells pond (Queens Co.)
Whentley river-
Clyde river (Queens Co.)
Rackhams pond (Queens Co.)
Woods pond (Queens Co.)
St. Peters Bay..
Midgell river
Morell river (Kings Co.).
Fishers brook (Kings Co.)
Gillans stream (Kings Co.)
MeKinnons brook (Kings Co.)
Mooncys pond (Kings Co.).
Quigleys pond (Kings Co.)
St. Peters lake-
Lot 40 pond (Kings Co.)
Tracadie Bry-
Donaldsons stream (Queens Co.)
Winter river (Queens Co.)
Hardy's stream
Watt's stream (Queens Co.).


## GULL HARBOUR HATCHERY

| - | $\underset{\text { Pry }}{\substack{\text { Pickerel }}}$ | $\begin{gathered} \text { Whitefish } \\ \text { fry } \end{gathered}$ |
| :---: | :---: | :---: |
| Lake Winnipeg- |  |  |
| Big jisland, east. | 1,000,000 | 5,000,000 |
| Big island, north. | $1,000,000$ $1,000,000$ | 12,000,000 |
| Black island, west | 724,000 | $9,900,0000$ |
| Deer island, east. |  | 3,000,000 |
| Punk island, north |  | 4,500,000 |
| Punk island, south | 1,500,000 | $5,000,000$ $1,200,000$ |
| Big Bullhead bay |  | 2,000,000 |
| Disboro's bay... |  | 1,200,000 |
| Flathead..... |  | 2,400,000 |
| Hatchery bay |  | 1,200,000 |
| Helgie's island. |  | 1,200,000 |
| Hudson Bay Company's bay |  | 1,200,000 |
| Lobstick island. |  | 1, 1,90000000 |
| Matheson island, so |  | 2,000,000 |
| McKay island. |  | 1,200,000 |
|  |  | 2,400,000 |
| Red river, between Selkirk and Locks | 150,000 |  |
| Red river, between Locks and Winnipeg. | 250,000 |  |
| Roman Catholic Mission bay |  | $1,200,000$ $1,200,000$ |
| Taper's island |  | 1, 200,000 |
| Whiteway's island |  | 1,200,000 |
| Bittern lake, near Roblin. | 100,000 |  |
| Bower lake, S. 22, T. 1, R. 20 , W | 100,000 |  |
| Child lake, T. 30, R. 27, W. 1st | 50,000 100000 |  |
| Goose lake, near Roblin.... | 100,000 |  |
| Gull lake, S. 35, 36, T. 16, R. 7, E. of 1s | 150,000 |  |
| Happy lake, S. 21, T. 30, R. 28, W. 1st. | 100,000 |  |
| Jackfish lake, near Roblin.. | 125,000 |  |
| Killarney lake, near Killarney. | 125,000 | ....... |
| Lake Marion, near Ophir. | 100,000 |  |
| Little Saskatchewan river, near Brandon | 175,000 | ........ |
| Madge lake, Sask., northeast of Kamsack | 125,000 |  |
| Max lake, near Boissevain. | 100,000 |  |
| Metigosche, near Boissevain. | 125,000 |  |
| Minnedosa lake, near Minnedosa | 100,000 |  |
| Oddifellow's lake, near Roblin. | 100,000 | ......... |
| Olson's lake, near Roblin... | 50,000 |  |
| Pelican lake, near Ninette. | 100,000 |  |
| Perch lake, near Inglis. | 100, 000 | ........ |
| Rock lake, near Glenora. | 100,000 |  |
| Round lake, Inglis.. | 100,000 |  |
| Shingoosh lake, near Deepdale | 50,000 | ........ |
| Sorbos lake, near Roblin. | 75,000 |  |
| Souris river, near Melita and Deloraine. | 100,000 |  |
| Williams lake, near Boissevain......... | 100,000 |  |
|  | 100,000 |  |
|  | 8,274,000 | 63,300,000 |

Total distribution
$71,574,000$
SWAN CREEK HATCHERY

|  | Pickerel green eggs | Pickerel fry |
| :---: | :---: | :---: |
| Lake Manitoba- |  |  |
| Swan creek... | 29,240,000 | 28,500,000 |
| Finnur's creek. |  | 33,500, 000 |
| Finnur's creek. |  | 7,700,000 |
|  | 29,240,000 | 69,700,000 |

## WINNIPEGOSIS HATCHERY



Total distribution.
66,937,735
FORT QU'APPELLE HATCHERY

| - |  | Brown trout No. 1 fingerling | Piekerel fry | Whitefish eyed eggs | $\begin{aligned} & \text { White- } \\ & \text { fish } \\ & \text { fry } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Intelope lake, 15-18 W. 3. |  |  |  |  | 250,000 |
| Beaver riverMakwa lake |  |  |  |  | 1,000,000 |
| Biological Board, Winnipeg, Minn. |  |  |  | 10,000 |  |
| Cowan river- |  |  |  |  | 2,000,000 |
| Cypress lake- |  |  |  |  | 2,00,00 |
| Sucker creek. | 52,000 |  |  |  |  |
| Frenchman river- |  |  |  |  |  |
| Belanger creek. | 68, 000 |  |  |  |  |
| Uglums pond ......... | 4,000 |  |  |  |  |
| Little Quill lake, Wadena, Sask.- |  |  |  |  | 500,000 |
| Quill creek....................... |  |  |  |  | 500,000 |
| Manitou lake- |  |  |  |  |  |
| Eyehill creek |  |  |  |  | 250,000 |
| Midnight lake- |  |  |  |  | 1,000,000 |
| Milk river- |  |  |  |  | 1,00,000 |
| Hungerford lake | 10,000 |  |  |  |  |
| Yorth Saskatclewan river Jackfish late |  |  |  |  | 2,000,000 |
| Turtle lake. |  |  |  |  | 2,006,000 |
| Qu'Appelle river |  |  |  |  |  |
| Echo lake.: |  |  | 805,000 |  | 1,105,000 |
| Katepwa lake |  |  |  |  |  |
| Long lake.. |  |  |  |  | 1,000,000 |
| Sioux lake |  |  |  |  | 1,000,000 |
| Swilt Currentriver- |  |  |  |  |  |
| Bone creek. |  | 55,397 |  |  |  |
|  | 134,000 | 55,397 | 805,000 | 10,000 | 14,605,000 |


| - | Brown trout fry | Brown trout advanced fry | Brown trout No. fingerlings | Cut- <br> throat trout advanced fry | Cut. throat trout No. 1 fingerlings | Cutthroat trout No. 2 fingerlings | Cutthroat trout old fish, 83 yrs. | Loch Leven trout fry | Loch Leven trout advanced fry | Loch <br> Leven trout No. 1 fingerlings |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bow river- |  |  |  |  |  |  |  |  |  |  |
| Anthracite creok. |  |  |  | 15,000 |  |  |  |  |  |  |
| Baker creek. |  |  |  |  | 20,000 |  |  |  |  |  |
| Big Hilicereek. |  |  |  | 35,000 |  |  |  |  |  |  |
| Boom lako... |  |  |  |  | 20,000 |  |  |  |  |  |
| Cold creek. |  |  |  |  | 30,000 |  |  |  |  |  |
| Consolation lake. |  |  |  |  | 16,000 |  |  |  |  | . . . . . . . . . . . |
| Exshaw lakes. | . $: . . .$. |  |  | 40,000 |  |  |  |  |  |  |
| Four Mile ereek. |  |  |  | 5,000 |  |  |  |  |  |  |
| Gap ereek....... |  |  |  | 15,000 |  |  |  |  |  |  |
| Hatchery strcam. |  |  |  |  |  | 264 |  |  |  |  |
| Hay Meadow ereek |  |  |  |  | 35,000 |  |  |  |  |  |
| Healy ereek....... |  |  |  |  | 20,000 |  | .. |  |  | .......... |
| Highwood river- <br> Flatt ereek. |  |  |  |  | 20,000 |  |  |  | .... . . . | .......... |
| Pekisko ereek. |  |  |  |  |  |  |  |  |  | ........... |
| Sullivan creek. |  |  |  |  |  |  |  | . |  | . . . . . . . . . . . |
| Jumping Pound creek |  |  |  |  | 19,090 |  |  |  |  |  |
| Bear ereek....... |  |  | . . . . . . . . . . |  | 0, 5, 45 |  |  |  |  | . |
| Muskeg creek. |  |  |  |  | 9,545 |  | . . . . . . . . |  |  | . . . . . . . . |
| Sibbald ereek. |  |  |  |  | 14,315 |  |  |  |  | . . . . . . . . . |
| Lake Louise. . . . |  |  |  | 30,000 |  |  |  |  |  |  |
| Lake Mínnewanka. |  |  |  |  |  |  |  |  |  | . . . . . . . . |
| Massive ereek. |  |  |  | 25, 000 |  |  |  |  |  | ... . . . . . . |
| Moraine lake... |  |  |  | 35, 000 |  |  |  |  |  |  |
| North Sheep ereek- |  |  |  | 35,000 |  |  |  |  |  |  |
| Fisher creek. |  |  |  |  | 15,000 |  |  |  |  | ......... |
| Sennet ereek. |  |  |  |  | 10,000 |  |  |  |  | . . . . . . . . . |
| Pedersen creek. |  |  |  | 10,000 |  |  |  |  |  | . . . . . . . . . |
| Pipestone river |  |  |  | 20,000 |  |  |  |  |  | . . . . . . . . |
| Mud lake.. |  |  |  | 20,000 |  | . |  |  |  |  |
| Policeman reek. |  |  |  | 37,500 |  |  |  |  |  | . . . . . . . . . |
| Pond at Keith- |  |  |  |  |  |  |  |  |  |  |
| Calgary Fish and Game |  |  |  | 20,000 |  |  |  |  |  |  |
| Red Earth creek. . |  |  |  |  | 20,000 |  |  |  |  |  |
| Egypt lake. |  |  |  |  | 24,000 |  |  |  |  | . . . . . . . . |
| Shadow lake. |  |  |  |  | 42,300 |  |  |  |  |  |
| South Fish creek. |  |  |  |  |  |  |  |  |  |  |
| South Sheep oreok. |  |  |  |  | 20,000 15,000 |  |  |  |  |  |

Gorge creok
Junction creck
Spencer creck.
Sundance creek.
Sundance 1 agoon
Sundance laroon
Vermillion la
Vista lake..
Vista lake......
Whiskey creek
Calgary exhibition.
Cochrane lake (no outlet), 'T. 26, R. 4
Elbow river-
Bragg creek.
Chinnum spring
Lott's ereek
Michle creek
McLean creck
Pirmez creck
Ranger creek
Rennick creek.
Robinson creek
Whitley spring
Herbert lake (no outlet), P. 29, R. 16
Hose Spring creek (no outlet), T. 34, 1R. 3 and 4
Kicking Horse-
Emernld ereck-
Emerald lako.
Giddie creek
Sink and Waptalakes-
Ross lake
Wapta lake-
Cataract creek
Lake O'Hara
Kootenay river-
Vermillion river
Milk river-
Battle creck.
Grayburn creek.
North Saskatehewan river-
Japtiste river-
Chambers ereek
tawrence creek.
Rath creek.
Buster ereek
Clearwater river-...
Alford creek
Musker creek
Phylis lake.
Prairie creek.
South Prairie creek
Anhrereck.


BANFF HATCHERY-Continued

racite er
Big Hill cree.
Boom lake
Consolation lake
Exshaw lakes.
Exshaw Mile creek.
Four Mile
Gap ereek
Hatchery stream
Hay Mcadow creek
Healy creek.
Highwood river-
Flatt creek
Pekisko creek
Sullivan creek
Jumping Pound creek
Bear creek.
Musker creet
Sibbald creek
Lake Louise.
Lake Minnewanka.
Massive creek
Moraine lake.
North Sheep creek-
Fisher creek
Sennet creek
Pederson creek
Pipestone river
Mud lake.
Policeman creek
Pond at Keith-
Calgary Fish and Game Association.
Red Earth creek
Egypt lake
Shadow lake


号 Shunda creck
Old Trout ereek.
$\underset{5}{2}$ North Willow creek
Ottawa, Ontario
Red Deer river-
Red Deer river
Bull creek
Dennison creek
Dennison creek. .
Earble creck.
Eafle creek...
Tripod ercel
James river-
Bread creek
Scotty's spring
Tcepee Pole creek
Johanson ercek.
Little Red Deer river
Dog Pound.
Swanson creck
Grease creck-
Mill creek
Rond creck
Logan creek
North Bearberry creek
Silver ereck
Smith creek.
South Ravon
Beaver creck
Beaver creck
Clayson
Spring crcek.
Willigms creek
illiams creek...
Hauling creek


|  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  | 崖 |
|  |  |  |  |  |  |  |  |  |  |
| 1 |  |  | 18,000 |  |  |  |  | …….... ${ }^{1}$ | $\left\lvert\, \begin{aligned} & \text { … . . . . . . . } \\ & \cdots \\ & \cdots \end{aligned}\right.$ |
|  |  |  |  |  |  |  |  |  |  |
|  | ....... |  | - . . . . . . . | .......... |  |  | . $\cdot$ | .......... | . . . . . . . . |
|  | . . . . . . . . . |  |  |  |  |  |  |  | . . . . . . . . . . . |
|  |  |  |  | . |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  | . |
|  |  |  |  | $\cdots$ |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  | . . . . . . . . . . . |
| . . . . . . . . |  |  |  |  |  |  |  |  | . . . . . . . . |
|  |  |  | . . . . . . | $\cdot$ |  | .......... |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  | . . . . . |
|  |  |  |  |  |  |  | ........... | , | . . . . . . . . . . . |
|  | .......... |  |  |  |  |  |  |  | . . . . . . . . . . . |
|  |  |  |  |  |  |  |  |  | . . . . |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  | . $\cdot$ | -••••••• |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| 2 | 15,000 | 25,000 | 138,500 | 30 | 5 | 19,500 | 8,000 | 3 | 1 |

## JASPER PARK HATCHERY

Rainbow trout ..... fry
McLeod river-
Carrot creek ..... 13,217
Edson river ..... 20,000
Hornback creek ..... 25,000
Trout creek ..... 30,000
Pembina river- Chip lake-
Lobstick river .................................................... 20,000
Total distribution ..... 123,217

## LESSER SLAVE LAKE HATCHERY

|  | Pickerel fry | Whitefish green eggs | Whitefish fry |
| :---: | :---: | :---: | :---: |
| Lesser Slave lake- |  |  |  |
| Assineau Point. | 2,200,000 |  |  |
| Auger bay ......... | 5,200, 000 |  | 14,800,000 |
| Bay east of hatchery. |  |  | 900,000 |
| Bay west of hatchery Canyon creek....... | $2,000,000$ |  | 6,075,000 |
| Cut bank.... | 2,000,000 |  |  |
| Dog island |  |  | 3, 000,0000 |
| Driftpile point |  |  | 1,800,000 |
| East end. ...... |  | 6,000,000 |  |
| East of Nine Mile. | 500,000 |  | 2,000,000 |
| Faust, Alta. |  |  | 1,000,000 |
| Nine Mile Point. | 2,865,000 |  | 9,200,000 |
| North shore.......... | 1,100,000 |  | 3,411,000 |
| North shore narrows. |  |  | 800,000 |
| Widewater. | 500, 000 | 6,525,000 |  |
| Windy bay. | 2,500,000 |  | 5,625,000 |
|  | 16,865,000 | 12,525,000 | 70,671,000 |

Total distribution
$100,061,000$

## SPRAY LAKES HATCHERY

(Subsidiary to Banff hatchery)
Cutthroat trout fry

## Bow river-


Bryant creek ..................................................... 25.000
Marvel lake .................................................... 24,000
Hatchery creek, mouth of .......................................... 30.940
Smutts creek ......................................................... 8,000
Spray lake-
Near head of lake ............................................... 60,000
North bay .................................................................. 48,000
Spray creek--

Pond 1 mile above lake ......................................... 20,000
Upper lake ........................................................... 40,000
Two small creeks at head of lake ............................... $\quad 6,000$
Total distribution . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 290,240

WATERTON LAKES HATCHERY


## WATERTON LAKES HATCHERY-Concluded

|  | $\left\lvert\, \begin{gathered} \text { Cutthroat } \\ \text { trout } \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} \text { Cutthrost } \\ \text { trout } \end{gathered}\right.$ | Cutthroat trout | Rainbow trout | Rainbow trout | Rainbow trout | Rainbow trout |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Adyanced } \\ \text { fry } \end{gathered}$ | $\begin{gathered} \text { No. } 1 \\ \text { fingerlings } \end{gathered}$ | $\begin{gathered} \text { No. } 3 \\ \text { fingerlings } \end{gathered}$ | $\begin{gathered} \text { Advanced } \\ \text { fry }^{2} \end{gathered}$ | No. 1 fingerlings | No. 2 fingerlings | No. 5 fingerlings |
| Waterton river- |  |  |  |  |  |  |  |
| Avion lake.. |  | 20,000 |  |  |  |  |  |
| Boundary creek |  | 16,000 |  |  |  |  |  |
| Butcher creek. |  | 15,000 |  |  |  |  |  |
| Cameron lake.. |  | $\ldots . . . . .$. |  | 30,000 |  |  | - |
| Carpenter creek. |  | 20,000 |  |  |  |  | - |
| Copper Mine creek |  | 5,000 | …........ |  |  |  | . |
| Cottonwood creek. | 20,000 |  |  |  |  |  | ............ |
| Drywood creek (north fork) | 15,000 |  |  |  |  |  |  |
| Drywood creek (south fork). | 20,000 |  | : ......... |  |  |  | . . . . . . . . . |
| Lone Beaver dam creek..... |  | 8,000 |  |  |  |  | . . . . . . . . . |
| Pine creek. | 20,000 | 5,00. |  |  |  |  | ......... |
| Redbox creek. | , 20.1 | 5,000 |  |  |  |  | .......... |
| Smith creek. | 20,000 |  |  |  |  | …......... |  |
| Spring creek. | 10,000 |  | 250 |  |  | 200 | $50{ }^{\circ}$ |
| Stoney creek. |  | 10,000 | .......... |  |  |  |  |
| Trail creek... | 30,000 | 10,000 |  |  |  |  |  |
|  | 488,000 | 138,500 | 250 | 197,500 | 296, 200 | 1,855 | 500 |

Total distribution.
$1,122,805$
ANDERSON LAKE HATCHERY

| - | Sockeye salmon eyed eggs | Sockeye salmon advanced fry | Sookeye salmon No. 1 fingerlings | Sockeye salmon No. 4 fingerlings |
| :---: | :---: | :---: | :---: | :---: |
| Anderson lake. |  |  |  | 20,878 |
| Adlem creek |  | 240,000 | 240,000 |  |
| Beaches. |  | 240,00c | 720,000 | ............ |
| Boulder creek |  | 160,000 | 240,000 | ........... |
| Cabin creek. |  | 240,000 | 240,000 | . . . . . . . . |
| Cedar creek. |  |  | 120,940 | . . . . . . . . |
| Clemens creek |  |  | 225,000 | ........... |
| Falls creek. |  | 160,000 | 240,000 | . $\cdot$. $\cdot$. |
| Ternan creek. |  |  | 18,428 | ........... |
|  |  |  |  |  |
|  |  |  |  |  |
| Comox lake- |  |  |  |  |
| Cruikshank river. | 1,001,000 |  |  |  |
| Great Central lake-- |  |  |  |  |
| Taylor river. | 1,505,000 |  |  |  |
|  | 3, 507,000 | 1,040,000 | 2,074,368 | 20.878 |

## Total distribution

6,642,246
BABINE LAKE HATCHERY

| - | Sockeye salmon fry | Sockeye salmon No. 1 fingerlings | Sockeye salmon No. 3 fingerlings |
| :---: | :---: | :---: | :---: |
| Babine lake- |  |  |  |
| Morrison creek. |  | 793,360 | 395,750 |
| Morrison lake... | 4,909,949 | 5,138 |  |
| Beaver lagoon. | 250,000 |  |  |
|  | 5,159,949 | 798,498 | 395,750 |

COWICHAN LAKE HATCHERY



CRANBROOK HATCHERY


Total distribution
1,088,095
CULTUS LAKE FATCHERY

|  | Chum salmon fry | Coho <br> salmon green eggs | Coho salmon eyed eggs | Cut- <br> throat <br> eyed eggs | Sockeye salmon eyed eggs | Sockeye salmon fry | Sockeye salmon No. 2 fingerlings | Steclhead salmon fry |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Biological Board- |  | 758,000 |  |  |  |  |  |  |
| Fraser river |  | 758,000 |  |  |  | 520,000 | .......... |  |
| Harrison lake. |  |  |  |  |  |  | 31,201 |  |
| Hatebery creck |  |  |  |  | 144,000 |  |  |  |
| Vedder river... |  | . . . . | .... |  | ........ |  |  | 82,465 |
| Cultus lake..... | 27,000 | . |  |  | ......... | 7,858,770 | ....... |  |
| Watts creck. |  |  |  |  |  | 300,000 |  |  |
| Lumchin creek. |  |  |  | 10,000 |  | 30,000 |  |  |
| Sweltzer creek. |  |  | 243,568 |  |  |  |  | 3,938 |
|  | 27,000 | 758,000 | 243,568 | 10,000 | 144,000 | 8,678,770 | 31,201 | 86,403 |

## GERRARD HATCHERY



Total distribution
687,120

KENNEDY LAKE HATCHERY


## Lakelse lake hatchery



Total distribution.
$8,047,195$

## LLOYDS CREEK HA'TCHERY

| Alberni District- |
| :---: |
|  |  |
|  |
| Great Central lake |
| Sproat lake |
| Fraser river- |
| Bonchie lake |
| Pavilion lake |
| Serpentine river (near Tynehead) |
| Silver creek |
| Williams lake |
| Harrison lake- |
| Hiclss lake |
| Weaver lake |
| Japan (Tokyo Angling and Country Club)) |
| Morse Inlet- |
| Cloyah river- |
| Cloyah lake |
| Nechako riverCIncluz lake- |
|  |  |
|  |
| North Thompson river- |
| Kanongli lake |
| Paul lake- |
| Paul areck |
| Pinantan lake-- |
| Pinantan creck |
| Sea-Cousins Inlet- |
| Cousins Inlet- |
| Link lake (Ocean Falls) |
| Shuswap District- |
| Shuswap lake- |
| Canoe river |
| Granite ereek |
| Palmer creek |
| Reinecker ercek |
|  |
| Owl Head creek |
| Skeena river- |
| Buckley river- |
| Kathlyn lake |
| Total clistribution |


| $\square$ | $\begin{gathered} \text { Cutthroat } \\ \text { trout } \\ \text { fry } \end{gathered}$ | Kamloops trout eyed eggs | $\underset{\substack{\text { Kamloops } \\ \text { trout } \\ \text { fry }}}{ }$ | Kennerly's salmon green eggs | Kennerly's salmon eyed eggs | $\begin{aligned} & \text { Kon- } \\ & \text { nerly's } \\ & \text { salmon } \\ & \text { fry } \end{aligned}$ | Rainbow <br> trout fry | Speokled trout eyed eggs | Speckled trout fry | Whitefish fry |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Arrow lakes. |  |  |  |  | 100,000 |  |  |  |  | 1,630,000 |
| Inonaklin river. |  |  |  |  |  |  |  |  | 20,000 | 1,630,000 |
| Little Slocan lakes. |  |  |  |  |  |  |  | . . . . . . . | 25,000 |  |
| Lower Arrow- |  |  |  |  |  |  |  |  |  |  |
| Octopus creek. |  | 35,000 35,000 |  |  |  |  |  |  |  | $\cdots \cdots 00000$ |
| Slocan river...... |  | 35,000 |  |  |  |  |  |  |  | 160,000 |
| Slocan lake....... |  | 75,000 |  |  |  | 202,437 |  |  |  |  |
| Bonanza creekSummit lake. |  |  |  |  |  |  |  |  |  |  |
| Summit lake. <br> Cahill lake....... |  | 25,000 25,000 |  |  |  |  |  |  |  |  |
| S Springer creek |  |  |  |  | 200,000 |  |  |  |  |  |
| Biological Board.. |  |  | 35,538 |  | 100,000 | ......... | 3,000 | .......... | ......... | . . . . . . . . |
| Cranbrook District- <br> Moyie river- |  |  |  |  |  |  |  |  |  |  |
| Palmer Bar creek. |  |  |  |  |  |  |  | 30,000 | , |  |
| Cranbrook Hatchery- |  |  |  |  |  |  |  |  |  |  |
| Cedar lakes (Golden District). |  |  | 11,250 |  |  |  |  |  |  |  |
| Fernie DistrictElk river- |  |  |  |  |  |  |  |  |  |  |
| Alexander creek. |  |  |  |  |  |  |  | 17,510 | , |  |
| Hosmer creck. |  |  |  |  |  | - . . . . | . . . . $\cdot$, | 20,000 | , |  |
| Lizard creek. |  | . . . . . . . . | . . . . . . . |  |  | . $\cdot$. | . . . . | 25,000 | . . . . . . . . |  |
| McCool creek. |  |  |  |  |  |  |  | 20,000 | - |  |
| Michel creek. |  |  |  |  |  |  |  | 20,000 |  |  |
| Mornisey creck. |  |  | - $\cdot$, $\cdot$. |  | ...... |  | - . - - - - | 25,000 |  |  |
| Unnamed lake. |  |  |  |  |  |  |  | 20,000 |  |  |
| Heddle Trout Farms. |  |  |  |  |  |  | . . . . . $\cdot$. |  | 5,000 |  |
| Kootenay lake. |  |  |  |  |  |  | . . . . . . . |  |  | 730,000 |
| Bealby's point. |  |  |  |  |  |  |  |  |  | 120,000 |
| Bickers point. |  |  |  |  |  |  |  |  |  | 60,000 |
| Corn creek... |  |  |  |  |  |  |  | 25,000 |  |  |
| Cottonwood creek |  |  |  |  |  |  |  |  |  | 199,000 |
| Crescont bay. |  |  |  |  |  |  |  | - $\cdot$, $\cdot$, |  | 60,000 |
| Ferry crossing. |  |  |  |  |  |  |  |  |  | 60,000 |
| Goat river- |  |  |  |  |  |  |  |  |  |  |
| Meadow creck. Grohman creek.... |  |  |  |  |  |  |  | 30,000 |  | 100,000 |
| Grohman creek. |  |  |  |  |  |  |  |  |  | 100,000 60,000 |
| Kaslo creek... |  |  |  |  |  |  |  |  | 30,000 |  |



## ,

60,000 280,000 120,000 REPORT OF THE DEPUTY MINISTER

PEMBERTON HATCHERY


## PENASK LAKE HATCHERY

| - | Kamloops trout eyed eggs | Kamloops trout fry |
| :---: | :---: | :---: |
| Hope, B.C.- |  |  |
| Haig lake, 4 miles from Hope... | 10,000 15,000 |  |
| Nicola river- |  |  |
| . Penask lake. | 49,250 |  |
| Penask creek |  | 172,130 |
| Vancouver Island- |  |  |
| Forbidden Plateau- |  |  |
| Circle lake.... | 40, 000 |  |
| Francis lake. | 10,000 | ........ |
| Isobel lake. | 20,000 |  |
| Johnston lake. | 40, 000 |  |
| Mariwood lake. | 10,000 |  |
| McKenzie lake. | 40, 000 |  |
| Meadow lake. | 40,000 |  |
| Stanley Park hatchery. | 50,000 | . |
| Sumnyside hatchery, Ioco, B.C. | 50,000 |  |
| Messrs. Ewing and Best (private hatchery) | 30,000 |  |
|  | 404,250 | 172,130 |
|  |  |  |

## PITT LAKE HATCHERY

| - | Sockeye salmon eyed eggs | Sockeye salmon fry | Sockeye salmon No. 1 fingerlings |
| :---: | :---: | :---: | :---: |
| Upper Pitt river. |  |  | 174,608 |
| Chas. Peter's creek. |  | 1,000,000 |  |
| Four Mile creek. | 430,000 | 600,000 | ........ |
| Four Mile slough. |  | 1,000,000 | - ${ }^{\text {, }}$ |
| Mountain slough. |  | 1,200,000 | ....... |
| Seven Mile creek. |  | 1,000,000 | . |
|  | 430,000 | 4,800,000 | 174,603 |

## RIVERS INLET HATCHERY


Total distribution
$19,294,983$

## SQUILAX CAMP

## Sockeye salmon green eggs

Biological Board-
Taft, B.C. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 769,500
Shuswap lake-

Scotch ereek
170,100
Total distribution
$1,257,100$

STUART LAKE HATCHERY

| - | Sockeye salmon green eggs | Sockeye salmon eyed eggs |
| :---: | :---: | :---: |
| Stuart lake Middle river- |  |  |
|  |  |  |
| Kynoch creek. <br> Rossetti creek | 250,000 | 104, 400 |
|  |  | 94,500 |
|  | 250,000 | 198,900 |

Total distribution
448,000

SUMMERLAND HATCHERY

| - | Kamloops trout eyed eggs | Kamloops trout iry | Speckled trout eyed eggs | Speckled trout fry |
| :---: | :---: | :---: | :---: | :---: |
| Columbia river- |  |  |  |  |
| Kettle river east. |  |  | 30,000 |  |
| Kettle river west. |  |  | 30,000 |  |
| Lake Vale.... |  | 12,000 |  |  |
| One Mile creek. |  |  | 20,000 |  |
| Similkameen river- |  |  | 30,000 |  |
| Clearwater lake. | 12,000 |  | 30,000 |  |
| Osoyoos lake... |  | 14,000 |  |  |
| Tulameen river. |  |  | 30,000 |  |
| Okanagan lake- .... |  | 45,825 |  |  |
| Bear creek.... |  |  | 20,000 | . . . . |
| Burgesons lake. |  | 6,000 | .......... | . $\cdot$. |
| Burns lake.. |  | 10,000 |  |  |
| Chute lake. |  | 12,000 |  |  |
| Davis lake. |  | 6,000 |  |  |
| Deep lake. |  | 2,000 |  |  |
| Dog lake.. |  | 16,000 |  |  |
| Fish lake. |  | 8,000 |  |  |
| Glenmore lake.. |  |  |  | 7,350 |
| Kalamalka lake |  | 47,000 | 25,000 |  |
| Mission creek.. |  | 6,000 | 25,000 | . $\cdot$. . |
| Ospray lake. |  | 14,000 |  |  |
| Silver lake. |  | 6,000 |  |  |
| Vasseaux lake. |  | 14,000 |  |  |
| Woods lake. |  | 16,000 |  |  |
| Shuswap river- |  |  |  |  |
| Mable lake.. | 40,000 |  |  |  |
|  | 52,000 | 234,825 | 185,000 | 7,350 |

## APPENDIX No. 4

## Report of C. Bruce, A.M.E.I.C., Fisheries Engineer

The work of the Engineering Division includes operations conducted by the department under the following headings:-
(a) Building fishways and clearing rivers.
(b) Construction and repairs of fish cultural establishments.
(c) Construction for the Biological Board.
(d) Investigations and surveys.
(e) Supervision of scallop investigations.
(f) General.

All work in British Columbia is under the direct supervision of Resident Engineer J. McHugh, with headquarters at Vancouver, while in the Maritime Provinces much of the actual construction and repair is performed under the supervision of Construction Foreman Charles F. Stevens, with headquarters at Saint John.

The following report is submitted covering the various activities of this division.

## Building Fishwats and Clearing Rivers

## NOVA SCOTIA

Milton Stream, Yarmouth County.-An additional compartment was built at the foot of the fishway in the dam at the outlet of Doctor lake to make it more effective. Numbers of alewives and sea trout ascend this fishway.

Tusket River, Yarmouth County.-Since the completion of the hydroelectric development at the head of the tide in this river a large proportion of the water is diverted from the main river bed. In order to facilitate the ascent of fish in the river below the main diversion dam a small channel was opened up for a length of about 400 feet where the water was shallow.

Attention by an Engineer was necessary during the run of alewives in the spring to adjust the new fishway in the diversion dam where thousands of these fish had collected and were unable to ascend.

Jordan River, Shelburne County--An inspection of the five dams on this river, which were previously used for log driving, revealed that they were in such a dilapidated state that fishways could not economically be installed in them.

The upper dam at the foot of Jordan Great Lake has been permanently closed by the Nova Scotia Power Commission and the waters above it diverted into the Mersey River watershed.

After negotiations with the owners, openings were made in the four dams below so that the river now affords an unobstructed passage for fish up to the foot of Great Jordan lake.

Round Bay Brook, Shelburne County.-The action of seas.at the mouth of this brook closes it to such an extent that the descent of young alewives is preyented during low water periods. Permanent work is not feasible, except, perhaps, at a cost virtually prohibitive and accordingly provision was made to have a small channel opened as occasion required.

Barrington River, Shelburne County.-Screens were again placed to divert ascending fish from the tailrace of the woollen mill where they previously ascended and stranded.

Payzants Brook, Queens County.-While this is a small stream, a heavy run of alewives ascend it for spawning. During the summer months when it is low ascending fish were stranded in large numbers and to overcome this channels were opened up at various places in which the flow is concentrated.

Broad River, Queens County.-The concrete wall of the fishway in the dam at the mouth of this river was repaired where it had been broken off by a heavy ice jam.

Mersey River, Queens County.-The operation of the three hydro-electric plants by the Nova Scotia Commission, which started during the year, resulted in several conditions requiring attention. In general, the discharge from these plants is confined to that issuing from the turbines, but on occasions there was some overflow from the spillways for short intervals. During these intervals numbers of salmon ascended the channels from the spillways and when the fiow of water stopped they became stranded among the rocks.

Wire screen barriers were erected at No. 2 and No. 3 developments to prevent the destruction of salmon and, later, as it was impossible to maintain the screen at No. 2 development, a cribwork barrier about 200 feet long was built in lieu of the screen.

Some repairs to the fishway at Milton were made where the concrete had eroded from the action of frost.

Petite Riviere, Lunenburg County.-Improvements were made to the fishway at Conquerall Mills and the approach channel was deepened to facilitate the ascent of fish.

A screen was erected across the lower end of the tail-race canal of the hydro-electric plant located at the inlet of lake Fancy to prevent the ascent of.salmon and eliminate poaching as far as possible.

Tangier River, Halifax County.-Obstructions consisting of accumulated debris were removed at two places on the river and an opening made through an old dam which came to light when the power dam pond near the mouth of the river was drained off.

Porters Lake, Halifax County.-A channel was opened up between the lake and the ocean to permit the passage of fish.

St. Andrew River, Colchester County.-A jam consisting of old logs and debris, which prevented the ascent of fish was removed.

Bear River, Digby County.-Several large boulders which retarded the passage of salmon were blasted out.

Round Hill River, Annapolis County.-The top was blasted off of a small rock fall below which salmon collected and were unable to ascend except when the river was high.

Nictaux River, Annapolis County--Improvements consisting of blasting to widen the main channel at Wamboldts falls to facilitate the ascent of salmon, were completed.

In addition to the foregoing small obstructions consisting principally of debris, which had collected during freshets and formed obstructions to the ascent of migratory fish, were removed from the following streams under the supervision of the local inspectors concerned:-

Dunn's brook, Yarmouth county;
Benacadie river, Cape Breton county;
Gaspereau river, Cape Breton county;
Huntington brook, Cape Breton county;
Gillis brook, Cape Breton county;
Calvin brook, Cape Breton county;
Black brook, Cape Breton county;

Kilkenny brook, Cape Breton county;
McAskills brook, Cape Breton county;
Streams connecting White, Grand and Brown lakes, Cape Breton county;
Howards brook, Inverness county.
Trout Brook, Inverness County.-The sand and gravel bar across the mouth of this stream, which flows into lake Ainslie fills in from time to time, preventing the entrance of sea trout and it was necessary to make an opening through it.

Baddeck Bay. Brook, McInnis Pond and Campbell's Pond, Victoria County.-The channels connecting these ponds to the Bras d'Or lakes became blocked by sand during a heavy storm in such a manner that when the water became low the seaward migration of young alewives was prevented. The channels were cleared and opened.

## NEW BRUNSWICK

Magaguadavic River, Charlotie County.-Repairs were made to the concrete walls of the fishway over the falls at the mouth of the river, where a heary accumulation of ice had broken off a section of the wall.

Nashwaak River, York County.-Considerable trouble has been experienced in getting fish past the dam at Marysville, and it was decided last year to utilize the waste gates as a fishway by building on wing walls and placing partitions to form compartments. On completion of the work it was found that, owing to the shallow water in the river below, salmon found it difficult to enter the first compartment. This was overcome to a great extent by providing a sloping apron up which the fish were able to swim, but further modifications are under consideration.

## PRINCE EDWARD ISLAND

Vernon River Queens County.-The fishway built in the dam at the mouth of this river some years ago was repaired and caulked.

## MANITOBA

Whitemud River.-The fishways in the dams at Gladstone and Westburne on this river, while effective to some extent, did not afford a passage for the ascent of the large numbers of suckers; in fact the fish, while quite able to ascend, did not appear to seek the entrance of the fishway in either dam. It was accordingly decided to provide large gates in the dams which could be opened during short period in the spring when the fish are ascending. The work was done by a Canadian Pacific Railway crew under direction from the departmental engineer.

## BRITISH COLUMBIA

Inspections were made of streams in which obstructions to the ascent of salmon were alleged to exist, and means were taken during the year to remove obstacles where necessary. The engineers did not deem it necessary to remain on any job throughout performance of the work though examinations were made where possible during progress. It is the policy for the local inspector to accompany the engineer on all inspections and he is thereby made familiar with the requirements so that he can secure local help at the most suitable time and proceed with the work as outlined. It occasionally happens that as a result of the engineer's inspection it is decided that no work is required to be done and on other occasions it is found that climatic conditions are not suitable for work to be commenced at the time of inspection.

36710-157

Under these circumstances, the time of commencement is left to the discretion of the local inspector whose knowledge of local conditions is perhaps the best guide.

The following streams each received the attention of the engineers:-
Granite Creek.--Removal of disused log dam.
Alouette River.-Removal of $\log \mathrm{jam}$ occasioned by freshets.
Mamguam River.-Removal of debris and concentration of many intersect ing channels to one main stream.

Fish Creek.-Blasting steps in low rock falls.
Demanuel River.-Blasting steps in three low rock faces.
Cohoe Creek.-Constructing a by-pass to overcome rock falls 8 feet high, necessitating blasting and building concrete walls.

Canoe Pass Creek.-Removal of old logging debris left in the bed of the stream after the completion of logging operations.

Wakus Creek.-Removal of logs and brush which formed obstructions during the period of low flow.

Ruby Creek.--Blasting pools in rock falls 6 feet in height.
East and West Ildsted Creeks.-Removal of logs and brush which formed obstructions during the period of low flow.

Three unnamed streams at head of Pender Harbour--Removal of heavy accumulations of logs and brush which formed obstructions during periods of low flow.

After reports by local officers had been scrutinized by the engineers, minor obstructions were directed to be removed from a number of streams without further inspection. These operations were conducted under the direct supervision of the local officers, who remained in close touch with the work during its progress in each case and submitted full reports on each after completion. The streams where work of this kind was done were: Campbell river, Frock creek, Halfway creek, Matheson Channel creek, Skutz falls, Seymour creek, Boucher creek, Whonnock creek, Silverdale creek, Popcum creek, Deer creek, Crooks creek, Chaster creek, Upper Clayoquot river, Barnet creek, Beaver creek, Bush creek, Tibas lagoon, (Acteon sound), Yakoun river, Beljay and Takelly creeks, Atli inlet (Queen Charlotte Islands), Cohoe creek (Queen Charlotte Islands), Wilson creek, Thunder Bay creek, Shannon creek, Strausberg creek, Simkins creek, 103rd creek, McCoy creek, Myrtle Point creek, Lockwood creek, Luonias creek, Kelly creek, Holden Lake creek and Hanson creek.

Special trips of inspections by the engineers to these streams on completion of the works were not considered necessary in view of the fact that the local officers' reports were favourable in every instance. The expense entailed for individual inspections would be considerable and accordingly it is departmental practice that such inspections are only made if or when the engineers happen to be engaged in the particular vicinity on other projects.

The engineers made various inspections of the following streams, and, as a result, reported that proposed remedial works need not be given further consideration: Kleanza or Gold creek (Skeena river) Delebat creek (Smiths Inlet) Hobarton creek (Nitinat arm) Gold creek (Coquitlam river) Beaver creek (Fraser river) Johnson and Halfway creeks (Quatsino).

Construction by private interests of proposed high dams at Stamp river, Nimpkish river, Adams river and Meziaden river, has not yet proceeded beyond the stage of tentative plans, and while consideration has been given by the department to the design of fishways for each of these dams it has been impossible to proceed further because of delay of the promoters with regard to construction. The situation is well in hand, however, and just as soon as the exact
locations of the proposed dams are declared the necessary ground surveys will be made and plans for fishways submitted for aproval.

Seton Creek Dam.-The dam at Seton creek has been completed and plans of the proposed fishway submitted to the department. Construction of this fishway will be proceeded with by the owners of the dams as soon as plans have been approved.

Skutz Falls (Proposed fishway).--Further attention was given to the proposed fishway at Skutz falls and certain alternatives suggested by the department were given consideration on the ground.

Penticton Creek (Proposed fishway).-Plans are in course of preparation for a fishway to be incorporated in the dam, already constructed by the Municipality of Penticton, on Penticton creek, to insure the passage of trout over this obstruction.

Stamp River, Great Central Lake.-The dam at the foot of this lake was inspected and proposals to insure the safe passage of fish were submitted to the department. The suggestions made by the department will be given effect during the coming season, and hindrance to the passage of salmon into Great Central lake will be averted.

Stamp Falls Fishway.-The work of clearing this fishway of slide rock, which had fallen from the natural rock sides, was performed during the year by local labour under the superintendence of the engineers so as to allow the run of salmon to pass by unhindered.

## Construction and Repairs to Fish Cultural Establishments

## NOVA SCOTIA

Antigonish Hatchery.-Forty-eight outside troughs each, 14 feet by $10 \frac{1}{2}$ inches by $6 \frac{1}{2}$ inches, inside dimensions, were built and set up for the coming season's operations. An electrically operated automatic pneumatic water system was installed in the dwelling for domestic services.

Considerable grading was done around the grounds and soil laid on in preparation for lawns.

Bedford Hatchery.-Four new concrete rearing ponds, each 37 feet long, 4 feet wide and varying from 14 to 15 inches in depth were built adjoining the ponds which had been constructed in the previous year.

A six-foot extension was built on the garage and the entire building painted.

Middleton Hatchery.-The verandah of the dwelling was fully repaired and railings were added. The entire roof was shingled and both the dwelling and garage were painted. A hardwood floor was also laid in the kitchen.

The interior walls and ceiling of the hatchery were painted.
Margaree Hatchery.-A new icehouse, 12 feet by 16 feet, with feed room and cold room for holding fish food, was built and the roof of the barn reshingled.

Yarmouth Hatchery.-Foot troughs were installed in the hatchery and the walls and ceilings of the hatching room, feed room, office and toilet were repainted. Eight troughs, each 8 feet by $10 \frac{1}{2}$ inches by 8 inches deep, were set up outside the hatchery. A pneumatic pressure system, automatically operated, was installed for the domestic water services.

## PRINCE EDWARD ISLAND

Kellys Pond Hatchery.-The interior of the hatchery was repainted and the hatchery grounds were levelled and seeded.

Morell Retaining Pond.-A new retaining pond for salmon was built on the Morell river. Retainers consist of two pound net pots, each 45 feet long, 20 feet wide and 10 feet deep, with tunnel entrances, the upstream one connecting into the downstream one direct. Wing nets extend to both shores of the river from the downstream tunnel, guiding the salmon directly into the pounds without handling. The nets are held in position with piles driven along the sides and ends to which they are guyed.

The spawning shed and watchman's quarters are provided in a building, 22 feet long by 10 feet wide, single storey.

A pile-driver on a small scow, and a small punt, were built to facilitate the erection of the pond.

## NEW BRUNSWICK

Miramichi Hatchery.-The old wooden floor in the main hatchery had completely rotted away and in order to increase the fry capacity of the establishment a new concrete floor, with sixteen tanks built in, was completed. Each tank is 15 feet 3 inches long and 2 feet wide, varying in depth from 10 inches at the head to 13 inches at the foot. A concrete foundation wall was placed around the entire main building, replacing the piers on which the walls formerly rested, and the sills were renewed where they were rotted.

An instrumental survey of the portion of the hatchery property, covering all developments, was completed, and the hatchery supply dam was repaired.

Grand Falls Hatchery.-The floor of the refrigerator room in the icehouse was renewed with concrete and a drain pipe was laid therefrom.

Tobique Sub-hatchery.-The wings at the ends of the hatchery supply dam were extended and several small leaks repaired. Seven new lengths of pipe were laid from the dam to the hatchery. The hatchery was painted and the grounds graded between the building and the road. New stands were constructed to carry retaining tanks.

Nepisiquit Sub-hatchery.-An instrumental survey was made at Knights brook, a tributory of the Nepisiquit river, for the purpose of determining the suitability of that location for a hatchery site.

Restigouche Hatchery.-An instrumental survey of the hatchery grounds and water supply was completed.

## Alberta

Lesser Slave Lake Hatchery.-An outside tank 40 feet . nng 12 feet wide, and 2 feet deep, was built to facilitate the holding of additional numbers of whitefish fry, and an icehouse, 12 feet by 14 feet, was built on the hatchery property.

Waterton Lakes Park Hatchery.-An office and living room for the assistant were finished in the end of the hatchery building formerly used for a garage and sixteen new troughs, each 16 feet long, 10 inches wide and 6 inches deep, were set up outside, with a water supply obtained from the hatchery creek. The walls of the six outside rearing ponds and the supply thereto were faced with cement mortar.

## BRITISH COLUMBLA

Harrison Lake Hatchery.-The old wharf at this hatchery was entirely demolished and renewed. A total of 1,140 lineal feet of piling was used in the new structure, which consists of eighteen bents of three piles each, all driven to solid bottom. These are capped and decked, providing a wharf 228 feet long.

Morris Creek.--A careful examination was made of the old bank protection works at Morris creek and it was found that this stream could still continue to be used for taking ova without the immediate need of further expenditure,

Penask Hatchery.-Considerably improvement work was performed at this hatchery, requiring the services of an engineer continuously. The flume was extended upstream a distance of 200 feet to a new intake, and a new spawning fence was constructed, reinforced with foundation platform and sheet piling, with pens. In addition, about two acres of brush were cleared around the building as a fireguard.

Pemberton Hatchery.-An instrumental survey of the bed of the Birkenhead river through Lots 209 and 210, was made for the purpose of indicating the boundaries of foreshore required through these lots for fish cultural purposes and a British Columbia land surveyor was later employed to complete the survey and plans in accordance with the Land Act preparatory to expropriation proceedings being taken.

Cultus Lake Hatchery.-The old spawning fence in Sweltzer creek was demolished and an entirely new fence of cedar piling, supporting a two-inch wooden platform, was constructed in its place. Eighteen new pens, each measuring 6 feet by 12 feet, were constructed on the upper side of the fence. Twelve pens were constructed with leads and six were blind, the two pens at the extreme ends of the structure being fitted with adjustable bottoms. The fence was built of 1 -inch by 4 -inch slats at 2 -inch centres and the entire work was well tied into the banks of the stream. The construction of this fence will result in easy maintenance because of the addition of the foundation platform. In the past it has been necessary to protect the base of the fence each season by dumping in quantities of rock.

Skeena River Hatchery.-A careful survey of the Lakelse hatchery building revealed serious decay in the walls. Sills, studs and sheathing on the north and east walls, below the head tank and adjoining both settling tanks, were found to be in such bad condition that it was necessary to make immediate temporary repairs until complete restoration of the walls could be undertaken, which was impossible at the time because of the hatchery being filled to capacity with eggs. Since that time all material necessary for complete restoration has been delivered on the site and arrangements have been made to complete the work in the spring of 1931.

Attention was also given to the marine ways at this establishment. On account of frost conditions during winter months considerable trouble has been met in maintaining the track leading into the boathouse and it was found uecessary to construct concrete walls from below frost line on which to rest the ties on the section affected. This work was completed satisfactorily and no further trouble in this regard is expected.

Nelson Hatchery.-An instrumental survey of a proposed new site for the Nelson hatchery was made and complete plans, including the possibilities for water supply, were submitted to the department.

The Nelson City Council was interviewed with regard to the water supply, which was proposed to be taken from a partially disused city supply. The council later expressed itself as being unwilling to transfer its interest in this water supply to the department and so, for the time being at least, this matter remains in abeyance.

Deer Creek Retaining Ponds.-An instrumental survey of the ground available at the mouth of Deer Creek, where it flows into Stamp river, Vancouver island, was made for the purpose of reporting upon the suitability of the ground as a site for rearing ponds for spring salmon. Complete plans and reports were submitted to the department for consideration.

## Brological Board of Canada

Counting Fence McClinton Creek.-The counting fences at McClinton creek, Queen islands, for which surveys were made in 1929, were constructed under the
direct and constant supervision of Assistant Engineer Hunt, who remained on the work from April 17 to June 15. 'Two fences of approved design were constructed, one for the counting of adult fish and the other for fry. The adult fence was placed in use during the fall run and several thousand pink salmon were counted through it. The fence for counting migrating fry will not be put in use until the spring of 1931 .

In addition to the work on the fences, provision was made for the erection of two cabins for housing the workers at this substation.

Biological Building No. 2, Prince Rupert.-Contract No. 1 for the construction of Biological Building No. 2, was commenced and completed during the year. This contract provided for the necessary excavations and the erection of the building, having the basement only completed. Floors No. 1 and 2, together with the attic are left unfinished, i.e., without floor covering, wall plaster and doors and with partitions skeleton studding only.

The finished basement of this building, measuring 80 feet by 36 feet by 12 feet, contains the furnace room, which was completed under the contract and is provided with an automatic oil furnace and heating boiler. Since the contract was completed certain refrigeration equipment and machincry have been installed under separate contract by the Biological Board. This building is located at the junction of McBride street with the right of way of the Canadian National Railways, with only the right of way separating it from Building No. 1. An overhead crossing of the tracks, which is maintained by the city of Prince Rupert, gives access to the building from the water front.

The work throughout was under the constant supervision of Mr. C. C. Young, of the Prince Rupert staff, who assisted in the preparation of the original plans and specifications and to whom is very largely due the credit for the splendid workmanship evidenced throughout the building. The department's engineers visited the work from time to time for the purpose of adjudicating on matters that required definite ruling and ior measuring up for the purpose of compiling progress estimates. The final estimate was submitted August 18, 1930.

Retaining Ponds, Smiths Falls Creek, Cultus Lake.-A series of five retaining ponds was constructed in the early months of the year for the Biological Board at Smiths Falls. These ponds, constructed in a similar manner to those at Taft, are each 60 feet long, 16 feet wide and 3 feet deep, rectangular in shape, with the corners rounded off on an 8 -foot radius. Each pond is divided off in the centre by a partition 3 feet high and 40 feet long, leaving 10 feet at either end for the free circulation of water. The water supply enters each pond at the upper end on one side of the partition, circulates around and discharges at the upper end on the opposite side of the partition, where the entire rounded corner is fitted with screen measuring 15 feet 8 inches by 2 feet 8 inches of heavy galvanized wire 6 by 6 mesh .080 inch wire, to allow free discharge without suction and to prevent the escape of fry.

A low concrete dam was constructed on Smith Falls creek, 50 feet in elevation above pond delivery and an 8 -inch wooden pipe, 302 feet in length, carried to the foot of the hill. Two 6 -inch branches, having a total length of 151 feet, were laid from the main, one to the Smiths Falls hatchery and the other to the ponds, the pond supply passing along one end of the series and being tapped in five places, thus providing an individual supply of 100 gallons per minute for each pond.

The material used in the construction of the ponds was 2 -inch fir plank with slip tongue joints, the whole supported with 6 by 6 inch sills and 4 by 4 inch posts. Owing to the contour of the ground on which the ponds are built it was necessary either to excavate in the hill side or build up the low side fringing the lake shore. The latter method proved to be cheaper and accordingly piles were driven to support the lower ends of the ponds.

Retaining Ponds, Taft.--The ponds at Taft were visited during the year for the purpose of making minor adjustments to the water works and general layout.

Departure Bay Station.-The station at Departure bay was visited on several occasions to consider various matters in connection with road improvements, water works and salt water pond construction. As a result, the Provincial Government constructed a new highway in front of the property, some 300 feet further away, thus eliminating the dust nuisance and leaving the old road as a private entrance to the station.

The question of future policy in connection with a domestic water supply to the station has been fully discussed and the only feasible solution would appear to lie in the further development of the hillside springs which at present furnish this supply. The cost of piping for a supply from the city of Nanaimo distribution system, or for constructing an independent supply from Loon or Lonely lakes, involving in either case between two and three miles of pipe line, would entail heavy expenditure which can not be justified at the present time, so long as the springs, with further development at moderate cost, will continue to furnish a sufficient supply.

The fire protection system at the station was completed during the year by the installation of a 5,000 -gallon tank of creosoted timber connected by pipe line with a pump on the water front, having a capacity of 2,500 gallons per hour. The tank was erected on high ground immediately behind the station and 1,300 lineal feet of wooden supply and distribution main were installed, together with hydrants at each building. The system functions well and is a means of reducing considerably the fire hazard.

Salt water Retaining Pond, Piper's Lagoon.-With reference to the proposed pond development at Piper's Lagoon, it was found impossible to secure privileges desired from the owners of the abutting property and this matter has been left in abeyance, for the time being at least. Estimates were submitted for alternative proposals for salt. water ponds on the foreshore in front of the biological station property.

## Investigations

Mersey River.-In order to obtain definite information regarding the destruction of fish in passing through turbines of power developments, a fine mesh net was installed in the tailrace channel below No. 3 Development, owned by the Nova Scotia Power Commission on the Mersey river, Nova Scotia. A net, 100 feet long, was set in the form of a bag across the channel, but the curent proved to be of such volume, and velocity that it was impossible to hold the net and the findings are conscquently based on evidence obtained with only a portion of the channel closed off. It is proposed to continue this investigation next year when it is hoped that, with the provision of more adequate equipment, there may be no question as to results.

The investigation was continued from April 23 to May 16, cluring which period a total of 1,282 fish were taken, including white perch, salmon smolt, surkers, eels, yellow perch, trout, and spent salmon. Of the total number taken 919 were dead and 363 alive, that is 71.7 per cent of the fish which passed through the turbines were killed. Of the fish taken white perch comprised the largest number, the total being 855 , of which 637 were dead. Of the 435 salmon snolt taken 212 were dead.

Counting Fences.-Surveys were made and plans and reports prepared dealing with proposals for the construeting of counting fences to obtain the escapement of salmon to the spawning grounds at Smithe inlet, Lowe inlet and Nimpkish river, British Columbia. None of these locations is considered suit-
able for the desired purpose for four reasons, as follows: High current velocity, difficulty of securing rock, net or wire fences to the bed of streams, difficulty of maintaining fences if established, and danger to lives of workers.

A survey of the old weir at Seton creek was also made during the year and estimates were submitted covering the cost of constructing a counting fence on the old foundations.

Fraser River.-Inspections were made from time to time of the Fraser canyon in consequence of the dumping of slide refuse into the river by the Canadian Pacific Railway Company, and for general consideration pertaining to the run of salmon on the Fraser.

A detail contour survey of the Fraser at Bridge river rapids was completed and plans were prepared.

Seymour Creek Intake.-Inspections were made of the city of Vancouver waterworks intakes on Seymour creek for the purpose of investigating a proposal by the Water Board to prevent the entry of salmon into the upper watershed where contamination of the domestic water for the city would result. It is regrettable that the upper reaches of this stream, and the spawning grounds thereon, should have been yielded to the Water Board, but where the public health is involved, and large sums of money are expended for the purpose of avoiding contamination, it is necessary to acquiesce. No objections to the proposals of the Water Board were raised.

## SCALLOP INVESTIGATIONS

The results of scallop investigations on the South Shore of Nova Scotia will be found under appendix No. 5 .

## General

Bait Freezers.-In accordance with the provisions of the Bait Freezer Regulations, designs and specifications for small cooling plants and cold storage plants, having capacities from five to ten tons, were prepared for the information of fishermen's organizations or others desiring such material. During the year an agreement was entered into with the Fishermen's Association at Marie Joseph, Nova Scotia, for the construction of a 10 -ton cold storage for bait, with a brine freezing tank, and the construction of the plant started.

Prince Rupert Float.-Certain repairs and renewals to the Prince Rupert Float were authorized early in the year and specifications for the work, which called for the driving of six extra long piles up to 95 feet in length, the provision of a new float log and sundry repairs to the gangway, were prepared. The work was satisfactorily completed by contract and the structure is now in good condition.

Office.-In general the inside work of the Engineering Division included the preparation of reports, plans, estimates and specifications for all work undertaken during the year. In the British Columbia office special maps were prepared of Sweltzer creek, Lakelse lake, and the upper waters of the Skeena and Naas rivers. A full detail map of the Fraser River system, containing all available information, was prepared for the use of the proposed International Commission in the event that the sockeye salinon convention between Canada and the United States should become effective.

## APPENDIX No. 5

## SCALLOP INVESTIGATIONS IN 1930

By C. Bruce, A.M.E.I.C., Fisheries Engineer

Early in June a new scallop dredging boat, called the A. Halkett after Mr. Andrew Halkett, former zoologist of the Department, was completed and put in commission.

The boat is 56 feet 4 inches long, 12 feet 6 inches wide, and 6 feet moulded depth, and is equipped with a 90 -horsepower engine. A special hoist is mounted on the aft deck to operate the scallop dredge, and complete living accommodation is provided for the crew.

Exploratory work was conducted under the supervision of Captain E. C. Mack, and later under Captain Roger Conrad.

The south shore of Nova Scotia having been investigated during 1929, as far e:st as Port Medway, it was decided to continue the work eastwardly from that point.

## Green Bay-LaHave Area

The bottom in Green bay is hard and rocky with occasional muddy patches. A number of sand dollars and sea cucumbers were dredged but no scallops were found until the entrance of the LaHave was reached, where bottom conditions became more suitable. A few large scallops were taken here and in one place in the lower river 3,400 yards of dragging brought up 97 scallops. Continuing around the coast from West Tronbound island to Cross island, and the outer waters adjacent thereto, the bottom was found to be rough and rocky and few s"allops were found.

## Rose and Lunenburg Bay Area

Bottom conditions in Rose bay were found to be suitable for scallops. In 12.200 yards of dragging, 186 scallops were taken. On the westerly side of Lunenburg bay, 99 scallops were taken in 5,950 yards of dragging. On the easterly side of the bay the bottom was found to be rough and rocky and unsuitable for dragging.

## Mahone Bay Area

The exploration of this area showed greater numbers of scallops than any other under investigation this year. At one place 311 scallops were taken in 1,900 yards of dragging, varying from two inches to six inches in diameter.

In all 57 drags, totalling 21,800 yards, were made in this area, landing 556 seallops.

## St. Margaret's Bay Area

While the bottom in this area appeared suitable for scallops, few were found. Those taken were of large size, but from 100 drags, totalling 32,550 yards, only 35 were brought up.

## Peggy's Cove to Halifax

From Peggy's cove around to Sambro island and the adjacent outer water, the bottom was found to be very suitable for scallops, and it was reported that they thrived there some years ago. Odd scallops only were taken in this area.
'The westerly side of the entrance of Halifax harbour on investigation was found to have a very rough and rocky bottom, unsuited for scallops, while in Bedford basin, the bottom varied from muddy to rocky.

In all, 86 drags totalling 46,550 yards were made in this area, and only 10 scallops were taken.

## Summary

In the whole area investigated during the season, extending from Port Medway to Halifax and including Bedford basin, 455 drags totalling 236,435 yards were made, landing 1,062 scallops.

Except for the Mahone bay area, where a scallop fishery has been established for some years, scallops were not found in sufficient quantities to support a commercial fishery.

Maps accompaning this report show respectively the results of exploratory scallop draggings carried on in Prince Edward Island in 1928 and 1929, between Pubnico and Port Medway, N.S., in 1928 and 1929, and between Port Medway and Halifax in 1930.




## APPENDIX No. 6

## SUMMARY OF OYSTER INVESTIGATIONS CARRIED ON FOR THE DEPARTMENT IN 1930, BY DR. A. W. H. NEEDLER OF THE STAFF OF THE BIOLOGICAL BOARD OF CANADA

Oyster cultivation work in the Malpeque bay area of Prince Edward island was initiated by the department in 1928, and was carried on in that year and in $1: 29$ for the purpose of demonstrating the possibilities of cultivation in this territory. With this end in view it was attempted, with some success, to grow oysters, obtaining the stock by introducing and by collecting spat at the heads of the inlets where some oysters had survived ever since the mortality induced by the epidemic which broke out on the beds in 1914.

During 1930 when Dr. Needler was placed in charge of the investigation, operations were confined to the upper reaches of Bideford river, the Cooper bed farther down the river, and the Curtain island bed. About 2,000 bushels oi shells were placed along the shore in Bideford river, most of them at what was judged to be the best time, and a few on other occasions. The bags were all placed in water which was about two feet deep at ordinary low tide. The bulk of the shells were put in the water in the period from July 10 to July 25. An abundant set was obtained, about 2,000 to 4,000 spat per bag. Growth was rapid and the mortality lorr, except where starfish were numerous. The spat were planted as follows:-
(1) About 200 bushels were planted at the beginning of September on a small area of the Curtain island bed cleaned by the Ostrea II, the boat used in oyster investigation work, the intention being to test the possibility of transplanting spat from the heads of the inlets, where there is greater certainty of obtaining quantities of spat, to the beds in the bay, where the greatest areas of suitable bottom and the best quality of oysters are to be found;
(2) The remainder were planted on a large bed above Shipyard point in Bideford river, and on the Cooper bed, plantings being made at three different times to ascertain the best time at which to plant spat from the shore where it cannot be left over winter. In addition shells were broadcast on two cleaned beds in Bideford river. A good set was obtained on these shells. They were left in place, and results will be compared with those planted on the other beds, to which reference has already been made, as the broadcast method would be much cheaper than the others wherever it may be effectively employed.
Cardboard collectors, coated with a mixture of lime, cement and sand, were tried. It was found that they stood oniy a very limited amount of exposure and were very susceptible to mudding, so that they must be placed in sheltered positions and on shells or with some other support. Some spat were found on all the collectors, and there were good results in the case of those which were well sheltered; but it was found that the spat were never as numerous nor as rapid in their growth as spat on neighbouring shells. As yet, Dr. Needler found, the cardboard collectors cannot be recommended where shell are available, but better results are expected in 1931 with the benefit of the 1930 experience, and the advantage of obtaining scparate oysters through the use of the collectors may more than offset the expense entailed in their use and the smaller quantities which they yield.

Large oysters from the Gillis point bed in Grand river, where operation: had been carried on prior to 1930 , were transplanted to Curtain island in the middle of June and it was hoped to test the effect of transplanting and to follow the spawning under the conditions of the open bay. Fifteen barrels were planted from the Gillis point bed, and another twenty barrels, which had been obtained when cleaning a large bed in Bideford river. Clean shells were scattered about the oysters at the time of planting, but very few spat indeed were obtained. The oysters seemed to stand the transplanting fairly well, a proportion being alive late in the autumn.

About 300 barrels of oysters were obtained on the shores of the upper reaches of Bideford river, where the water is two and one-half feet deep or less at an ordinary low tide and the oysters in danger of damage from the ice, and they were planted on a bed in Bideford river and on the Cooper bed, where they will serve as spawning beds.

With a view to possible improvement in the soft mud bottom which covers such a large proportion of the area of Malpeque bay, tests were made with sand. It was found that the addition of a coating of sand a few inches thick produces a bottom sufficiently firm to support shells. The permanence of the improvement remained to be established.

Hillsborough River-In 1929 the Ostrea spent some time in the Hillsborough river cleaning the mussels off a large bed, and a considerable quantity were landed on the wharf at Mount Stewart. (It was found, incidentally, that the channel of the river at depths of twenty-five feet or more, out of reach of the tongs used by the fishery, supported an abundance of oysters.) Hauls with the drag contained oysters only and no shells. The oysters were all small, but seemed to be fairly old, and had possibly been stunted by over-crowding. At Dr. Needler's suggestion about one hundred barrels of these oysters were transplanted to good bottom between the wharves at Mount Stewart. In 1930 the Ostrea went again to Hillsborough river early in September. A number of hauls showed that, for several miles below the upper part of the river to which oyster fishing is limited, the small oysters were even more numerous than had been supposed. As the shells landed in 1929 were unsuitable for use as cultch, it was decided that they should be used to improve a piece of ground on which small oysters would then be planted from the channel, those transplanted in the previous year having showed growth considerably more rapid than speciments taken from the channel in 1930.

Wallace River, Nova Scotia.-At the request of the department Dr. Needler went in September to Wallace river, Nova Scotia, where fishermen had formed an association and leased a few acres of "barren" oyster bed. The Ostrea was also sent to Wallace river, and cleaned the mussels and mud from the leased area, landing the mussels and shells at a nearby wharf. In cleaning the beds a few shells were obtained. Dr. Needler recommended to the association that the shells be spread in such a way that they would be cleaned by the weather, and that in 1931 they should be used as cultch. He recommended that part of them be spread on the bay itself, part of them spread thickly on certain hard areas farther up the estuary where there was apparently concentration of spat, and that some be tried in bags of wire netting. Grounds were recommended as suitable. It was also suggested that small oysters be obtained from the intertidal zone in one area where the oysters are saleable, and be planted on the association's bed, and that the experiment also be made of transplanting small ovsters from farther up Wallace river, where they are available in large quantities, but are of unsaleable quality.

A report by Dr. Needler on conditions in the Malpeque Bay area which have a bearing on the propects for oysters cultivation has been published by the Biological Board of Canada as Bulletin No. XXII, "The Oysters of Malpeque Bay ".

APPENDIX No. 7
FINANCIAL STATEMENT, 1930-31

| Vote No. | Appropriation | Amount | Expenditure |
| :---: | :---: | :---: | :---: |
|  |  | 5 cts. | 5 cts. |
| 177- | Salaries and disbursements F.O., etc. | 1,198,000 00 | 1,170,640 65 |
| $397-$ 178 | Building fishways, etc. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | 20,000 00 | 11,669 08 |
| 179 | Legal and incidental expenses.................................................. | 6,000 00 | 5,973 08 |
| 180 | Conservation and Development Deep Sea fisheries. | 261,000 00 | 189,861 10 |
| 400- |  | 442,000 00 | 322,586 01 |
| 181 | Fish culture.... | 15,00000 | 8,913 8.5 |
| 183 | Bounty on hair seals. | 50,000 00 | 28,347 50 |
| 184 | International Fisheries Commission (Halibut) | 31,500 00 | 36,653 56 |
| 185 | Biological Board of Canada................... | 300,000 00 | 300,000 00 |
| 186 | Investigation fisheries in Hudson Bay. | 65,000 00 | 23,294 06 |
| 401 | Investigation by Pacific Salmon Commission under Fraser River Sockeye Treaty. | 25,000 00 | 322 |
| 398 | British Columbia Fisheries Reference. . . . . . . . . . . . . . . . . . . . . | 4,101 46 | 4,10146 |
|  |  | 2,417,601 46 | 2,102,043 57 |
| 14 | Civil Government salaries (staff) | 153,940 00 | 136,373 15 |
| Stat'y. | Minister's salary.......... . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | 10,000 00 | 7,727 60 |
| 14 | Civil Government contingencies................................. | 33,00000 | 29,111 36 |
| Stat'y. | Fishing bounty <br> Gratuities. | 160,000 00 | 159,773 55 |
|  |  | 2,774,54146 | $2,435,02923$ 27000 |
|  |  |  | 2,435,299 23 |

Statement of Revenue received during the fiscal year 1030-31

| Class | Total | General Account | Nova Scotia | Prince Fdward Island | New Brunswick | Quebec | Ontario | Manitoba | Saskatchewan | Alberta | British Columbia | Yukon |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ ets. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. |
| Fisheries revenue... | 73,967 48 |  | 15,677 36 | 1,760 00 | 10,181 87 |  | 100 | 7,102 50 | 1,512 50 | 16,350 25 | 20,842 00 | 44000 |
| Fines and forfeitures. | 11,202 76 |  | 76750 | 2950 | 1,014 65 |  |  | 60852 | 22526 | 78080 | 7,776 43 |  |
| Modus vivendi. | 17400 |  |  |  |  |  |  |  |  |  | 17400 |  |
| Casual revenue. | 13,73043 | 7776 | 1,043 58 | 1,132 16 | 22760 | 6065 |  | 16165 | 15761 | 2,382 44 | 8,486 98 |  |
| Fish culture revenue. | 72227 |  |  |  | 25250 |  |  | 10977 |  |  | 36000 |  |
| Pelagic sealing. . | 37,163 78 | 37,163 78 |  |  |  |  |  |  |  |  |  |  |
| Premiums, etc. . | 437 |  |  |  |  |  |  |  |  |  | 437 |  |
| Total | 130,965 09 | 37,241 54 | 17,488 44 | 2,921 66 | 11,676 62 | 6065 | 100 | 7,982 44 | 1,895 37 | 10,513 59 | 37,743 78 | 44000 |

Refund of fees received
prior to 1930-31...... $\$ 3000$
\$ 136,93509

EXPENDITURE 1930-3I-DETAILED STATEMENT OF SALARIES AND DISHURSEMENTS OF FISHERY OFFICERS-COATIRUEX

| Provinces | Totals | Supervisors andInspectors |  | Allowances |  |  | Gasolene and Oil | Special Guardians |  | Sundry |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Salaries | Disbursoments | Auto | Boat | Ilorse |  | Wages | (a) Expenses <br> (b) Auto All'ce <br> (c) Doat <br> (d) IIorse " |  |
| General Account.................. | 8,807 19 | ........... |  | ............ | ............ | .......... |  |  |  | 8,907 19 |
| Nova Scotia- |  |  |  |  |  |  |  |  |  |  |
| Eastern Fisheries DivisionGeneral Account............. |  |  |  |  |  |  | - |  | - |  |
|  | 18,648 49 49 5 | 13,171 20.375 20 | 1,290 4,095 4 | 1,115 <br> 5,187 |  |  |  |  |  | $\begin{array}{r} 3,00516 \\ 67257 \end{array}$ |
| Nova Scotia No. 2,..........Nova Scotia No. $3 . \ldots . . . . . .$. | 52,829 11 | 22,904 51 | 4,413 20 | 7,401 33 | 40000 |  | 160 190 | 17,790 14,668 42 | - (a) $\begin{array}{rr}5480 \\ \text { (a) } & 95712\end{array}$ | $\begin{array}{r} 67257 \\ 1,07018 \end{array}$ |
|  |  |  |  |  |  |  |  |  | (b) 68430 | ......... |
|  | 54,369 25 | 20,756 23 | 3,579 47 | 6,803 16 |  |  |  | 20,145 00 | $\begin{array}{lr}\text { (c) } & 8000 \\ \text { (a) } & 74688\end{array}$ | -7905 8 i |
|  |  |  |  |  |  |  |  | 20,145 00 | $\begin{array}{rrr}\text { (b) } & 1,53470 \\ \text { (c) } & 800\end{array}$ | 7 |
|  | 174,937 90. | 77,267 54 | 13.38387 | 20,500 99 | 1,150 00 |  | 35638 | 52,603 60 | (a) 1,75880 | 5,603 72 |
|  |  |  |  |  |  |  |  |  | (b) 2,219 <br> (c) 88 |  |
| Prince Edieard 1slandI'rince Edward Island No. 1. |  |  |  |  |  |  |  |  |  |  |
|  | 20,496 48 | 10,698 00 | 2,51613 | 2,500 00 |  | 38500 |  |  |  |  |
|  |  |  |  |  |  |  |  | 3,2.5 |  | 62496 |
| Prince Edward Island No. 2.. | 5,63096 | 2,870 48 | 1,107 35 |  | 26815 |  | 32763 | 89465 | (c) $\quad 685$ | 15589 |
|  | 26,127 44 | 13,568 48 | 3,623 48 | 2,500 00 | 26815 | 38500 | 32763 | 4,152 49 | (a) 13435 | 78081 |
|  |  |  |  |  |  |  |  |  | (b) 37420 |  |
|  |  |  |  |  |  |  |  |  | (c) 685 |  |
| New Brunsuick- <br> New Brunswick No. 1........ | 26,137 55 | 11,880 00 | 2,453 13 | 2,403 90 | 47500 |  | 23192 | 7.72375 | (a) 23702 | 68668 |
| New Brunswick No. 2........ | 51,711 13 | ' 18,210 00 | 2,647 72 | 6,560 30 |  |  |  |  | (b) 4115 |  |
|  | 51,7113 | 18,210 00 | 2,047 72 | 6,50030 | 1,130 90 | 65875 | 88744 | 19,035 50 | (a)  <br> (b) 889 <br> 847  <br> 11  | 67050 |
|  |  |  |  |  |  |  |  |  | (c) 0516 |  |
| New Brunswick No. 3........ | 28,573 41 | 10,469 51 | 1,173 88 | 2,287 90 | 22500 |  | 11940 | 13,832 19 | (d) 7782 | 405747 |
|  | 106,422 09 | 40,550 51 | 6,274 73 | 11,257 16 | 1,830 90 | 65875 | 1,238 82 | 40,59144 | (a) 1,120 13 | 1,822 65 |
|  |  |  |  |  |  |  |  |  | (b) 88902 |  |
|  |  |  |  |  |  |  |  |  | (c) 9516 |  |

EXPENDITURE 1930-31-DETAILED STATEMENT OF SALARIES AND DISBURSEMENTS OF FISHERY OFFICERS-Continued



EXPENDITURE 1930-31-DETAILED STATEMENT OF FISHERIES PATROL SERVICE



| Establishments and Accounts | - | Totals | Pay-List | Board or provibions | Fuel | Repairs |  | Supplies |  |  | (a) Clothing <br> (b) Chartor <br> (c) Auto M. | Sundry |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Hull | Engine | Engine | Deck | Stewards |  |  |
| District No. 2-Continued Departmental-Continued Metra. | $\left\lvert\, \begin{array}{r} \text { \& cts. } \\ 10,665 \\ 44 \end{array}\right. \text {. }$ | \$ cts. | $\begin{array}{r} \$ \mathrm{cts} . \\ 1,81949 \end{array}$ | $\begin{array}{ll} 5 & \text { cts. } \\ 228 & 09 \end{array}$ | $\begin{gathered} 5 \text { cts. } \\ 175 \\ 19 \end{gathered}$ | $\begin{array}{cc} \mathbf{S} & \text { cts. } \\ 81 & 39 \end{array}$ |  | $\begin{gathered} 5 \\ \text { cts. } \\ 6,313 \end{gathered}$ | $\begin{gathered} \text { S cts. } \\ 30 \\ 82 \end{gathered}$ | \$ cts. <br> 5631 | \% cts. | $\begin{gathered} \mathrm{S} \text { cts } \\ 7583 \end{gathered}$ |
| Onerka....... | 1,401 60 |  | 74444 | 199 | 36036 |  | ${ }^{1} 11545$ | -178 63 | 200 | 489 |  | 8384 |
| Rividis. | 8,918 98 |  | 4,876 23 | 1,677 48 | 50629 | 33325 | 18518 | 75229 | 6948 | 18719 | (a) 7343 | 25818 |
| Sea Nass River.: | 2466 |  |  |  |  |  |  | 970 |  |  |  | 1486 |
| Soa Sled-- |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{\text {Sea }}$ Rivers Inlet.. | 1119 |  |  |  |  |  |  |  |  |  |  | 119 |
| Skeena River: |  |  |  |  |  |  | 10962 | 5278 |  |  |  | 1536 |
| $\begin{aligned} & \text { Senepa......... } \\ & \text { Chartered-: } \end{aligned}$ | 4,313 69 | 48,144 45 | $\dddot{2,475}$ | 1750 | $1,20479$ | 1481 | 12364 | 19958 | 3388 | 7438 |  | 10941 |
| Chartered Aki...... | 1,869 33 |  | $\begin{array}{ll} 720 & 00 \end{array}$ |  | $20079$ |  |  | 6170 |  | 484 | (b) 88200 |  |
| Bee... | 196602 |  | 43218 |  | 5040 |  |  | 2008 |  | -336 | (b) 48000 |  |
| Boyne. | 1,184 2,193 1 3 |  | 882500 | .......... | 10300 |  |  | 19.88 |  |  | (b) 1,00800 |  |
| Colicier... | 32056 |  | 14250 |  | 3540 |  |  | 644 |  | 322 | (b) 13300 |  |
| Doris J. F Eleano | 1,034 1,461 183 |  | 852 60 60 50 | …........ | 18530 1568 89 |  |  | 2336 <br> 3950 |  | 3112 164 | (b) $\begin{aligned} & 870 \\ & \text { (b) } \\ & 656 \\ & 00\end{aligned}$ | $0 \stackrel{3}{5}$ |
| Ethelda | 1,983 91 |  | 79572 | ......... | 24990 |  |  | 7109 |  | 320 | (b) 86400 |  |
| Eureka | 2,04232 |  | 86250 |  | 31840 |  |  | ${ }_{17}^{27}{ }^{31}$ |  | 336 | (b) 82000 | 1275 |
| Eureka. | 1,57431 |  | ${ }_{240} 400$ |  | ${ }_{60} 18$ |  |  | ${ }_{6} 76$ |  | ${ }_{3}^{3} 38$ | (b) 26400 |  |
| Flying Spur | 2,663 81 |  | 78992 | ......... | 40040 |  |  | 9669 |  | 630 | (b) 1,29600 | 7480 |
| Gala. | 49 275 96 |  | 9750 |  | 4127 |  |  | 719 |  |  | (b) ${ }^{40} 00$ |  |
| Irene L. | 1,275 63 |  | 36807 |  | 30257 | ...... | ......... | 6958 |  | 691 | (b) 51450 | 1400 |
| Kioker. | 27658 |  | 16434 |  | 1368 |  |  | 1056 |  |  | (b) ${ }^{88} 00$ |  |
| Kincolit | 1,183 39 |  | 43555 |  | 10884 |  |  | 4572 |  | 328 | (b) 59000 |  |
| Mabeal | ${ }_{2}^{1.244} 1$ |  | ${ }_{8}^{6} 5234$ |  | 18336 |  |  | 4757 |  | 168 | (b) 1,16000 |  |
| Melrose. | 1.26451 |  | 63871 | .......... | 8656 |  |  | ${ }^{13} 98$ |  | 328 | (b) 52200 |  |
| Moose... | 2,594 27 | .......... | 98443 |  | 36342 |  |  | 2280 |  |  | (b) 1,19700 |  |
| Narbethong | ${ }_{1}^{1,218}$ |  | 38443 |  | 27215 |  |  | 3854 |  | 496 | (b) 52000 |  |
| Nerais.... | 2,689 14 |  | 99242 |  | 315 <br> 351 <br> 58 |  |  | 3171 |  |  | (b) 1,35000 |  |
|  | 2,426 ${ }^{\mathbf{3}} \mathbf{4}$ |  | 1, $8_{82} 98$ |  |  |  |  | 6873 |  | 825 | (b) 1,13000 |  |
| Omark. | 8564 |  | 4355 |  | 414 |  |  | $1{ }^{1} 95$ |  |  | (b) 3600 |  |
| OYM.M.L. No. 2 | 788 183 83 |  | 29179 |  | 7956 |  |  | 15.82 |  | 156 | (b) 40000 |  |
| Q.C.L. Boy... | 1,286 35 |  | 63161 |  | 10233 |  |  | 2713 |  | 328 | (b) ${ }_{522} 00$ |  |
| Reliance | ${ }_{3}^{2,7509} 72$ |  | 1,250 1,019 17 |  | ${ }_{6}^{68} 12$ |  |  | ${ }_{82}^{22} 24$ |  | 336 3 3 | (b) 1,40700 |  |
| Soewzed. | 1.15278 |  | , 49354 |  | 17000 |  |  | 1861 |  | $1{ }_{1} 64$ | (b) 46900 |  |
| Seminole |  |  | ${ }^{1.26750}$ |  | - 32746 |  |  | 76 <br> 36 <br> 3 <br> 28 |  | 1888  <br> 4 12 | (b) $\begin{aligned} & 1,550 \\ & 728 \\ & 700\end{aligned}$ |  |
| Vaquero. |  |  |  |  | 4280 |  |  | 280 |  |  | (b) 11260 |  |


| 2,401 27 | ....... | 88645 |  |
| :---: | :---: | :---: | :---: |
| 81099 |  | 28788 |  |
| 19987 |  | 7815 |  |
| 43250 |  | 18000 |  |
| 2,033 98 | 62,805 45 | 84494 |  |
| 1,032 48 |  |  |  |
| 6,485 36 |  |  |  |
| 6,520 65 |  |  |  |
| 11,901 00 | 25,939 49 |  |  |
|  |  |  |  |
| 63641 |  | 28226 |  |
| 3,336 50 |  | 1,50000 |  |
| 2,344 03 |  | 1,290 90 |  |
| 4,659 26 |  | 2.97984 |  |
| 10,067 54 | 21,043 74 | 6,467 00 | 1.59262 |
| 34883 |  | 17333 |  |
| 74481 |  | 49667 |  |
| 21536 |  | 15333 |  |
| 48384 |  | 25903 |  |
| 42733 |  | 31785 |  |
| 33377 |  | 19687 |  |
| 5400 |  |  |  |
| 95343 |  | 67732 |  |
| 32888 |  | 17333 |  |
| 75588 |  | 50000 |  |
| 74295 |  | 50000 |  |
| 73557 |  | 37097 |  |
| 2,372 35 |  | 1.18667 |  |
| 1.05510 |  | 33635 |  |
| 29173 |  | 17333 |  |
| 4668 |  |  |  |
| 64363 |  | 34290 |  |
| 87708 |  | 43334 |  |
| 1,247 60 |  | 65333 |  |
| 1693 |  |  |  |
| 21838 |  | 15666 |  |
| 68980 |  | 45000. |  |
| 20713 |  | 15333 |  |
| 83048 |  | 42667. |  |
| 1,227 87 |  | 58333. |  |
| 1,968 77 |  | 49798 | 1485 |
| 62215 |  | 30000 |  |
| 15649. |  | 9849 |  |
| 31416 |  | 10334. |  |
| 42845 |  | 21613. |  |


| $\begin{array}{ll} 358 & 00 \\ 106 & 20 \end{array}$ |  |  |
| :---: | :---: | :---: |
|  |  |  |
| $\begin{array}{ll} 16 & 72 \\ 16 \\ 41 & 93 \end{array}$ |  |  |
|  |  |  |
| 33138 |  |  |
|  |  |  |
|  |  |  |
|  | $\cdots \cdots 30$ |  |
|  | 250 | 600 |
|  |  |  |
|  |  |  |
|  |  |  |
| + 5763 | 135 215 | 11406 |
| 1,073 48 | 21520 | $\begin{array}{r}1149 \\ 479 \\ \hline 17\end{array}$ |
| 1880 985 | 1871 189 | 47818 216 |
| 40352 | 2070 | 11630 |
|  |  |  |
| 8400 |  |  |
| $\begin{aligned} & 8460 \\ & 1080 \end{aligned}$ |  | ..... ..... |
|  |  |  |
| 5208 |  |  |
| 1248 | ........... | .......... |
| 6370 |  |  |
| $\begin{array}{ll} 39 & 00 \\ 52 & 08 \end{array}$ |  |  |
|  |  |  |
| 6240 |  |  |
| 3180 |  |  |
| 11640 |  |  |
|  |  |  |
| 20754 |  |  |
| 19848 |  |  |
| - 3380 |  |  |
| 4470 |  |  |
| 7536 |  |  |
| 13794 |  |  |
| 7897. |  |  |
| 1188. |  |  |
| 960 |  |  |
| 27 \% 0 |  |  |
| 240 |  |  |
| 10320 |  |  |
| 14554. | . ........ |  |
| 11902 |  |  |
| 11440 |  |  |
| $\begin{array}{r} 1040 \\ 10 \\ 40 \\ 402 \end{array}$ |  |  |
|  |  |  |
| 7176 |  |  |



EXPENDITURE 1030-31-DETAILED STATEMENT OF FISHERIES PATROL SERVICE

| Establishments and Accounts | - | Totals | Pay-List | Board or provisions | Fuel | Repairs |  | Supplies |  |  | (a) Clothing <br> (b) Charter <br> (c) Auto M. | Sundry |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Hull | Engine | Engine | Deck | Stewards |  |  |
| District No. :-ContinuedChartered Boats-Continuedlimit. | $\begin{aligned} & \text { \& cts. } \\ & \\ & 252 \\ & 52 \end{aligned} .$ | \% cts. | $\begin{array}{rr} 5 & \text { cts. } \\ 173 & 34 \end{array} \text {. }$ | - cts. | - $\begin{array}{r}\text { cts. } \\ 2040\end{array}$ | \% ots. | - cts. | - cts. | \% cts. | 5 cts. | $\begin{array}{lr}8 & \text { cts. } \\ \text { (b) } \\ 5400\end{array}$ | $s$ cta. 090 |
| Mabel.,....................... | 21607. |  | 15333 |  | 1080 |  |  | 494 |  |  | (b) 4700. |  |
| M.E. Smith........... | 2,267 13 . |  | 1,188 17 |  | 21280 |  |  | 2088 |  |  | (b) 73600 | 0 |
| Miss Gree | 74775 |  | 50000 |  | 7680 |  |  | 1745 |  |  | (b) 15300 | 050 |
| Norms. | 52211. |  | 30785 |  | 1632 |  |  | 810 |  | 088 | (b) 18800 | 100 |
| Norma N | 45192 |  | 30215 | . . . . . | 5200 290 |  |  | 215 | ........ | 262 | (b) 68000 | 100 |
| Northw | 1,173 82 |  | 63848 |  | 12204 |  |  | 1686 |  | 643 | (b) 39000 |  |
| Olive.. | 39069. |  | 26774 | ........ | 3040 | ........ |  | 585 |  | 170 | (b) 8200 | 300 |
| Overseas. | 37682 |  | 23312 |  | 880 |  |  | 1880 |  |  | (b) 72000 | 100 |
| Peark. | 1,237651. |  | 54613 | .......... | 7305 |  |  | 865 |  | 188 | (b) 16700 | 200 |
| Red Rover. | 1,098 17. |  | 42667 | ......... | 36240 |  |  | 4030 |  | 530 | (b) 262000 | 150 |
| Repentance | 35689 |  | 18333 | ......... | 515136 |  |  | ${ }_{5}^{11} 20$ |  |  | (b) 11000 | 100 |
| R.K...il | 267 <br> 573 <br> 07 |  | 17333 300 00 | .......... | 7116 |  |  | 1688 |  | 105 | (b) 18400 |  |
| Ruby... | 24493 |  | 17333 |  | 1440 |  |  | 820 |  |  | (b) 5300 | 100 |
| Salpat.... | 35978 |  | 24000 | ....... | 3624 |  |  | 11834 |  | 030 | (b) 7200 |  |
| Saramada | 60286 |  | 31936 |  | 650 |  |  | 2080 |  | 18 | (b) 19600 | 200 |
| Sea Dog | 1,056 75 |  | 72687 |  | 3120 |  |  | ${ }^{4} 78$ |  | 1-383 | (b) 28100 | 1175 |
| Seymour... | 1,449 07. |  | ${ }_{556}^{245} 10$ |  | $\begin{array}{r}4810 \\ 289 \\ \hline 8\end{array}$ |  |  | 6748 |  | 175 | (b) 150400 | 100 |
| Sheautogo. | 1,449 |  |  |  |  |  |  |  |  |  | (c) 2900 |  |
| S.R.... | 48571 |  | 20623 |  | 86 87 87 84 |  |  | $\begin{array}{r}722 \\ 13 \\ \hline 1\end{array}$ |  | 386 108 | (b) 123800 | 100 100 |
| Ttubs. | ${ }_{238} 231$ |  | 300 173 |  | 840 |  |  | 173 |  | 188 | (b) 6300 |  |
| T.M.G. | 90863 |  | 65161 |  | 4572 |  |  | 419 |  | 3 060 060 | (b) 20000 | 875 |
| Tommy..... Willeen. Wonder | 57581 |  | 30333 |  | 7464 |  |  | 1088 |  | 168 | (b) 18400 | 1000 |
| Wonder No. 2 W.S. $\qquad$ | 230 <br> 459 <br> 23 | 38,350 88 | 153 268 23 |  | 24 66 24 |  |  | - 358 |  | 168 | (b) $\begin{array}{rlr}47 & 00 \\ \text { (b) } & 121 & 80\end{array}$ | 050 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| New Boats- <br> Black Raven No. 2. <br> Egret Plume No. 2. |  |  |  |  |  |  |  |  |  | 225 |  | 11,88582 |
|  | 11,801 24 | 23,78831 |  |  |  |  |  |  |  | 225 |  | 11,898 98 |
|  |  | 310,768 02 | 111,502 58 | 3,864 21 | 25,181 65 | 1,306 99 | 8,459 67 | 13,538 88 | 08771 | 1,825 46 | (a) <br> (b) <br> (c) <br> (c) <br> 1,570 <br> 1,500 | 104,138 38 |
| Conorel Accoun |  | 550 |  |  |  |  |  |  |  |  | $\cdots$ | 560 |

SUMMARY


EXPENDITURE, 1030-31-DETAILED STATEMENT OF FISHERIES PROTECTION SERVICE

| General Account.... | 82120 |  |  |  |  |  |  |  |  | 6545 | 45875 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| East Coust- |  |  |  |  |  |  |  |  |  |  |  |
| General. | ${ }^{50} 50357$ | 335 71 |  |  |  |  |  |  |  |  | 16788 1,53843 |
| Arleux. | 46,876 <br> 56,581 <br> 18 | 24,959 <br> 25,520 <br> 63 | 8,80381 <br> 6,265 <br> 17 | $\begin{array}{r}6,03475 \\ 10,207 \\ \hline\end{array}$ | 1,70361 4,40010 | $8,070,36$ 3,421 | 1,07663 67036 | 1,237 <br> 1,943 <br> 1,93 <br> 1 | 465 <br> 897 <br> 89 | 98691 01234 | 1,63843 2,61268 |
|  | 103.93098 | 50.81822 | 12,068 48 | 18,24281 | 6,103 71 | 6,40138 | 1,746 99 | 3,180 20 | 1,063 19 | 1,890 25 | 4,318 97 |
| West Coast- |  |  |  |  |  |  |  |  | 150 |  | 47125 |
| Genersl. | 61,914 49 | 27,556 40 | $7,968{ }^{5} 3$ | 9,25434 | 11, 223 \% 85 | 1,47434 | 1,19970 | 47236 | 93981 | 1,09265 | 77471 |
| Malaspina. | 74,820 67 | 30,186 34 | 8,685 97 | 14,710 52 | 10,087 82 | 5,323 06 | 1,343 35 | 59701 | 1,184 35 | 1,18878 | 1,213 26 |
|  | 138,257 91 | 59,002 94 | 16,652 50 | 23,964 86 | 21,311 67 | 6,797 40 | 2,503 05 | 1,089 37 | 2.12546 | 2,281 44 | 2,459 22 |

SUMMARY

| General Account. | 82120 |  |  |  |  |  |  |  |  | 6545 | 45578 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Heast Coant...... | 103,930 90 | 50,816 22 | 12,068 48 | 10,24281 | 6.10371 | 6.49138 | 1,74699 | 8,180 29 | 1,063 19 | 1,899 25 | 4,31897 |
| West Cosst. | 138,257 91 | 59,092 94 | 16,852 50 | 23,964 86 | 21,311 67 | 6,797 40 | 2,503 05 | 1,068 37 | 2,125 48 | 2,281 44 | 2,459 22 |
|  | 242,710 10 | 109,909 16 | 28,720 98 | 40,20737 | 27.41538 | 13,288 78 | 4,25004 | 4,249 66 | 3,188 65 | 4,24614 | 7,233 84 |

DETAILED STATEMENT OF FISH CULTURE, 1930-31

| Hatcheries | Salaries | Maintenance | Total of hatchery | Total of provinces |
| :---: | :---: | :---: | :---: | :---: |
|  | \$ cts. | $\delta$ cts. | \$ cts. | \% cts. |
| Nova Scotia. |  |  |  | 55,964 71 |
| Allen's Lake Salmon Pond |  | 2,962 70 | 2,962 70 |  |
| Antigonish | 2,55000 | 6,583 76 | 9,133 76 |  |
| Bedford. | 2,805 00 | 6,3416 | 9,14616 1,332 01 |  |
| Margaree. | 4,20000 | 3,590 82 | 7,790 82 |  |
| Margaree Salmon Pond. | 31548 | 2,61807 | 2,933 55 |  |
| Middleton............. | 2,805 00 | 4,767 62 | 7,572 62 |  |
| Nictaux Salmon Pond. |  | +6062 | 6062 1309 |  |
| River Phillip Salmon Pond Yarmouth. | 3,300 32 | 10,423 07 | $\begin{array}{r}1,309 \\ 13,723 \\ \hline\end{array}$ |  |
| Prince Edward Island. |  |  |  | 8,28681 |
| Kelly's Pond Hatchery | 3,060 00 | 3,32750 | 6,387 50 |  |
| Morrell River Pond. |  | 1,899 31 | 1,893 31 |  |
| New Brunswick. |  |  |  | 70,094 90 |
| Florenceville. | 2,569 46 | 6,164 66 | 8,734 12 |  |
| Grand Falls. | 2,426 67 | 5,12856 | 7,555 23 |  |
| Miramichi. ${ }^{\text {M }}$, | 3,075 00 | 9,073 <br> 3,492 | $\begin{array}{r}12,148 \\ 3,492 \\ \hline 18\end{array}$ |  |
| New Mills Salmon Pond. | 88037 | 3,512 76 | 4,393 13 |  |
| Nipisiquit.... |  | 79878 | 79878 |  |
| Restigouche | 3,000 00 | 4,06801 | 7.06801 |  |
| Tobique............ |  | - 55207 | 55207 |  |
| Manitoba. |  |  |  | 7,916 63 |
| Dauphin River |  | 10600 | 10600 |  |
| Gull Harbour | 1,827 42 | 1,463 49 | 3,290 91 |  |
| Swan Creek. |  | 1,856 80 | 1,856 80 |  |
| Winnipegosis. | 1,432 00 | 1,230 92 | 2,662 92 |  |
| Saskatchewan |  |  |  | 4,673 49 |
| Cochin Fishing Station. |  | 60478 | 60478 |  |
| Qu'Appelle. | 2,199 68 | 1,869 03 | 4,068 71 |  |
| Alberta. |  |  |  | 22,377 84 |
| Banff | 3,240 00 | 4,695 29 | 7,935 29 |  |
| Cold Lake |  | -16250 | 16250 |  |
| Jasper Park. |  | +625 11 | ${ }^{6} 62511$ |  |
| ${ }_{\text {Lesser Slave }}$ | 2,585 00 | 3,929 <br> 1,148 <br> 03 | 6,514 <br> 1,148 <br> 03 |  |
| Waterton. ${ }^{\text {a }}$ | 2,025 00 | 3,967 85 | 5,992 85 |  |
| British Columbia- |  |  |  | 132,698 37 |
| General Account. | 7,864 84 | 3,04192 | 10,906 76 |  |
| General Account Summer Sch |  | 1,680 87 | 1,680 87 |  |
| Anderson. | 2,984 59 | 4,480 84 | 7.46543 |  |
| Babine.... | 3,245 90 | -6,50186 | 9,747 8,260 8 |  |
|  | $\begin{array}{r}3,12393 \\ 444 \\ \\ \hline\end{array}$ | $\begin{array}{r}5,13649 \\ 992 \\ \hline 63\end{array}$ | $\begin{aligned} & 8,26042 \\ & 1,43698 \end{aligned}$ |  |
| Cranbrook Eyeing | 1,74899 | 13,082 70 | 14,831 69 |  |
| Gerrard.. | 37403 | 1,867 50 | 2,241 53 |  |
| Harrison. | 1,317 39 | 5.25826 | 6,575 6.5 |  |
| Kennedy. | 3,844 32 | 3,53697 | 7,381 29 |  |
| Lloyds Creek Eyeing Stn | 53017 | 1,090 58 | 1,620 75 |  |
| Nelson.... | 2,138 4,59 | 6,099 <br> 6,794 <br> 60 | 1,23714 11,318 7 |  |
| Penask Eyeing Station | +673 67 | 2,605 04 | -3,278 71 |  |
| Pitt... | 2,469 14 | 4,926 48 | 7,395 62 |  |
| Rivers Inlet | 4,603 71 | 8,322 90 | 13,018 61 |  |
| Shuswap Lake Ca | 55425 | 1,623 53 | 2,177 78 |  |
| Skeena. | 4,015 58 | 7,634 71 | 11,650 29 |  |
| Stuart....... | 90173 | 2,330 79 | 3,232 52 |  |
| Summerland |  | 24184 | 24184 |  |
| General Account | 7,184 73 | 13,388 53 | 20,573 26 | 20,573 26 |
|  |  |  |  | 322,586 01 |

## Scmmary

| Provinces | Salaries | Maintenance |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |

## DETAILED STATEMENT OF CONSERVATION AND DEVELOPMENT OF DEEP SEA FISHERIES-EXPENDITURE 1930-31

| General Account- |  |  |
| :---: | :---: | :---: |
| Publicity..................................................... ${ }^{\text {S }}$ | 33,496 0.5 |  |
| Travelling expenses | 40867 |  |
| Grant to assist Annual Convention at Montreal. | 1,500 00 |  |
| Printing and stationery | 1,283 11 |  |
| Miscellaneous. | 2151 |  |
| Bait Collection Serrice (N.S.). |  | $\begin{array}{r} 36,70934 \\ 1,02000 \end{array}$ |
| Bait Freezer- 1,020 0 |  |  |
| General... | 119 |  |
| Marie Joseph (N.S.) | 1,336 93 |  |
| Yarmouth (N.S.) | 63,900 00 |  |
| Brine Freeser. |  | 65,238 12 |
| Co-operatire Association. |  | 4,474 22 |
| Destruction of Sca Lions (B.C.) |  | +45626 |
| Diseased Sardine Herring (N.B.) |  | 1,822 80 |
| Fish Collection Service- 1,822 |  |  |
| Port Hood-Port Hawkesbury | 4,19784 |  |
| Port Hawkesbury-Cole Harbour. | 2,000 00 |  |
| Port Hawkesbury-Port Bickerton | 11,249 56 |  |
| Malifax-L'Ardoise. | 1,500 00 |  |
| General.. | 14962 |  |
| Halibut and Swordfish Service | 8,282 26 |  |
| Lobster Service. | 12,478 47 |  |
| Fisheries Exhibits- . 0 , 750 |  |  |
| Acquaria...... | 60600 |  |
| Charlotte Co. Fish Fair (N.B.) | 30000 |  |
| Lunenburg (N.S.) ........................................... | 70951 |  |
| Grant-Lunenburg Fishermen's Exhibition Assn. (N.S).. | 2,000 00 |  |
| Montreal (Que.).................................................. | 3,255 22 |  |
| International Pacific Salmon Federation (B.C.) |  | 6,90073 12623 |
| Passamoquoddy Bay Inrestigation (N.B.)..... |  | 12693 559 |
| Prospecting for Merring as Bait (B.C.). |  | 4,962 50 |
| Re Surrey of Marketing and Merchandising of Fish in Canada. |  | 7,000 00 |
| Scallop Investigation - , 000 |  |  |
| General......; | 10794 |  |
| "A. Halkett", | 5,457 17 |  |
| "Madeline A". | 4150 |  |
|  |  | 5,606 61 |
| Technical Education of Fishermen. |  | 15,720 54 |
| - |  | \$ 189,861 10 |

FISHERILS-EXPENDITURES BY PROVINCES, 1930-31

| Appropriations | General | Nova Scotia | Prince Edward Island | New <br> Brunswick | Quebec | Manitoba | Saskatchewan | Alberta | British Columbia | Totals |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5 cts . |  |  |  |  | \$ cts. | \$ cts. | \$ cts. | 5 cts. | $\$$ cts. |
| Salaries and disbursements F.O..... | 8,907 19 | 175,066 19 | 20,127 44 | 108,293 86 | 61111 | 14,029 35 | 16,852 09 | 18,313 72 | 160,808 18 | 533,009 13 |
| Fisheries Patrol Service............. | , 5150 | 39,467 69 | 11,303 14 | 24,253 14. |  | 9,118 93 | 10,852 0 | 18,313 7 | 310,708 02 | 394,921 42 |
| Fisheries Protection Service | 13,758 23 | 90,026 05 | 50006 | . 16785. |  |  |  |  | 138, 25791 | 242,710 10 |
| Building fishways, etc....... | 10478 | 4,019 96 | 7295 | 1,108 31. |  | 20050 |  |  | 6,162 58 | 11,669 08 |
| Legal and incidental expenses. . 1 . |  | 1,313 45 |  | 19470 |  | 59558 |  |  | 3,869 35 | 5,973 08 |
| Conservation and development deep sea fisheries. | 18,555 40 | 122, 83136 | 8,201 54 | 6,342 59 | 3,285 22 |  |  |  | 30,544 99 | 189,861 10 |
| Fish culture.... | 20,583 24 | 55,964 71 | 8,28681 | 70,094 90. |  | 7,916 63 | 4,67349 | 22,377 84 | 132,688 39 | 322, 58601 |
| Oyster culture...................... |  |  | 8.91385 |  |  |  |  |  |  | 8,913 85 |
| Bounty on hair seals.............. |  | 7,432 50 | 3,545 00 | 1,600 00 |  |  |  |  | 15,770 00 | 28,347 50 |
| International Fisheries Commission (IIalibut) |  |  |  |  |  |  |  |  | 36,653 56 | 36,653 56 |
| Biological Board of Canada......... | 300, 00000 |  |  |  |  |  |  |  | 3, 053 | 300, 00000 |
| Investigation Fisheries Hudson Bay | 23,294 06 |  |  |  |  |  |  |  |  | 23, 29406 |
| Investigation by Pacific Salmon Commission under Fraser River Sockeye Treaty. |  |  |  |  |  |  |  |  | 322 | 23 322 |
| B.C. fisheries references. |  |  |  |  |  |  |  |  | 4,10146 | 4,101 46 |
| Fishing bounty.......... |  | 80,049 55 | 9,808 60 | 23,413 95 | 46,50145 |  |  |  | 4,101 4 | 159,773 55 |
|  | 385, 20840 | 576,271 46 | 76,764 39 | 233,469 30 | 50,397 78 | 31,860 99 | 21,525 58 | 40,691 56 | 845,627 66 | 2,261,817 12 |
| Civil Government salaries (staff). |  |  |  |  |  |  |  |  |  | 136,373 15 |
| Minister's salary..................... |  |  |  |  |  |  |  |  |  | 7,72760 |
| Civil Government contingencies..... |  |  |  |  |  |  |  |  |  | 29,111 36 |
| Gratuities. |  |  |  |  |  |  |  |  |  | $\begin{array}{r} 2,435,02932 \\ 27000 \end{array}$ |
|  |  |  |  |  |  |  |  |  |  | 2,435,290 23 |

DETAILED STATEMENT OF MARINE BIOLOGICAL BOARD EXPENDITURE 1930-31
"A"-St. Andreves Biological Station ..... S 39,004 80
Fish Handling Building. ..... 8532
House for workers. ..... 60855
Oceanographic Investigation. ..... 33334
40,032 01
Nanaimo Biological Station ..... 41,550 77
Herring and Pilchard Investigation (joint) ..... , 83649
Outstanding advance. ..... 18905
"B"-General Account 37,90381 Atlantic Experimental Station ..... 37,903 81
Demonstration Bost (Zoarces) ..... 3,75406 ..... 7638
Fish Curing Investigation. ..... 3,896 24
Ice Fillets ..... 51,783 13
Permanent Building ..... 3,004 26
Pacific Experimental Station. ..... 34,257 09
Bacteriology Investigation ..... 1,018 78
Building No. 1 ..... 9940
Building No. 2 ..... 14,509 43
Biochemistry Investigation ..... 34451
Discoloration Investigation ..... 47357
Glues Investigation. ..... 45340
Investigations General ..... 71347
Meals Investigation ..... 21702
Naas River Pollution Investigation. ..... 7625
Oils Investigation ..... 1,530 10
Refrigeration Investigation ..... 13, 15207
Waste Liquid Investigation ..... 390
General-
22982
Contingencies.
14323
14323
Exhibits
Exhibits
4505
4505
Fish Curing Investigation
Fish Curing Investigation ..... 45156
Fish Mortality Investigation.
19994
19994
Hudson Bay ..... 6496
Ice Fillets.3, 18034
Lake Champlain Investigation ..... 29623
Lobster Investigation ..... 2,396 95
Marine Food Fishes Investigation. ..... 2,123 43
Oceanography ..... 3, 06517
Oyster Investigation ..... 18190
Pink and Chum Salmon Investigation ..... 8,33026
Publications. ..... 4,038 83
Salmon Tagging. ..... 10,702 47
Shellfish Investigation ..... 3,413 29
Skeena River Investigation ..... 3,611 31
Trout Investigation66,84899
"C"-Atlantic Salmon Investigation......................................... 1,65892
Brook Trout Investigation:................................................................. 2,191 22
Cultural Investigations.. 6,642 73
Fish Food Investigations 70372

Oyster Investigation.
12,793 57
Pacific Salmon Investigation.
17,276 99
Prairie Lakes Investigation. 7,608 73
Shad Investigation
31218
Whitefish Investigation.................................................................................. 2985
Grand total.................................................................. 332,31864
MISCELLANEOUS REVENUE-MARINE BIOLOGICAL BOARD, 1830-31
"A"-St. Andrews Biologiral Station....................................................... 63741
Nanaimo Biological Station.
3,231 68
'B"--General Account..................................................................... 10359
Atlantic Experimental Station............................................................................................................ 21997
Ice Fillets.
2,920 52

"C"-Sundries

## APPENDIX No. 8

Statement of Expenditure and Revenue by Provinces, in Fisheries Services, 1867 to 1930-1931, under Dominion Government

SUMMARY

| $\square$ | Expenditure | Revenue |
| :---: | :---: | :---: |
|  | 5 cts. | - cts. |
| Nova Scotia. | 5,225,407 71 | 357,771 01 |
| Prince Edward Island. | 843,967 98 | 103, 25443 |
| New Brunswick. | 3,788,389 63 | 577,452 64 |
| Quebec. | 2,429,883 47 | 341, 35445 |
| Ontario. | 3,214,671 13 | 520,136 96 |
| Manitoba and Northwest Territories. | 23,414 29 | 4,779 25 |
| Manitoba.... | 1,763,915 17 | 331,564 92 |
| North West Territories. | 58,258 58 | 9,775 23 |
| Alberta..... | 516,622 94 | 221,370 89 |
| Saskatchewan. | 574,875 77 | 101,945 16 |
| British Columbia. | 12, 233, 91140 | 2,691,064 87 |
| Yukon... | 29,343 94 | 11,552 75 |
| Hudson Bay District. |  | 82183 |
| Cruisers | 30,702,662 01 | 5,274,844 39 |
| Nova Scotia, Prince Edward Island and New Brunswick. |  |  |
| Expenditures, General......... <br> Fishing Bounty | $\begin{aligned} & 4,098,04727 \\ & 7,749,83831 \end{aligned}$ |  |
| Total expenditure, 1867-1930-31. . | 45,757,390 63 |  |

FISHING BOUNTIES

| Year | Nova Scotia | New <br> Brunswick | Prince Edward Island | Quebec | Totals |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | \$ cts. | \$ cts. | \$ cts. | $\leqslant$ cts. | \$ cts. |
| 1882. | 106,098 72 | 16,997 00 | 16,137 00 | 33,052 75 | 172, 28547 |
| 1883. | 89,432 50 | 12,395 20 | 8,577 14 | 19,940 01 | 130, 34485 |
| 1884. | 104,934 09 | 13,576 00 | 9,230 96 | 28,004 93 | 155,71898 |
| 1885. | 103,999 73 | 15,908 25 | 10,166 65 | 31,464 76 | 161,539 39 |
| 1886. | 98,789 54 | 17,894 57 | 10,935 87 | 33,283 61 | 160,903 59 |
| 1887. | 99,662 03 | 19,699 65 | 12,528 51 | 31,907 73 | -163,75792 |
| 1888. | 89,778 90 | 18,454 92 | 9,092 96 | 32,858 75 | 150,185 53 |
| 1889. | 90,142 51 | 21,026 79 | 13,994 53 | 33,362 71 | 158,526 54 |
| 1890 | 91,235 64 | 21, 10833 | 11,685 32 | 34,210 72 | 158,241 01 |
| 1891 | 92,377 42 | 17,235 96 | 12,771 30 | 34,507 17 | 156,891 85 |
| 1892. | 109,410 39 | 10,864 61 | 9,782 79 | 29,694 35 | 159,752 14 |
| 1893. | 108,060 67 | 12,524 09 | 9,328 62 | 28,320 72 | 158,234 10 |
| 1894. | 111,460 03 | 12,690 80 | 7,875 79 | 28,040 18 | 160,06680 |
| 1895. | 110.76527 | 12,919 32 | 9,285 13 | 30,598 27 | 163,567 99 |
| 1896. | 98,048 95 | 13,602 88 | 9,745 50 | 32,992 44 | 154,359 77 |
| 1897. | 102,083 50 | 13,4,54 50 | 9,809 00 | 32,157 00 | 157,50400 |
| 1898. | 103,730 00 | 13,746 00 | 10,188 03 | 31,79:500 | 159,459 00 |
| 1899. | 106,598 50 | 13,514 50 | 7,822 00 | 32,065 00 | 160,000 00 |
| 1900. | 101,448 00 | 13,562 50 | 10,589 00 | 33,203 00 | 158,802 50 |
| 1901. | 101,024 50 | 13,420 50 | 8.33 .550 | 33,161 50 | 155,942 00 |
| 1902. | 100,455 70 | 14.555 80 | 8,716 55 | 35,125 45 | 153,853 50 |
| 1903. | 99,714 1.5 | 14,872 75 | 9,652 50 | 34,703 30 | 158,943 70 |
| 1904. | 99,286 44 | 15, 11080 | 9, 17935 | 33,651 6.5 | 157,228 24 |
| 190.5 | 100,664 35 | 15,379 50 | 8,31720 | $34,18.560$ | 158,546 65 |
| 1906. | 99,518 80 | 16,247 55 | 8,839 40 | 34,410 00 | 159,015 75 |
| 1907. | 93, 38170 | 16,454 50 | 10,175 95 | 36,101 35 | 156,113 50 |
| 1908. | 98, 15620 | 17,203 75 | 9,708 90 | 34,931 05 | 159,999 90 |
| 1909. | 95,413 60 | 15,480 15 | 8,97385 | 35,354 25 | 155,221 85 |
| 1910.. | 96,468 20 | 16,531 05 | 9,557 80 | 36,609 70 | 159,166 75 |

FISHING BOUNTIES-Concluded

| Year | Nova Scotia | New <br> Brunswick | Prince <br> $\underset{\text { Island }}{\text { Elward }}$ <br> Island | Quebec | Totals |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | \% cts. | - cts. | - cts. | \% cts. | \$ ets. |
| 1911. | 99,424 90 | 15,795 00 | 8.66985 | 36,109 95 | 159, 99970 |
| 1912. | 97,904 25 | 15, 10975 | 11,119 00 | 35,863 40 | 159,996 40 |
| 1913. | 93,456 00 | 16,385 0.5 | 11,081 85 | 37,738 35 | 158,661 25 |
| 1914. | 94,990 54 | 17,536 50 | 10,339 65 | 36,717 45 | 159,584 14 |
| 1915. | 90.61105 | 17,609 95 | 9,513 95 | 41,006 10 | 158,741 05 |
| 1916. | 88,21210 | 17,54015 | 9,961 95 | 44,285 60 | 159,999 80 |
| 1917-18. | 86,11560 | 17.53835 | 10,754 75 | 45,484 40 | 159,893 10 |
| 1918-19 | 85,00065 | 17,114 35 | 10,392 35 | 47,167 90 | 159,675 25 |
| 1919-20. | 85,52105 | 16,085 20 | 8,702 20 | 44,828 25 | 155, 13670 |
| 1920-21. | 93.87300 | 13,77370 | 8,110 70 | 36,761 90 | 152,519 30 |
| 1921-22. | 91,410 20 | 14,640 60 | 9,413 00 | 43,986 00 | 159,449 80 |
| 1922-23. | 93,254 45 | 16,311 25 | 7,704 40 | 39,00245 | 157,172 5.5 |
| 1923-24. | 91,26155 | 16,123 25 | 10,153 65 | 42,378 35 | 159,916 80 |
| 1924-25. | 86,300 20 | 15,634 05 | 11,410 15 | 46,48200 | 159,8.26 40 |
| 1925-26. | 82,55035 | 18,824 30 | 10,670 70 | 47,939 45 | 159,984 80 |
| 1926-27 | 83,00690 | 16,721 00 | 13,221 55 | 45,818 65 | 159,768 10 |
| 1927-28 | 82,10700 | 19,906 80 | 12,095 45 | 44,26655 | 158,375 80 |
| 1928-29 | 79.07760 | 19,39780 | 9,334 30 | 43,61150 | 151,41120 |
| 1929-30. | 83,458 8.5 | 20,310 90 | 10,74490 | 45,234 70 | 159,749 35 |
| 1930-3 | 80,049 50 | 23,413 95 | 9,808 60 | 46,501 45 | 159,773 55 |
|  | 4,669,685 82 | 792,194 12 | 494,180 02 | 1,793,778 35 | 7,749,833 31 |

STATEMENT SHOWING THE ANNUAL EXPENDITURE ON ACCOUNT OF MARINE POLICE SERVICF. ON THE ATLANTIC COAST OF CANADA FOR PATROLIING THE TERRITORIAL FISHERIES 1870-1874 INCLUSIVE


During the period 1875 to 1885 inclusive, the Washington Treaty, which gave United States fishermen the use of Canadian Inshore fisheries, was in force.

On the expiry of the Fishery Articles of the Treaty of Washington, the present Fisheries Protection Service was organized in 1886. The following is a statement of the annual expenditure of such account from 1886 to $1930-31$ inclusive.

FISHERIES PROTECTION SERVICE
In addition to Cruisers, entered under Ontario, Quebec and British Columbia:-

(No proper division of the expenditure of these roving Cruisers could be made between the Maritime Provinces, although pro rata shares are fairly chargeable to N.S., N.B., and P.E.I.)


A pro-rata share of this amount is chargeable to the Provinces of N.S., N.B., and P.E.I.

STATEMENT SHOWING THE ANNUAL EXPENDITURE OF AND REVENUE COLLECTED BY THE DOMINION GOVERNMENT ON ACCOUNT OF THE FISHERIES SERVICE SINCE CONFEDERATION.

Province or Nova Scotta

*Revenue from licences to U.S. Fishing Vessels to which the Province has no exclusive title.

STATEMENT SHOWING THE ANNUAL EXPENDITURE OF AND REVENUE COLLECTED BY THE DOMINION GOVERNMENT ON ACCOUNT OF THE FISHERIES SERVICE SINCE CONFEDERATION-Continued

Provinct of Prince Edward Island


STATEMENT SHOWING THE ANNUAL EXPENDITURE OF AND REVENUE COL LECTED BY THE DOMINION GOVERNMENT ON ACCOUNT OF THE FISHERIES SERVICE SINCE CONFEDERATION－Continued

Province of New Brunswice

|  | Year | General Service | Cruisers | Fish Breeding | Total | Revenue |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | \＄cts． |  | \＄cts． | －cts． | \＄cts． |
| 1867. |  |  |  |  |  |  |
| 1868. |  | 5，086 77 |  |  | 5，086 77 | 44347 |
| 1869. |  | 4,17235 |  |  | 4，172 35 | ＊5，410 58 |
| 1870 |  | 8，422 63 |  |  | 8，422 63 | 1，086 42 |
| 1871. |  | 7，006 52 |  |  | 7，006 52 | 1，042 03 |
| 1872. |  | 6，47661 |  |  | 6，476 61 | 1，058 29 |
| 1873. |  | 6,85905 |  | 82233 | 7，681 38 | 64761 |
| 1874. |  | 7，351 17 |  | 3，100 13 | 10，451 30 | 97800 |
| 1875. |  | 7，373 75 |  | 3，853 73 | 11，227 48 | 83000 |
| 1876. |  | 10，080 37 |  | 3，247 41 | 13，327 78 | 2，030 91 |
| 1877 |  | 11，168 53 |  | 1，388 80 | 12，557 33 | 1，289 17 |
| 1878 |  | 10，926 11 |  | 1，468 22 | 12，394 33 | 2，015 46 |
| 1879 |  | 10，858 64 |  | 1，139 00 | 11，997 64 | 3，46736 |
| 1880 |  | －12，29100 |  | 5，600 00 | 17，891 00 | 4，276 07 |
| 1881 |  | －11，776 56 |  | －3，45591 | 15，232 47 | 4，695 28 |
| 1882 |  | 12，284 82 |  | 3，567 28 | 15，852 10 | 4，84884 |
| 1883 |  | 13，007 00 |  | －2，64614 | 15，653 14 | 4，612 12 |
| 1884 |  | 14，388 02 |  | 2,32706 $-\quad 298$ | 16，715 08 | 3,90566 |
| 1885 |  | 14，892 87 |  | －2，94398 | 17，836 85 | 4，6E0 15 |
| 1886 |  | 15，719 36 |  | 2.85202 | 18，571 38 | 4，008 10 |
| 1887. |  | 16，94400 |  | $\because \quad 2,90716$ | 19，851 16 | 4，417 52 |
| 1888. |  | 20，533 20 |  | － 3.44159 | 23，974 79 | 7，625 64 |
| 1889. |  | 20.29800 |  | －3，15017 | 23，448 17 | 8，642 88 |
| 1890. |  | 14，914 95 | ロ | $\therefore 3,72777$ | －18，642 72 | 8，834 35 |
| 1891. |  | 16，082 77 | Z | $\begin{array}{r}\text {－} 4,57241 \\ \hline\end{array}$ | － 20,65518 | 7，233 69 |
| 1892. |  | 15，707 98 |  | $\bigcirc 4,30498$ | 20，012 96 | 6，63483 |
| 1893. |  | 15，721 05 | 菏 | －4，988 13 | 20，709 18 | 7,83153 <br> 8,333 |
| 1894. |  | 18，522 94 |  | 4，833 27 | 23，356 21 | 8,333 11,170 36 |
| 1895. |  | 21，370 94 | － | 5，896 95 | 27，267 89 |  |
| 1896. |  | 20，526 56 | Fit | 6，551 62 | 27，078 18 | $\begin{aligned} & 10,69688 \\ & 10 \end{aligned}$ |
| 1897. |  | 21，67192 | － | 3，722 01 | －25，393 93 | $10,11077$ |
| 1898. |  | 17，063 58 |  | 3，958 63 | －21，022 21 | $11,51185$ |
| 1899. |  | 22，922 50 |  | 7，514 86 | ．30，437 36 | $11,43008$ |
| 1900. |  | 21，459 94 | z | 3，951 58 | $25,41152$ | $12,01527$ |
| 1001. |  | 28，4：2 51 |  | 5，976 29 | $34,42880$ | $10,15040$ |
| 1902. |  | 23，813 62 | ＊ | 12，245 86 | $36,05948$ | 11，658 34 |
| 1903 |  | 27， 13284 | 受 | 16，099 01 | $43,23185$ | 11，188 02 10,64320 |
| 1904. |  | 27，664 34 |  | 22，177 05 | 49，841 39 | 10，643 20 <br> 11，898 99 |
| 1005. |  | 25，253 16 | 㖴 | 15，47739 | $40,73055$ | $\text { 11,898 } 99$ |
| 1906. |  | 35，8： 638 | 当 | －25，75909 | 61， 61547 | $\text { 11,395 } 84$ |
| 1907. |  | 24，938 35 | 0 | －16，90000 | $41,838 \quad 35$ | $\begin{array}{r} 9,158 \\ 128 \end{array}$ |
| 1908－09． |  | 71，091 00 |  | －22，21439 | $93,30539$ | $12,38514$ |
| 1909－10． |  | $63,1.419$ | 8 | $\therefore 21,10275$ | $84,25694$ | $\begin{aligned} & 13,04488 \\ & 19 \end{aligned}$ |
| 1910－11． |  | －63，769 48 |  | 20，414 56 | 84，184 04 | $\begin{aligned} & 12,99684 \\ & 13.90215 \end{aligned}$ |
| 1911－12． |  | 58，140 00 |  | 22，950 00 | 81.09000 | $\begin{aligned} & 13,90215 \\ & 1510952 \end{aligned}$ |
| 1912－13． |  | 60.94353 |  | 30，267 38 | 91，21091 | $\begin{aligned} & 15,1925252 \\ & 17.507 .18 \end{aligned}$ |
| 1913－14． |  | 63，653 64 |  | 51,64112 | $115,29476$ | $17,50718$ |
| 1914－15． |  | 67，954 09 |  | 52，560 08 | $120,51417$ | 14，263 99 15,09780 |
| 1915－16． |  | 65，874 11 |  | 40,87642 | $106.75053$ | $\begin{aligned} & 15,09780 \\ & 15,13719 \end{aligned}$ |
| 1916－17． |  | 67，645 91 |  | 37，98756 | $105,63347$ | 15，137 19 14,42953 |
| 1917－18． |  | 70， 14887 |  | 37，021 69 | $107,17056$ | 14,42953 $16,42052$ |
| 1918－19． |  | 67.76394 |  | 36，351 19 | $104,11513$ | $\begin{aligned} & 16,42052 \\ & 16,44102 \end{aligned}$ |
| 1919－20． |  | 73，821 07 |  | 34，275 01 | 108，096 08 | $16,4410202$ |
| 1920－21． |  | 86，431 23 |  | 41，493 38 | 127，924 61 | 15,29982 16,212 85 |
| 1921－22． |  | 102，713 10 |  | 44，971 62 | 147，684 72 | 16,21285 19,28601 |
| 1922－23． |  | 96，836 88 |  | E0，298 75 | 147，135 63 |  |
| 1923－24． |  | 71，0٪258 |  | 40.87011 | 111，922 69 | $13,01014$ |
| 1924－25． |  | 97，200 01 |  | 46，096 12 | 143，29613 | 11，701 49 |
| 1925－26． |  | 106．0：2 29 |  | E0，910 64 | 156，963 63 | $9,75413$ |
| 1926－27． |  | 99，696 49 |  | 48，245 23 | 147，941 72 | 10，740 76 |
| 1927－28． |  | 113，738 34 |  | 102，131 24 | 215，869 58 | 12,663 14,337 67 |
| 1928－29． |  | 99，822 31 |  | 62，034 34 | 161，856 65 | 14，337 |
| 1929－30． |  | 106，859 30 |  | 70，117 14 | 176，976 44 | $13,00390$ |
| 1930－31． |  | 115，539 46 |  | 70，094 80 | 185，634 36 | 11，676 6 |
| $\cdots$ |  | 2，536， 89618 |  | 1，251，493 45 | 3，788，389 63 | 577，452 64 |

## STATEMENT SHOWING THE ANNUAL EXPENDITURE OF, AND REVENUE COLLECTED BY THE DOMINION GOVERNMENT ON ACCOUNT OF THE FISHERIES SERVICE SINCE CONFEDERATION-Continued

Province or Quebec

| Year | General Service | Cruisers | $\begin{aligned} & \text { Fish } \\ & \text { Breeding } \end{aligned}$ | Total | Revenue |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | - cts . | cts. | \& cts. | - cts. |  |
| 1867. | 10,27282 | 14,426 53 |  | 24,699 35 | 6,99890 |
|  | 17,889 92 | 11,374 93 |  | 29,264 87 | 4,91087 |
|  | 6,570 42 | 10,024 9,924 |  | 16,494 93 | \%,997 21 |
| 1871 | 7,000 00 | 9,000 00 |  | 16,000 00 | 6, 29085 |
| 1872. | 6,489 68 | 12,000 00 |  | 18,489 68 | 4,569 69 |
| 1873. | 7,829 94 | 9,000 00 | 610600 | 16,829 94 | 4,983 83 |
| 18 | 9,26531 <br> 9808 <br> 18 | 10.00000 10.000 | ${ }_{8}^{6.515} 46$ | 28,323 80 | 8.52354 <br> 8,90485 <br> 8 |
| 1870. | 14,282 65 | 23,832 82 | 9,016 74 | 47,132 21 | 6,43700 |
| 187 | 13,521 44 | 17.05921 | 5,670 86 | 36,251 51 | 5,881 72 |
| 1878. | 12,723 88 | 19,967 11 | 6,685 85 | 39,376 84 | 5,453 27 |
| 1879. | ${ }^{13,606} 06$ | 8.99448 | 5,772 90 | 28,373 44 | 6,286 07 |
| 1881. | 12,123 <br> 18 | 50,550 18 | 3,444 89 | 71,11886 | 9, 28618 |
| 1882. | 14,819 22 | 26,965 40 | 9,148 68 | 50,933 30 | 7,165 32 |
| 83. | 13,287 30 | 26,55546 | 7,987 12 | 47,829 88 | 3,869 47 |
| 1884 | 1. 13,186 26 | 19,935 53 | 8,512 11 | 41,633 90 | 2,715 02 |
| 188 | 13,531 77 | *31,514 07 | 10,072 52 | 55,118 36 | 3,326 35 |
| 188 | 13,938 21 | 26,091 20 | 9,197 89 | 49,22730 | 2,963 75 |
| 18 | 14,966 55 | 18,293 16 | 8,74066 | 42,000 37 | 3.80468 |
| 188 | 13,463 37 | 17,233 51 | 8,921 13 | 39,618 01 | 5.39499 |
| 1889. | 12,991 63 | 16,034 04 | 10,228 72 | 39,224 39 | 3,390 79 |
| 180. | 9,670 94 10.66688 | 15,001919 | ${ }_{9,142}^{8,31}$ | -34,952 75 | 5,40981 3,64214 |
| 1892. | 10,917 36 | 14,026 98 | 8,341 94 | 33,286 28 | 5,244 82 |
| 1893. | 11,761 34 | 14,688 97 | 9,337 79 | 35,788 10 | 7.47170 |
| 1894. | 11,692 82 | 25,645 29 | 8,63541 | 45,973 52 | 7.21182 |
| 1895. | 12,459 34 | 19,523 86 | 88854 | 40,837 84 | ${ }_{8,160}^{818}$ |
| 1896. | 11.87043 | 20,661 78 | 8 | 40,79271 | 8,160 98 |
| 1897. | $\begin{array}{r}12,91080 \\ 11,140 \\ \hline 16\end{array}$ | 12,059 54 | 8,128 40 | 32,029 <br> 31,050 <br> 0 | 7,571 715 |
| 1899. | 11,350 27 | 21,680 55 | 5,700 58 | 38,731 40 | 6,287 71 |
| 1000. | 5,452 41 | 18,970 42 | 12,701 04 | 37,123 87 | 2,543 04 |
| 1901. | 7,934 03 | 16,2:8 44 | 15.21864 | 39,411 11 | 4.73892 |
| 1903. | 6, 24258 | 24,995 ، 6 | 20,142 94 | 51,380 98 | 2,498 85 |
| 1203. | 6,585 86 | 21,021 00 | 8.08003 | 35,686 89 | 4,379 15 |
| 1904. | 7,619 67 | ${ }^{23,011} 05$ | 11,454 24 | 42,084 96 | 5,070 64 |
| 1905. | 6,769 16 | 15,976 88 | 14,140 65. | 36,886 69 | 4,648 56 |
| ${ }_{1007}^{1006}$ | 8,12304 | 26,969 <br> 29 <br> 22 | ${ }^{12,617}{ }^{10,683} \mathbf{0 1}{ }^{\circ}$ | 47,709 54 | 8,564 ${ }^{\text {89 }}$ |
| 190809 | 5,59094 $\mathbf{1 1 , 9 6 0} 00$ | 22,763 <br> 3640 <br> 00 | 10,683 16,760 46 | 65,122 46 | 8,79791 |
| 1909-10 | 10,316 05 | 25,811 96 | 19,292 31 | 55,420 32 | 4,94746 |
| 1910-11 | 8,984 36 | 42,975 48 | 20,230 50 | 72,250 34 | 5,336 61 |
| 1911-12. | 17,0:0 00 | 32,998 00 | 18,104 00 | 68,152 00 | 6,044 75 |
| 1912-13 | 10,998 48 | 25,321 81 | 17,152 03 | 53,472 32 | 8.09579 |
| 1913-14 | 9,921 88 | 20,770 88 | 23,042 82 | 62,735 58 | 5,286 89 |
| 1914-15 | 11,50300 | 30,644 81 | 22,000 08 | ${ }^{64,147} 89$ | 7,638 75 |
| 1915-16 | 6,995 74 | 31,893 30 | 17,323 62 | 56,212 66 | 6,006 89 |
| 1916-17 | 7,168 09 | 26,356 47 | 14,274 14 | 47,798 70 | 6,981 14 |
| 1917-18 | 8,399 76 | 42,752 33 | 19,727 25 | 70,879 34 | 7,664 73 |
| 1918-19 | 7,470 58 | 41,563 30 | 12,923 27 | 61,857 15 | 8,121 80 |
| $1919-20$ | 9,793 46 | 33,679 99 | 13,125 26 | 56,598 71 | 8.08578 |
| 1820-21 | 33,182 26 | 45,963 09 | 15,955 38 | 95,100 73 | 6,536 90 |
| 1821-22 | 23,815 41 | 49,947 22 | 18.772 19 | 92.53482 | 14,357 39 |
| 1922-23 | 2,146 60 | 90432 | 2,668 48 | 5,719 40 |  |
| 1923-24 | 282 ¢0 | 14381 |  | 42871 |  |
| ${ }_{1925-26}$ | 17847 |  |  | 17847 |  |
| 1926-27 | 12312 |  |  | 12312 |  |
| 1927-28 | 14484 |  |  | 14484 |  |
| 1928-29 | 12894 |  |  | 12894 |  |
| 1929-30. | 25402 |  |  | 25402 | 3181 |
| 1930-31. | 3.89633 |  |  | 3,896 33 | 6065 |
|  | 628,138 94 | 1,240,740 91 | 661,00362 | 2,429,883 47 | 341,354 45 |

STATEMENT SHOWING THE ANNUAL EXPENDITURE OF, AND REVENUE COL LECTED BY, THE DOMINION GOVERNMENT ON ACCOUNT OF THE FISHERIES
SERVICE SINCE CONFEDERATION.

Provinct of Ontario

|  | Year | General Service | Cruisers | Fish Breeding | Total | Revenue |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | \$ cts. | - | \$ cts. | * cts. | \$ cts. |
| 1867. |  | 6,108 00 |  |  | 6,108 00 | 3,49200 |
| 1868. |  | 6,526 96 |  |  | 6,526 96 | 1,927 02 |
| 1869 |  | 8,547 65 |  |  | 8,54765 | 2,739 13 |
| 1870. |  | 5,995 72 |  | 2,874 47 | 8,870 19 | 6,165 56 |
| 1871 |  | 5,825 98 |  | 4,44634 | 10,272 32 | 5,039 35 |
| 1872. |  | 4,36443 |  | 5,529 73 | 9,894 16 | 4,818 57 |
| 1873. |  | 4,344 32 |  | 3,697 16 | 8,041 48 | 4,54750 |
| $1874 .$ |  | 8,969 06 |  | 5,100 00 | 14,069 06 | 4,386 75 |
| 1875. |  | 8,388 81 |  | 5,635 74 | 14,024 55 | 4,478 05 |
| 1876 |  | 12,815 73 |  | 12,920 90 | 25,736 63 | 4,640 21 |
| 1977 |  | 13,521 44 |  | - 12,132 70 | 25,654 14 | 4,673 25 |
| 1878 |  | 12,723 88 |  | 4,949 77 | 17,673 65 | 5,20200 |
| 1879 |  | 11,741 40 |  | 7,102 54 | 18,843 94 | 6,188 80 |
| 1880 |  | 12,003 37 |  | 5,300 71 | 17,304 08 | 6,465 95 |
| 1881 |  | 11,506 74 |  | 5,42263 | 16,929 37 | 7,795 99 |
| 1882. |  | 11,729 77 |  | 8,655 82 | 20,385 59 | 9,849 18 |
| 1883. |  | 13,602 00 |  | 7,761 45 | 21,363 45 | 9,980 28 |
| 1884. |  | 15,192 73 |  | 8,01117 | 23,303 90 | 11,345 14 |
| 1885. |  | 17.13598 |  | : 8,69015 | 25,826 13 | 11,914 37 |
| 1886. |  | 17,900 74 |  | 9,696 54 | 27,597 28 | 15,917 62 |
| 1887. |  | 19,534 C1 |  | 8,880 14 | 28,414 15 | 15,063 57 |
| 1888. |  | 19,860 52 |  | 9,529 00 | 29,389 52 | 18,251 25 |
| 1889. |  | 19,264 98 | 2,63146 | 11,311 33 | 33,207 77 | 24, 26506 |
| 1890 |  | 14,53987 | 2,254 63 | 11,494 31 | 28,288 81 | 23,666 95 |
| 1891. |  | 15,540 30 | $\therefore 2,76929$ | 11,76981 | 30,079 40 | 26,61170 |
| 1892. |  | 15,155 83 | 5,064 91 | $\because \quad 9,28137$ | 29,502 11 | 10,708 00 |
| 1893. |  | 20,116 91 | 32,940 56 | - 11,19465 | 64,252 12 | 30.62309 |
| 1894. |  | 22,634 37 | 20,022 18 | : 10,821 43 | 53,477 98 | 28,632 82 |
| 1895. |  | - 21,93856 | - 19,373 24 | 8,755 93 | 50,067 73 | 33,211 60 |
| 1896. |  | 24,917 48 | - 17,29594 | 9,468 37 | 51,68179 | 35, 68168 |
| 1897 |  | 21,592 40 | $\therefore \quad 15,94843$ | - 8,77419 | 46,315 02 | 32, 81466 |
| 1898 |  | 19,239 34 | : 15,15543 | - 9,97674 | 44,37151 | 30,57457 |
| 1899 |  | 11,784 22 | - 15,122 45 | - 9,98210 | -36,88897 | 5,830 85 |
| 19 |  | 3,604 94 | - 12,25072 | $10,67572$ | 26,53138 | 79412 |
| 1901 |  | 3,819 57 | -11,304 51 | - 12,835 60 | 27,959 68 | 71735 |
| 1902. |  | 4,445 93 | - 11,76487 | $\because 12,44531$ | 28,656 11 | 37342 |
| 1903. |  | 4,66053 | : 12,33437 | - 14,84436 | 31,839 26 | 1,818 83 |
| 1904. |  | 4,500 43 | : 45,13310 | 15,300 46 | 64,933 99 | 2,578 48 |
| 1905. |  | 4,294 60 | $\therefore 109,56051$ | 13,832 32 | 127,687 43 | 1,47191 |
| 1906. |  | 4,949 67 | - 32,585 51 | $\because 15,06917$ | . 52, 60435 | 49915 |
| 1907. |  | 3, 18834 | 32, 69885 | - 14,112 42 | 49,999 61 | 34910 |
| 1908-09 |  | 14,898 00 | $\because 36,038$ 00 | - 28,358 02 | 79,294 02 | $\begin{array}{r}790 \\ 78 \\ \hline\end{array}$ |
| 1909-10. |  | $\begin{array}{r}9,672 \\ 11.788 \\ \hline\end{array}$ | 1! 26,00914 | 22,61430 $\therefore \quad 24$ | 58,29568 | 1,520 75 |
| 1910-11. |  | 11,788 30 | $\square$ $\therefore 24,23749$ | $\therefore \quad 24,39321$ | 60,419 00 | 28025 |
| 1911-12. |  | 28,12700 | 28,006 00 | - 47,61100 | 103,744 00 | 65845 <br> 548 |
| 1912-13. |  | 13,213 90 | $1.330,01523$ | $\begin{array}{r}61,58026 \\ \hline 6887781\end{array}$ | 104,809 41 | 54874 80669 |
| 1913-14. |  | 22,733 57 | $\because 27,65061$ | - 68,87781 | 119,261 99 | $80669$ |
| 1914-15. |  | $\because 23,04882$ | i i 30,169 08 | 103,182 20 | 156,400 10 | $\begin{array}{r} 91880 \\ 96000 \end{array}$ |
| 1915-16. |  | - 19,468 64 | - 28,21658 | 63,712 73 | 111,397 95 | 2,60065 $\because 80870$ |
| 1916-17. |  | 14,588 69 | $\therefore 25,99406$ | 85,922 62 | 126,505 37 | -808 70 |
| 1917-18. |  | 15,838 94 | $\bigcirc 36,70863$ | 69,864 18 | 122,411 75 | $2,34548$ |
| 1918-19 |  | 4,58656 | $\bigcirc 53,40430$ | 64,996 55 | 122,987 41 |  |
| 1919-20. |  | 24700 | $\therefore 39,57517$ | 75,47978 | 115,30195 | $\begin{aligned} & 1,42180 \\ & 0 \end{aligned}$ |
| 1920-21. |  | 509 | 84,373 39 | - 82,320 21 | 166,608 69 | $9,22125$ |
| 1921-22. |  |  | $\because 52,26083$ | $\bigcirc 80,40337$ | 132,664 20 | 44,42397 |
| 1922-23. |  |  | - 27,90141 | - 79,690 16 | 107,59157 | 4,169 29 |
| 1923-24. |  |  | 35562 | 84,180 87 | 84,536 49 | 6,076 7 |
| 1924-25. |  |  |  | 79,47188 | 79,471 88 | 957 |
| 1925-26. |  |  |  | 79,938 10 | 79,93810 | $\begin{array}{r}9,71928 \\ \hline 12691\end{array}$ |
| 1926-27. |  |  |  | : 19,894 97 | 19,894 97 | 1269 |
| 1927-28. |  |  |  | 1.125 : 8 | 2538 |  |
| 1928-29. |  |  |  |  |  |  |
| 1929-30. |  |  |  |  |  | 100 |
| 1930-31. |  |  |  |  |  | 10 |
| $\therefore \because$ |  | 666,744 26 | 967,126 52 | 1,580,800 35 | 3,214, 67113 | 520,136 96 |

*Manitoba and Northifest Territories


STATEMENT SHOWING THE ANNUAL EXPENDITURE OF, AND REVENUE COLLECTED BY THE DOMINION GOVERNMENT ON ACCOUNT OF THE FISHERIES SERVICE SINCE 1892.
-Province or Manitoba

|  | Year | General Service | Cruisers | Fish Culture | Total | Revenue |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\delta$ cts. | 5 cts. | 5 cts. | \$ cts. | \$ cts. |
| 1892-93. |  | 2,162 55 |  | 6,943 35 | 9,105 90 | 1,464 68 |
| 1893-94. |  | 2,187 35 |  | 7,362 53 | 9,549 88 | 71585 |
| 1894-95. |  | 2,663 55 |  | 3,849 98 | 6,513 53 | 2,149 30 |
| $1893-96$. |  | 3,952 18 |  | 2,865 69 | 6,817 87 | 1,670 19 |
| 1896-97. |  | 1,908 14 |  | 2479 | 1,932 93 | 1,71900 |
| 1897-98. |  | 1, 00626 |  | 1,586 12 | 2,792 38 | 1,515 00 |
| 1898-99. |  | 1,883 37 |  | 3,967 36 | 5,850 73 | 1,537 85 |
| $1899-00$. |  | 1,723 59 |  | 2,791 71 | 4,515 30 | 2,028 00 |
| 1900-01. |  | 2,669 74 |  | 4,174 53 | 6.84427 | 1,10300 |
| 1901-02. |  | 2,624 87 |  | 2,622 43 | 5,24730 | 2,27900 |
| 1902-03. |  | 3,129 70 |  | 2, 11509 | 5,544 79 | 1,78400 |
| 1904-05. |  | 2,789 74 |  | 3,978 04 | 6,767 78 | 4,002 70 |
| 1905-06. |  | 2,807 04 |  | 7,04167 | 9,842 31 | 4,879 70 |
| 1906-07. |  | 2,173 33 | 7,867 5500 | 25,923 15,858 35 | 37,477 06 | 4,14800 |
| 1907-08. |  | 4,638 51 | 13,903 95 | 25,283 46 | 43,825 92 | 3,527 05 |
| 1908-09. |  | 3,946 00 | 7,560 00 | 16,987 13 | 28,493 13 | 3,704 22 |
| 1909-10. |  | 9,359 23 | 7,794 02 | 14,386 86 | 31,540 11 | 3,962 88 |
| 1910-11. |  | 9,432 70 | 7,309 55 | 15,161 39 | 31,894 64 | 8,137 75 |
| 1911-12. |  | 7,371 00 | 6,571 00 | 15,793 00 | 29,735 00 | 6,334 00 |
| - |  | 7,062 15 | 12,298 62 | 40,801 11 | 60,161 88 | 6,039 00 |
| - 1914 -14. |  | 29,694 13 | 48,006 49 | 47,769 97 | 125,470 59 | 4,846 50 |
| 1915-16. |  | 28,887 50 | 172,677 12 | 31,532 95 | 233,097 57 | 8,312 08 |
| 1916-17. |  | 13,518 89 | 61,986 35 | 26,654 36 | 102,159 60 | 5.92600 |
| 1917-18. |  | 13,228 17 | 19,122 24 | 25,750 64 | 58, 10105 | 8,252 27 |
| 1918-19. |  | 13,164 99 | 18,943 45 | 28,27784 | 60,386 63,11184 | 12,91065 12,73020 |
| 1919-20. |  | $\begin{array}{r}11,647 \\ 8,704 \\ \hline 9\end{array}$ | 22,058 21,176 75 | 29,405 83 | 63,11184 56,26138 | 12,139 17 |
| 1920-21. |  | 10,979 14 | 16,787 94 | 38,893 96 | 66,661 04 | 17,792 58 |

STATEMENT SHOWING THE ANNUAL EXPENDITURE OF, AND REVENUE COL LECTED BY THE DOMINION GOVERNMENT ON ACCOUNT OF THE FISHERIES SERVICE SINCE 1892-Coneluded
*Province or Mantoba-Concluded

| Year | General <br> Service | Cruisers | Fish Breeding | Total | Revenue |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5 . cts. | 5 cts. | \% cts. | 8 cts. | \$ cts. |
| 1921-22. | 14,458 95 | 23,624 52 | 33,850 69 | 71,934 16 | 11,636 54 |
| 1922-23. | 17,570 39 | 21,852 05 | 30,787 33 | 70,298 77 | 12,736 68 |
| 1923-24. | 14,630 97 | 20,051 25 | 28,429 89 | 63,112 11 | 15, 68338 |
| 1924-25. | 14,19783 | 21,519 12 | 25,646 64 | 61,363 59 | 17,631 21 |
| 1925-26. | 17,172 70 | 22,251 26 | 21,265 04 | 60,689 00 | 17,908 00 |
| 1926-27. | 16,769 07 | 21,77571 | 19,924 81 | 58,379 59 | 21,291 05 |
| 1927-28. | 21,379 96 | 15, 62311 | 22,454 22 | 59,957 29 | 23,781 18 |
| 1928-29. | 21,512 09 | 22,680 03 | 30,335 78 | 74,527 90 | 24,86723 |
| 1929-30. | 31,584 85 | 24,160 46 | 28,345 72 | 84,091 03 | 30,150 67 |
| 1930-31. | 14,825 43 | 9,118 93 | 7,916 63 | 31,860 99 | 7,982 44 |
|  | 393,200 20 | 646,774 85 | 723,940 12 | 1,763,915 17 | 331, 56492 |

*Subsequent to 1892, see Manitoba and Northwest Territories separate sheets.

STATEMENT SHOWING ANNUAL EXPENDITURE OF, AND REVENUE COLLECTED BY THE DOMINION GOYERNMENT ON ACCOUNT OF THE FISHERIES SERVICE SINCE 1906.

Province of Saskatchewan


[^4]STATEMENT SHOWING THE ANNUAL EXPENDITURE OF, AND REVENUE COLLECTED BY THE DOMINION GOVERNMENT ON ACCOUNT OF THE FISHERIES SERVICE SINCE 1906.

Province of Alberta

*Included in Saskatchewan.
STATEMENT SHOWING ANNUAL EXPENDITURE OF, AND REVENUE COLLECTED BY THE DOMINION GOVERNMENT ON ACCOUNT OF THE FISHERIES SERVICE SINCE CONFEDERATION.

Provincz of British Columbia

| Year | General Service | Cruisers | $\begin{aligned} & \text { Fish } \\ & \text { Culture } \end{aligned}$ | Total | Revenue |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1867 | * 'cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. |
| 1868. |  |  |  |  |  |
| 1869 |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| 1873. |  |  |  |  |  |
| 1874. |  |  |  |  |  |
| 1875. |  |  |  |  |  |
| 1876. |  |  |  |  |  |
| 1877. | 63500 |  |  | 63500 |  |
| 1878. | 69000 |  |  | 69000 |  |
| ${ }_{1880}^{889}$ | 1.42373 | ........... |  | ${ }_{1}^{1,423} 73$ |  |
| ${ }^{1880} 8$. | 1,39992 1.721 |  |  | 1,39992 1,72148 | 0 |
| 1882 | 1,59908 |  |  | 1,721 <br> 1,599 <br> 18 | 67250 |
| ${ }_{1}^{1883} 1$ | 1,59992 |  |  | 1,59992 | 79000 |
| 1888. | 2,23197 |  | 3,70431 | 1,936 <br> 13 <br> 13 <br> 7 <br> 7 | 12750 365 50 |
| 1886 . | 1,43713 1,878 53 |  | 1,87317 5,405 87 | 13,310 7,284 40 | ${ }_{922} 50$ |
| 1887. | 5,860 72 |  | 4,62335 | 10,484 07 | 94350 |
| 1888. | 3,661 83 |  | 5,653 90 | ${ }^{9,315} 73$ | 6,934 55 |
| 1889. | 4,333 63 |  | 4,93326 | 9,266 89 | 6,416000 |
| 1891. | 3,634 4,320 |  | 4,20261 3,3951 | 7,660 04 | 11,36750 12.914 |
| 1892. | 6,158 17 |  | 2,896 57 | 9,034 74 | 8,192 48 |
| 1893. | 5,49060 |  | 3,630 68 | 8.12128 | 40,264 00 |
| 1895. | 6.218 74 |  | 3,27319 2,899 | - | 23, 51795 |
| 1880. | 6,226 77 |  | 2,817 02 | 9,043 79 | 26,410 75 |
| 1897. 1898. | 8,84164 |  | 2,840 62 | 11,68226 | 39, 88888 |
| 1898. 1899. | 8,508 8,459 47 |  | 2,389 <br> 3 <br> 3 <br> 786 <br> 14 | 10,898 <br> 12,195 <br> 18 | 47,86475 45,80175 |
| 900 | 13,662 17 |  | ${ }_{2} \mathbf{2}, 74188$ | 16,404 05 | 53,195 35 |

STATEMENT SHOWING THE ANNUAL EXPENDITURE OF, AND REVENUE COL LECTED BY THE DOMINION GOVERNMENT ON ACCOUNT OF THE FISHERIES SINCE CONFEDERATION-Concluded

Province or British Colombia-Concluded

|  | Year | General Service | Cruisers | Fish Culture | Total | Revenue |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | ¢ cts. | S cts. | ¢ cts. | \$ cts. |
| 1901. |  | 17,886 36 |  | 17, 70977 | 35,596 13 | 52,960 35 |
| 1902 |  | 18,660 73 | 40, 12250 | 20,508 57 | 79,291 80 | 41,178 65 |
| 1903. |  | 17,808 45 | 36,239 02 | 23,275 29 | 77,322 76 | 43,01562 |
| 1904 |  | 15, 13365 | 33,083 19 | 25,040 81 | 73,257 65 | 56,904 34 |
| 1905 |  | 16,631 37 | 42,104 39 | 61,675 57 | 120,411 33 | 47,436 00 |
| 1903. |  | 30,14135 | 54, 11376 | 83,687 16 | 167,942 25 | 51,532 50 |
| 1907. |  | 20,381 97 | 34,228 34 | 39,379 94 | 93,990 25 | 29,903 95 |
| 1908-09 |  | 55,951 00 | 86,15100 | 64,149 57 | 206,251 57 | 39,251 65 |
| 1909-10 |  | 44,799 61 | 306, 18598 | 66,847 35 | 417,832 94 | 41,86480 |
| 1910-11 |  | 99,794 13 | 80,53284 | 97,848 04 | 278, 17501 | 45,846 70 |
| 1911-12 |  | 43,265 00 | 133,558 00 | 75,907 00 | 252,730 00 | 44,83851 |
| 1912-13. |  | 110,779 22 | 221,061 83 | 68,719 37 | 400,560 42 | 48,824 50 |
| 1913-14. |  | 129,393 33 | 501,715 55 | 83,12310 | 714,23198 | 52,835 50 |
| 1914-15 |  | 227,807 84 | 153,082 83 | 77,340 42 | 458,231 09 | 41,423 95 |
| 1915-16 |  | 112,827 34 | 138,594 96 | 66,071 97 | 317,494 27 | 46, 86254 |
| 1916-17 |  | 106,861 03 | 109,234 29 | 55,615 62 | 271,710 94 | 47,327 84 |
| 1917-18 |  | 123,295 97 | 117,621 80 | 54,35916 | 295,276 93 | -53,515 21 |
| 1918-19 |  | 138,876 49 | 104,048 17 | 59,048 99 | 301,97365 | 59,349 94 |
| 1919-20. |  | 176,973 35 | 243,141 41 | 111,918 01 | 532,032 77 | 270,698 41 |
| 1920-21 |  | 188,597 86 | 393,096 67 | 130,421 69 | 712,116 22 | 233,282 04 |
| 1921-22 |  | 137,662 63 | 382, 27218 | 134,628 71 | 654,564 27 | 153,904 33 |
| 1922-23. |  | 137,343 43 | 304,771 79 | 113,43753 | 555,552 75 | 223,657 57 |
| 1923-24. |  | 131,580 83 | 297,600 19 | 121,182 83 | 550,36385 | 122,435 24 |
| 1924-25. |  | 128,897 11 | 273,227 13 | 124,025 49 | 526,149 73 | 86,218 79 |
| 1925-26. |  | 167,560 18 | 255, 49162 | 126,095 12 | 549, 14692 | 117,755 80 |
| 1926-27 |  | 211,667 84 | 276,838 74 | 108,987 77 | 597,494 35 | 116,072 66 |
| 1927-28 |  | 218,889 30 | 331,157 07 | 112,532 65 | 662,579 02 | 53,377 01 |
| 1928-29 |  | 161,380 06 | 329,488 09 | 123,217 69 | 614,08584 | 44,54667 |
| 1929-30 |  | 172,668 89 | 405,83665 | 117,203 43 | 695,708 97 | 34,503 40 |
| 1930-31. |  | 263,913 34 | 449,025 93 | 132,688 39 | 845,62766 | 37,743 78 |
|  |  | 3,532,707 08 | 6,133,626 67 | 2,567,577 65 | 12,233,911 40 | 2,691,064 87 |

STATEMENT SHOWING ANNUAL FXPENDITURE OF, AND REVENUE COLLECTED BY THE DOMINION GOVERNMENT ON ACCOUNT OF THE FISHERIES SERVICE SINCE 1900.

Yukon


STATEMENT SHOWING THE ANNUAL EXPENDITURE OF, AND REVENUE COLLECTED BY THE DOMINION GOVERNMENT ON ACCOUNT OF THE FISHERIES SERVICE SINCE 1892.

Northwest Termitories

| Year | General Service | Cruisers | Fish Culture | Total | Revenue |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | S : cts. | $s$ cts. | $\boldsymbol{s}$ cts. | \$ cts. | \$ cts. |
| 1892-93. | 1,770 41 |  |  | 1,770 41 | 19700 |
| 1893-94.. | 3,143 94 |  |  | 3,14394 | 21114 |
| 1899-95. | 3,515 16 |  |  | 3.51516 | 30950 |
| 1895-96. | 2,963 02 |  |  | 2.96302 | 58650 |
| 1896-97. | 2,18158 | ........... |  | 2,18158 | 34413 |
| 1897-98. | 2,324 66 | ........... |  | 2,324 66 | 39387 |
| 1898-99. | 4,065 68 |  |  | 4,065 68 | 15050 |
| 1899-00. | 3,848 25 |  |  | 3,848 25 | 1,522 50 |
| 1900-01. | 6,25139 |  |  | 6,251 39 | 81655 |
| 1901-02. | 5,928 22 | .......... |  | 5,928 22 | 95007 |
| 1902-03 | 7,076 26 | .......... |  | 7,076 26 | 1,350 50 |
| 1903-04 | 7,31749 | ... |  | 7,317 49 | 92250 |
| 1904-05. | $\begin{array}{r}7,00355 \\ 11.124 \\ \hline\end{array}$ |  |  | 7,003 55 | 1,15150 |
| 1905-06. | 11,124 22 |  |  | 11,124 22 | 86897 |
|  | 58,258 58 |  |  | 58,258 58 | 9,775 23 |

Note.-For Alberta and Saskatchewan subsequent to 1906, see separate statements for each. BY THE DOMINION GOVERNMENT ON ACCOUNT OF THE FISIIERIES SERVICE.

Hudson Bat District

| Year | General Service | Cruisers | Fish Culture | Total | Revenue |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | \$ cts. | \$ cts. | \$ cts. | \$ cts. | - cts. |
| 1903-04.. |  |  |  |  | 1000 |
| 1904-05.. | ............. |  |  |  | 1000 |
| 1905-06. |  |  |  | . . . ${ }^{\text {a }}$ | 1000 |
| 1906-07. |  |  | . | ....... | 1000 |
| 1907-08.. | .... |  | . .......... |  | 36000 |
| 1908-09. | ... |  | ............ | ........ | 2000 |
| 1909-10.. |  |  | ........... |  | 30183 |
| 1910-11.. |  |  | .... |  | 10000 |
|  |  |  | ........... |  | 82183 |

## APPENDIX No. 9

## LIST of UNITED STATES FISHING VESSELS WHICH ENTERED CANADIAN PORTS ON THE ATLANTIC COAST DURING THE YEAR ENDED DEGEMBER 31, 1930

| Name of Vessel | Number of times entered | Tonnage | Number of men in crew | - Reason for Entry | Quantity of fish landed if any |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | lbs. |
| Adventure. | 4 | 62 | 25 | Shelter. |  |
| Alice M. Doughty. | 3 | 15 | 8 | " repairs... |  |
| Aloma..... | 1 | 28 | 9 | ${ }^{\prime}$ |  |
| Amherst. | 2 | 164 77 | 14 | " $\quad$........................ |  |
| Andrew \& Rosalie. | 3 | 47 | 19 | …\|-........... |  |
| Angie B. Watson... | 2 | 36 | 15 | ". land deceased seam |  |
| Angie C. Marshall. | 4 | 56 | 24 | " water. |  |
| Arthur D. Story... | 4 | 49 | 27 | " repairs. |  |
| Azores............ | 1 | 53 | 20 | " |  |
| Barbara... | 3 | 97 | 8 | " |  |
| Bernie \& Bessie. | 4 | 27 | 8 | " |  |
| Bettina.... | 1 | 66 | 10 | " |  |
| Cape Ann....... | 12 | 53 | 19 | " ${ }^{\text {a }}$. ${ }^{\text {a }}$ |  |
| Chester T. Marshall. | 6 | 14 | 3 | Collecting lobsters. |  |
| Carrie S. Roderick.. | 1 | 50 | 9 | Shelter............ |  |
| Catherine........ | 2 | 77 | 27 | " repairs. |  |
| Catherine Burke. | 13 | 68 | 25 | " ${ }^{\text {c }}$. |  |
| Col. Lindbergh. . | 3 | 41 | 8 | " |  |
| Col. Lindbergh... | 5 | 88 | 8 23 | Shelter, landed fish. | 5,000 |
| Corinthian.... | 3 | 97 | 10 | " repairs,....... |  |
| Dacia.... | 21 | 42 | 17 | " repairs, water,fishing |  |
| Dartmouth. | 1 | 114 | 13 | "............. |  |
| Dawn. | 9 | 79 | 28 | " repairs. |  |
| Dorothy M... | 5 | 11 | 7 | Shelter.. |  |
| Edith C. Rose. | 4 | 70 | 27 | " |  |
| Edith \& Elinor. | 3 | 91 | 13 | " |  |
| Eleanor. | 1 | 36 | 9 | " ${ }^{\text {a }}$. |  |
| Eleanor Nickerson. | 5 | 113 | 27 | " . ${ }^{\text {a }}$. |  |
| Elizabeth A. | 8 | 12 | 8 | " ${ }^{\text {a }}$....... |  |
| Elizabeth H... | 1 | 12 | 8 | " ${ }^{\text {a }}$................ |  |
| Elizabeth M. King. | 3 | 30 | 7 | "،......... |  |
| Elmer E. Gray. | 8 | 71 | 23 | " |  |
| Eloira Gaspar. | 2 | 71 | 9 | " |  |
| Elsie.............. | 1 - | 90 | 8 | " |  |
| Ellen T. Marshall. | 6 | 75 | 25 | " |  |
| Etk.............. | 13 | 66 56 | 23 | " |  |
| Exeter....... | 1 | 78 | 10 | " |  |
| Frances C. Denchy. | 3 | 75 | 12 | " |  |
| Geraldine \& Phyllis. | 1 | 77 | 11 | " |  |
| Gertrude de Costa... | 11 | 70 | 25 | " |  |
| Gertrude L Thebaud | 1 | 93 | 27 | " |  |
| Gertrude M. . | 1 | 86 | 10 | " |  |
| Gossoon... | 5 | 51 | 27 | " |  |
| Grace \& Evelyn. | 1 | 55 | 10 | " |  |
| Grand Marshall. | 6 | 70 | 23 | " 6. |  |
| Herbert Parker. | 7 | 93 | 25 | " $6 .$. |  |
| Hesperus... | 5 | 92 | 27 | " ${ }^{\text {c....... }}$ |  |
| Imperator. . | 1 | 79 | 23 | $"$ " |  |
| Ingomar........ | 6 | 85 | 23 | * |  |
| Isabel Parker... | 6 | 48 | 27 | * |  |
| John A. Cooney. | 3 | 14 | 7 | " ${ }^{\text {c...... }}$ |  |
| John J. Fallon.... | 2 | 60 | 23 | Repairs, water. |  |
| John R. Eucesson. | 1 | 33 | 8 | Shelter....... |  |
| J. M. Marshall.. | 2 | 60 | 23 | " |  |
| Juneal... | 1 | 57 | 8 | Land sick seaman. |  |
| Killarney. | 15 | 73 | 27 | Shelter, land sick seaman. |  |
| 1. A. Dunton | 8 | 112 | 25 | Shelter. |  |
| Lark... | 3 | 121 | 27 | ${ }^{4}$ |  |

LIST OF UNITED STATES FISHING VESSELS WHICH ENTERED CANADIAN PORTS ON THE ATLANTIC COAST DURING THE YEAR ENDED DECEMBER 31, 1930-Con.

| Name of Vessel | Number of times entered | Tonnage | Number of men in crew | Reason for Entry | Quantity of fish landed if any |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Laura Goulart. . . | 12 | 73 | 22 | Shelter.. | lbs. |
| L. B. Marshall. .... | 2 | 59 | 22 | "\% ............. |  |
| Leretha.. | 2 | 67 | 10 | " ${ }^{4}$........... |  |
| Little Ruth.... | 2 | 12 | 9 | ، |  |
| Louise B. Marshall.. | 8 | 74 | - 27 |  |  |
| Lucia....i........ | 1 | 43 43 | 10 | " ${ }^{6}$............. |  |
| Marie \& Winnifred. . | 3 1 | 43 $-\quad 67$ | 9 8 | " ${ }^{\text {" }}$, ${ }^{\text {c.............. }}$ |  |
| Marilyn.............. | $\begin{array}{r}1 \\ \hline\end{array}$ | - 97 | 12 | " |  |
| Mary A. | - 2 | 17 | 7 | " |  |
| Mary de Costa. | 16 | 62 | - 23 | " |  |
| Mary E. O'Hara. | 6 | 49 | 23 | ${ }^{\prime \prime}$ |  |
| Mary F. Curtis.. | 4 | 65 | 23 | " ${ }^{\text {a }}$, |  |
| Mary P. Goulart. | 1 | 66 | 27 | Land sick seaman.... |  |
| Morning Star... | 15 | 57 | 25. | Shelter, leaking, land fish | 10,000 |
| Natalie............ | 4 | 19 | 7 | Shelter..... |  |
| Natalie Hammond. | 5 | 51 | 23 | " repairs. |  |
| New Dawn. | 3 | 20 | 13 | "، |  |
| Old Glory........ | 2 | 51 | 13 | " |  |
| Oretha F. Spinney | 1 | 65 | 25 | " ${ }^{\prime \prime}$. |  |
| Philip P. Manta. | 7 | 61 | 19 | " repairs..... |  |
| Pilot...... | 7 | 18 | 6 | . |  |
| Pollyanna. | 2 | 66 | 7 | " |  |
| Progress.... | 1 | 61 | 23 | " |  |
| Rhodora....... | 2 | 70 | 25 | " |  |
| Richard J. Nunan | 10 | 55 | 15 | " |  |
| Ruth Lucille.... | 2 | 63 | 10 | " |  |
| Ruth \& Mildred. | 2 | 21 | 9 | " 6 |  |
| Sam \& Priscilla. | 5 | 19 | 6 | " |  |
| Satelite. | 8 | 14 | 5 | Collecting lobsters. |  |
| Shamrock. | 4 | 68 | 27 | Shelter......... |  |
| Squanto. | 5 | 81 | 23 | Shelter, land sick seaman. |  |
| Sunapee... | 3 | 18 | 9 | "* ..... |  |
| Teazer.... | 5 | 59 | 21 | ، |  |
| Thomaston.. |  | 19 | 7 |  |  |
| Wanderer..... | 5 | 132 | 31 | " land sick seaman |  |
| William L. Putnam. | 1 | 73 | 11 |  |  |

APPENDIX No. 10
LIST OF UNITED STATES FISHING VESSELS WHICH ENTERED CANADIAN PORTS ON THE PACIFIC COAST DURING THE YEAR ENDED DECEMBER 31, 1930

| Name of Vessel | Number of times entered | Tonnage | Number of men in crew | Reason for Entry | Quantity of fish landed if any |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Actor. | 1 | 7 | 2 | Sell fish. | lbs. 4,000 |
| Addington. | 7 | - 26 | 6 | - | 106,000 |
| Agnes C... | 1 | 17 | 7 | Shelter.. | 10,00 |
| Akutan... | 8 | 46 | 10 | Sell fish. | 202,000 |
| Albatross. | 4 | 40 | 11 | ". bait. | 104,000 |
| Aleutian.. | 5 | 36 | 13 | " " and supplies. | 20,000 |
| Alitak... | 10 | 14 | 4 | " " ، | 18,000 |
| Alki.. | 14 | 7 | 3 | "" $\quad$................... | 74,000 |
| Alma. | 4 | 27 | 5 | Bait........ |  |
| Aloba. | 9 | 19 | 5 | " shelter, sell fish. | 2,000 |
| Alten: | 5 | 43 | 9 | Sell fish............ | 124,000 |
| America. | 1 | 25 | 11 | Bait.... |  |
| Angeles. | 2 | 28 | 6 |  |  |
| Antler. | 6 | $\cdots 28$ | 6 | Engine trouble, bait...... |  |
| Anna J. | 11 | 22 | 6 | Sell fish......... | 138,000 |
| Arcade |  | - 14 | 4 |  | 40,000 |
| Argo. | $\cdots 5$ | 26 | 6 | Shelter, bait, water. |  |
| Arne. | 16 | 23 | 6 | Sell fish, brit, ice. | 10,000 |
| Arctic. | 5 | 29 | 9 | Sell fish. | 110,000 |
| Arcturus. | 2 | 8 | 3 | Bait.. |  |
| Arrow... | 5 | 40 | 9 | Sell fish. | 74,000 |
| Atlantic | 6 | 24 | 9 |  | 166,000 |
| Atlas. | 10 | 31 | 7 | " . | 192,000 |
| Attu.. | 8 | 37 | 9 | " | 260,000 |
| Augusta. | 12 | 19 | 5 | ${ }^{\prime \prime}$ | 140,000 |
| Aslaug (T-1518) | 1 | 4 | 2 | " | 6,000 |
| Avona.. | 2 | 9 | 3 | " | 16,000 |
| Baltic. | 11 | 20 | 5 | " | 106,000 |
| Beaver. | 4 | 17 | 5 | Bait... |  |
| Bernier. | 12 | - 24 | - 6 | Bait, ice, supplies. |  |
| Bernice E | 1 | 8 | 3 | Sell fish.. | 10,000 |
| Bertba. | 4 | 11 | 4 | " bai | 6,000 |
| Betty... | 12 | $\begin{array}{r}15 \\ \hline 15\end{array}$ | $\therefore 5$ | " $\quad$............. | 110,000 |
| Betty Jane. | 9 | $\cdots 34$ | 6 | Bait, shelter, ice, supplies. |  |
| Blanco.. | 12 | - 24 | 6 | " sell fish...... | 16,000 |
| Bluebird. | 5 | 4 | 2 | Sell fish..... | 20,000 |
| Bolinda.. | 5 | 22 | 6 |  | 28,000 |
| Bonanza. | 7 | 30 | 6 | * | 106,000 |
| Brisk. | 8 | 37 | 9 | " | 166,000 |
| Brotbers. | 7 | 13 | 5 | " | 68,000 |
| Brunvol II | 7 | 27 | 6 | " bait. | 38,000 |
| California. | 9 | 20 | 5 | Bait, engine trouble, land man. |  |
| Caroline | 1 | 4 | 3 | Sell fish.......................... | 4,000 |
| Castor. | 1 | 6 | 3 | " | 2,000 |
| Celtic. | 9 | 39 | 10 | " | 234,000 |
| Chancellor | 4 | 14 | 5 | Bait, shelter, water. |  |
| Charlotte. | 6 | 4 | 2 | Sell fish................ | 22,000 |
| Cheisea. | 7 | 51 | 10 | " bait | 180,000 |
| Chum.. | 4 | 6 | 3 | " | 26,000 |
| Clipper. | 5 | 54 | 10 | " | 190,000 |
| Cora... | 9 | 4 | 2 | " | 32,000 |
| Columbia. | 6 | 41 | 9 | " | 166,000 |
| Coolidge | 8 | 32 | 6 | " | 140,000 |
| Curlew. | 8 | 18 | 5 | Bait, supplies |  |
| Condor. | 10 | 11 | 4 | Sell fish.... | 7,000 |
| Constitution. | 7 | 39 | 10 | * | 208,000 |
| Daily.. | 6 | 26 | 6 | " | 98,000 |
| Dalco. | 1 | 4 | 2 | " ${ }^{\text {a }}$........... | 4,000 |
| Dawn... | 18 | 12 | 4 | "، bait, orders. | 6,700 66,00 |
| Defence. | 6 | 20 | 5 | " | 66,00 30,00 |
| Democrat. | 5 | 18 | 6 | " | 84,00 |
| Diana.. | 11 | 22 | 6 | Bait, orders, water. |  |
| Discovery. | 11 | 10 | 4 | Ice, bait, sell fish and suppli | 32,000 46,00 |
| Don Q.. | 6 | 9 | 3 | Sell fish................. | 46,00 |
| Donna G.. | 1 | 10 | 3 | Shelter.. |  |

LIST OF UNITED STATES FISHING VESSELS WHICH ENTERED CANADIAN PORTS ON THE PACIFIC COAST DURING THE YEAR ENDED DECEMBER 31, 1930-Con.

| Name of Vessel | Number of times entered | Tonnage | Number <br> of men <br> in crew | Reason for Entry | Quantity of fish landed if any |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Dorethea. | 1 | 65 |  | Cargo in transit. | lbs. |
| Doric.. | 6 | 42 | 9 | Sell fish. | 156,000 |
| Dorothy. | 3 | 89 | 14 | International Fish Commission boat. |  |
| Eagle... | 9 | 67 | 10 | Sell fish. | 284,000 |
| Eastera. | 17 | 22 | 6 | Bait, for export fish cargo. |  |
| Eastern Poin | 15 | 4 | 3 | Shell fish.. | 48,000 |
| Eclipse. | 5 | $4 \pm$ | 9 | Bait, sell fish | 56,000 |
| Eldorado. | 7 | 47 | 10 | Sell fish | 154,000 |
| Eleanora. | 8 | 16 | 5 | Bait. |  |
| Electra. | ${ }^{3}$ | 48 |  | Sell fish | 80,000 |
| Emma W |  | 4 | ${ }^{3}$ | Shelter. |  |
| Estep. <br> Ethel S | 13 8 | $\stackrel{26}{27}$ | 6 6 | Sell fish. | 138,000 |
| Eureka. | 17 | 11 | - 4 | Bait, ice, sell | 100,000 |
| Evolutio |  | 17 |  | Supplies, bait, |  |
| Excel. | 10 | 27 | 5 | Sell fish. | 124,000 |
| Excel III. | 4 | 41 | 9 |  | 56,000 |
| Fairway | 10 | -19 | 5 | Bait, ice, sell fish, supplie | 22,000 |
| Faith... | 8 | 7 | 3 | Bait, land fish. | 9,255 |
| Federal. | 8 | 28 | 6 | Sell fish. | 96,0,0 |
| Flamingo | 6 | 12 | 5 | Bait. |  |
| Flint... | 10 | 24 | 6 | Bait, land fish. | 20,210 |
| Foremos | 4. | 66 | 10 | Sell fish. | 106,000 |
| Fortuna. |  | 21 |  | Bait. |  |
| Forward | 8 | 18 | - 5 | Bait, water |  |
| Franklyn | 7 | 34 | 9 | Sell fish. | 152,000 |
| Fremont | 2 | 10 | 4 |  | 10,000 |
| Frisco. | 9 | 10 | 3 | " | 40,000 |
| Garland | 2 | 10 | 3 | " | 26,000 10.000 |
| Glacier. | 14 | 13 | 4 | " | 116,000 |
| Gloria. | 11 | 17 | - 5 | " bait, ice, supplie | 36, 000 |
| Gloria II. | 24 | 16 |  | Bait, land fish. | 34,701 |
| Golden Gat | 1 | 27 | 4 | Water. |  |
| Gony.... | 13 | 12 | - 5 | Bait, ice, engine trouble, sell fish. |  |
| Grant. |  | 43 |  | Sell fish. | 96,000 |
| Grayling. | 3 | 16 |  | Sell fish. | 34,000 |
| Gretchen | 13 |  |  | Bait, supplies, land fish | 6,420 |
| Happy.. |  | 12 | - | Sell fish. | 84,000 |
| Harding | 13 | 19 | 5 | Bait, ice, shelter, sell fish, supplies. | 4.000 |
| Havana | 9 |  | - 10 | Sell fish. | 252.000 |
| Hazel H | 11 | 24 |  |  | 164,000 |
| Helgelan |  | 56 | 9 | " | 154,000 |
| Hi Gill. |  | 12 | 4 | " | 82,000 |
| Hilda. |  | 10 | 3 | " | 30,000 |
| Howard |  | 9 | $\begin{array}{r}3 \\ \hline \quad 6 \\ \hline \quad 6\end{array}$ |  | 12,000 |
| Hoover |  | 27 | $\cdots$ | Bait, ice, supplies. |  |
| Husky 1 |  | 9 |  | Bait. |  |
| Ilene. |  | 33 | -9 -9 | Sell fish. | 226,000 |
| Inger.: |  | 7 | 3 $-\quad 8$ | " | 8,000 |
| Invincib |  | 38 | - 8 | Engine trouble |  |
| Ionic... | - 16 | 24 |  | Bait, ice, cargo in transit, orders, |  |
| Irene. |  |  |  | seil fish, supplies | 30,000 38.000 |
| Ithona |  | 20 | - 6 | " | 84,000 |
| Ivanhoe | 10 | $\therefore 27$ |  | Bait, sell fis | 146,000 |
| Jack. |  |  | 3 | Sell fish.. | 46,000 |
| J. P. Tod |  | $\cdots \quad 12$ | 4 |  | 30, 000 |
| Jane. | 11 |  |  | Bait, shelter, for cargo, export fish.. |  |
| Jesstina |  |  |  | Engine trouble....................... |  |
| Kalart. | , |  | $\because$ | Bait, sell fish. | 214,000 |
| Kanaga. |  |  |  | Sell tish. | 214,000 |
| Katalla. |  |  | \% 5 | Bait. |  |
| Kennebec | $\cdots 2$ |  |  | Bait, sell fish. | 76,000 |
| Kodiak. | 1 | 38. |  | Bait, ice, sell fish, supplies | 112.000 |
| Lancing. | 11 | 16. | $\begin{array}{r} \\ \therefore \quad 5 \\ \hline\end{array}$ | Sell fish. | 150,000 |
| La Palom | 10 | 14 | \% 11 | Bait, engine trouble, ice, supplies... |  |
| Lebanon. |  | 15 14. | \% $\begin{array}{r}1 \\ \hline\end{array}$ | Beit, land fish...................... | 5.751 28,000 |
| Leviath |  | 29 | - 9 |  | 192,000 |
| Liahona. | - 5 | 40 | 10 | . | 112,000 |

LIST OF UNITED STATES FISHING VESSELS WHICH ENTERED GANADIAN PORTS ON THE PACIFIC COAST DURING THE YEAR ENDED DECEMBER 31, 1930-Con.

| Name of Vessel | Number of times entered | Tonnage | Number of men in crew | Reason for Entry | Quantity of fish landed if any |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Liberty | 7 | 44 | 8 | Sell fish. | $\begin{aligned} & \text { lbs. } \\ & 224,000 \end{aligned}$ |
| Lindy. | 6 | 49 | 9 | Bait, sell fish. | 166,000 |
| Lindy II. | 2 | 5 | - 3 | Sell fish...... | 8,000 |
| Lituya... | 7 | - 30 | 7 | Sell fish. | 104,000 |
| Louise. | 4 | 16 | 4 | Bait. |  |
| Lovera | 3 | 4 | 3 | Sell fish. | 16,000 |
| Lumen. | 8 | 10 | $\begin{array}{r}3 \\ \hline\end{array}$ |  | 66,000 |
| M 2381. | 1 | 5 | 2 | Fuel.... |  |
| Maddock | 12 | 16 | 5 | Bait, water, ice, shelter, su |  |
| Madeline | 8 | 25 | 5 | Bait, for cargo export fish. |  |
| Majestic. | 3 | 9 | 3 | Bait........ |  |
| Majestic. | 12 | 33 | 9 | Bait, ice, sell fish, supplies. | 306, 0000 |
| Marie... | 3 | 9 | 4 | Bait, ice, sell fish | 8,000 |
| Mariner. | 6 | 21 | - 5 | Bait.................. |  |
| Marmot | 11 | 7 | 3 | Bait, ice, sell fish, supplies | 52,000. |
| Marmot | 3 | 30 | 9 | Bait, ice. | 68,000 |
| Mars. | $\cdots 6$ | 9 | 4 | Bait, ice. | 52,000. |
| Mary | - 4 | 16 | 4 | Bait..... |  |
| Mayflower | 6 | $\cdots 7$ | 3 | Bait, land fish, engine tro fish. | 11,742 |
| Maud Hazel. | 1 | 9 | 2 | Shelter. |  |
| McKinley. | 8 | 38 | 10 | Sel! fish | 290,000. |
| Merit... | 14 | 11 | : ${ }^{-1}$ | Bait... |  |
| Melrose | 1 | 5 | 1 | Engine trouble. |  |
| Mermaid. | 8 | - 19 | 5 | Bait, for cargo export fish |  |
| Middleton | 8 | -. 24 | 6 | Bait, ice. | 152,000 |
| Milkof. | 6 | 42 | - 7 | Sell fish | 152,000. |
| Myrtle. | 6 | 9 | $\therefore 3$ | Bait, sell fish | 3,959 |
| National | 4 | 20 | - 6 |  | 2,000 |
| Neptune. | 11 | 43 | \% 13 | -" - | 14,000. |
| Nestor. | 4 | 21 | $\cdots 5$ | Bait........ |  |
| New England | 1 | 70 | 19 | Land fish | 40,000: |
| Nomad. | 3 | 15 | - 4 | Bait. |  |
| Nordby | 5 | 40 | - 9 | Sell fish. | 100,000 |
| Nordic. | 6 | 30 |  | " | 156,000 |
| Norland | 2 | 19 | $\begin{array}{r} \\ \hline\end{array}$ | " | 81.00 |
| Norma. | 2 | 6 | $\begin{array}{r}\text { a } \\ \hline\end{array}$ | " | 20,000 |
| Norma Jane. | 4 | $\cdot 4$ | $\square$ $\square$ | " | 138,000 |
| Norrona. North... | 11 8 | 21 35 | $\begin{aligned} & 6 \\ & 9 \end{aligned}$ | * | 200,000 |
| Northern | 3 | 38 | 9 | ${ }^{4}$ | 74,000 |
| Oakleaf. | 1 | 5 | 2 | Bait and ice. |  |
| Ocean | 6 | 15 | 4 | Sell fish. | 70,000 |
| Oceanus. | 9 | 26 | $\because \quad 6$ | Bait. |  |
| Omaney | 2 | 34 | - 9 | Sell fish | 360 |
| Onay. | 14 | 18 | $\because 5$ |  | 1,20 |
| Orbit. | 8 | 24 | - $\begin{array}{r}6 \\ \hdashline \\ \hline 10\end{array}$ | Shelter, bait, ice........... |  |
| Orient. | 6 | 48 | - 19 | Bait, ice, sell fish, supplies |  |
| Pacific. | 5 | 44 | - 10 | Sell fish........... | 164,000 |
| Paragon. | 5 | 69 | - 10 | $4$ | 116,000 $6,000^{-}$ |
| Peggie.. | 1 | 4 | 3 | , | 6,000 |
| Pershing | 6 | 18 | 5 | Bait.................... |  |
| Pierce. | 9 | 14 | 4 | Bait, ice, sell fish, supplies | $\begin{aligned} & 44,000 \\ & 54,00 \end{aligned}$ |
| Pioneer. | 6 | 48 | 10 | Bait, sell fish...... | $54,000^{+}$ |
| Pioneer | 12 | 26 |  | Bait, ice, shelter, supplies. |  |
| Polaris.. | - 3 | 45 | $\therefore \quad 10$ | Sell fish..... | 92,000 252,000 |
| Portlock | 10 | 56 |  | Shelter, sell fish. | 252,018 |
| Preslio... | 12 | 14 | $\begin{aligned} & 5 \\ & \because \\ & \hdashline \end{aligned}$ | Bait, land fish...........* | 8,000 |
| Prosperity. | 9 | 25 | 6 | Bait, supplies.............. |  |
| Puffin..... | 1 | 37 | 5 | Shelter........... |  |
| Puritan. | $\cdots \quad 1$ | 10 | $\cdots 2$ | Engine trouble |  |
| Radio. . | - 3 | 63 | $\because \quad 10$ | Sell fish. | 98,000 |
| Rainier. | 8 | 39 | 9 |  | 234.000 |
| Rainier | 5 | 4 | 3 | '" | 22,00 |
| Rap. | 1 | 13 | 5 | Bait..... |  |
| Rap III. | 2 | 8 | $\therefore \quad 3$ <br> $\quad 3$ | Sell fish. | 18,000 |
| Reliance. | 4 | 8 | 1:3 |  | 18,0 |
| Reliance. | 6 | 11 | 3 | Bait... |  |
| Reliance. | 11 | 14 | - 4 | Sell fish. | 158,006 |
| Reliance | 12 | 19 | "\% $\quad \mathbf{5}$ | ${ }^{\prime}$ | 158,000 |
| Remus.. | 3 | 7 | 2 | c | 14,00 |

LIST OF UNITED STATES FISHING VFSSELS WHICH ENTERED CANADIAN PORTS ON THE PACIFIC COAST DURING THE YEAR ENDED DECEMBER 31, 1930-Con.

| Name of Vessel | Number of times entered | Tonnage | Number of men in crew | Reason for Entry | Quantity of fish landed if any |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Repeat.. | 6 | 14 | 4 | Bait, land fish. | lbs. $1,178$ |
| Republic. | 7 | 51 | [13 | Bait, ice, supplies. |  |
| Resolute.. | 7 | 47 | 10 | Ice, sell fish...... | 246,000 |
| Restitution. | 14 | 24 | 6 | Bait, sell fish. | 20,000 |
| Roosevelt. | 4 | 13 | 5 | Bait, for cargo export fish. |  |
| Rosario. | 3 | - 16 | 5 | Bait.................... |  |
| Royal. | 8 | - 15 | 5 | Bait, sell fish. | 8,000 |
| Schorn. | 5 | 19 | 5 | Sell fish. | 45,000 |
| Seattle. | 4 | 55 | 9 |  | 90,000 |
| Selma J | -11 | 9 | 4 | Bait..... |  |
| Senator. | - 5 | 11 | - 8 | Sell fish. | 112,000 |
| Sentinel. | - 12 | 21 | ${ }^{6}$ |  | 216,000 |
| Seymour. | 2 | 44 | - 10 | " | 22,000 |
| Sherman. | $\therefore 13$ | 18 | 4 | " | 168,000 |
| Sirius. | $\cdots$ | 17 | 4 | " | 84,000 |
| Sitka. | 6 | 50 | 10 | " | 112,000 |
| Spray... | 2 | 20 | 6 | " ${ }^{\text {a }}$, | 46,000 |
| Stampede No. 377-9. |  | 5. | 2 | Engine trouble.. |  |
| Summit. | 8 | 21 | 5 | Bait, land fish.. | 6,954 |
| Sund'E. | $\cdots 9$ | 36 | 9 | Sell fish...... | 264,000 |
| Sunset. | : 10 | 37 | 9 |  | 172,000 |
| Suomi. | 2 | 8 | 3 | ${ }^{\prime \prime}$ | 10,000 |
| Sunset.. | 2 | 7 | 4 | ${ }^{\prime}$ | 14,000 |
| Superior. | 3 | 18 | 5 | Bait.. |  |
| Superior. | - 6 | 26 | 6 | Sell fish. | 118,000 |
| Sylvia.. | - 13 | 30 | 6 | Bait, ice, shelter, supplies |  |
| T 915.. | - 2 | 4 | 2 | Sell fish. | 6,000 |
| Tahoma | $\therefore 12$ $\cdots \quad 12$ | 18 | 4 |  | 184,000 |
| 7 atoosh. | 12 | 23 | 6 | " | 208,000 |
| Teddy $\mathbf{J}$ | - $\quad 11$ | - 13 | 5 | Tand fish | 114,000 |
| 1 exas.... | 5 | 16 | 5 | Land fish................ | 15,225 |
| Thelma II. | 12 | 26 | 6 | Orders, bait, stores, water |  |
| Thelma M. | 1 | 7 |  | Sell fish... | 4,000 |
| Thor.. | $\cdots 5$ | 4 | 2 |  | 22,000 |
| Thor... | - . 5 | 25 | 9 | " | 94,000 |
| Tillikum. | $\cdots 5$ | 21 | 4 | Bait... |  |
| Tongas. | ' 2 | 36 | 9 | Sell fish. | 52,000 |
| Tordenskjold | . 5 | 39 | 10 |  | 138,000 |
| Trinity. | . 8 | 41 | 9 | " | 192,000 |
| Tuscan. | 8 | 18 | 5 | * | 116,000 |
| Tyee.. | 5 | 17 | $\cdots 4$ | " ${ }^{\text {c }}$ | 22,000 |
| Unimak. | 6 | 10 | - 3 | Sell fish. | 72,259 |
| Unimak |  | 22 | - 5 | Bait, supplies. |  |
| Urania. | 5 | 27 | 6 | Bait, ice, sell fish, supplies | 86,000 |
| Uranus. | - 7 | 20 | 5 | Bait...................... |  |
| Vansee. | $\therefore 4$ | 58 | 9 | Sell fish | 1,500 |
| Velero.. | $\because 5$ | 6 | 3 | Bait. | 1,500 |
| Venture | . 4 | 36 | 9 | Sell fish. | 84,000 |
| Venus. | $\therefore 8$ | 4 |  |  | 45,000 |
| Venus. | 8 | 25 | 8 | " | 126,000 |
| Viking. | - 9 | 11 | 4 | Bait, sell fish. | 20,000 |
| Viola. | : 11 | 4 | 3 | Sell fish...... | 40,000 |
| Visit. | 7 | 10 | 4 | Bait. |  |
| Visitor. | 5 | 4 | 2 | Sell fish | 20,000 |
| Volunteer | 4 | 20 | 5 | Bait, land fish. | 1,101 |
| Wabash. | 14 | 6 | 3 | Sell fish..... | 58,000 |
| Washington | 3 | 29 | 6 | ${ }^{*}$ | 40.000 |
| Wave... | 10 | 7 | 3 | * | 58,000 |
| Western. | 7 | 41 | 9 | * | 204,000 |
| Wesley.... | 4 | 9 | 4 | Bait..... |  |
| Wenterstad | 15 | 9 | 4 | Bait, ice, shelter, supplies. |  |
| Westfjord. | 4 | 17 | 5 | Bait, ice, supplies..... |  |
| White Star | 12 | 17 | 5 | Bait, land fish... | 475 |
| Wilhelmina | 2 | 17 | 5 | Bait....... |  |
| Wireless. | 14 | 19 | 6 | Bait. ice, sell fish, supplies. | 14,000 |
| Wizard. | ${ }^{3}$ | 49 | 10 | Sell fish............. | 60,000 |
| Yoodrow | - 12 | 23 | 5 | Rait, ice, land fish, supplies | 14,605 |
| Yaquinna |  | 41 | 6 | Sell fish | 132,000 |
| Yukon. | 5 | 31 | 6 | Sell fish. | 86,000 |
| Zarembo | 11 | 14 | 4 | * | 92.000 |
| Qenith. | 7 | 47 | 9 | く | 198,000 |

## APPENDIX No. 11

# The following is a statement of the different kinds of licences issued by the different Supervisors, during the 1930-31 season:- 

## MAGDALEN ISLANDS, QUEBEC—Supervisor S. T. Gallantr

| Kind of Licences | Number of Licences $\mathrm{I}_{\text {ssued }}$ |
| :---: | :---: |
| Lobster fishing licences. | 644 |
| Certificates under section 66-3 |  |
| Herring seine licences. | 18 |
| Herring trap-net licences. | 27 (8 cod trap-nets) |
| Smelt gill-net licences. | 386 (2 spoiled) |
| Smelt bag-net licences. | 17 (8 box-nets) |
| . | 1,092 ( 8 cod trap-nets, 8 box-nets, 2 spoiled) |

## PRINCE EDWARD ISLAND-Supervisor S. T. Galmant

| Lobster fishing licences. | 1,780 |
| :---: | :---: |
| Oyster fishery licences. | 246 (12 cancelled) |
| Quahaug fishery licences. | 35 |
| Certificates under section 66-5 |  |
| Trap-net fishing licences.. | 4 |
| Scallop fishery licences. | Nil |
| Lobster pound licences. | 1 |
| Smelt gill-net licences. | 209 |
| Smelt bag-net licences. | 263 |
| Oyster lease-1. |  |

2,538 (12 cancelled)

## NOVA SCOTIA-DISTRICT No. 1-Supervisor A. G. McLeod



NOVA SCOTIA-DISTRICT No. 2-Supervisor D. H. Sutizmband


## NOVA SCOTIA-DISTRICT No. 3-Supervisor H. H. Marshall

Kind of Licences<br>Number of licences issued



## NEW BRUNSWICK-DISTRICT No. 3-Supervisor H. E. Harrison

Shad gill-net or drift-net licences....................................... 278

Whitefish fishery licences............................................... 22
Salmon net permits....................................................... 163
Gaspereau pound-net or trap-net licences............................... . 12
Salmon gill-net or drift-net licences.................................... . . 140
Salmon trap-net, pound-net or weir licences............................... . 100
Bass fishery licences. . ........................................................ 41
762
NEW BRUNSWICK-DISTRICT No. 2-Stpehtisor A. L. Barrt

| Lobster fishing licences. | 2,124 |
| :---: | :---: |
| Oyster fishery licences.. | 1,133 (30 free-1 destroyed) |
| Quahaug fishery licences. |  |
| Certificates under section 66-273 |  |
| Herring weir licences. | Nil |
| Gaspereau pound-net or trap-net licences. | 63 (1 free) |
| Salmon gill-net or drift-net licences. | 149 |
| Kalmon trap-net, pound-net or weir licence | 405 |
| Lobster pound licences. | 6 |
| Bass fishery licences.. | 58 |
| Smelt gill-net licences. | 167 |
| Smelt bag-net licences. | 6,079 (44 free) |
| Lobster pound certicates-662 | 10,232 (75 free, 1 destroyed) |
| PROVINCE of Mantt | b. Skaptason |
| Special angling permits. | 1,237 |
| Pound-net licences. |  |
| Special fishery licences | 784 (7 cancelled) |
| Domestic licences.... | 1,222 |
| - | 3,294 (7 cancelled) |
| 36710-18 |  |

# PROVINCE OF SASKATCHEWAN-SUpervisor G. C. MacDonald 



9,513 (8 cancelled, 5 complimentary, 3 spoiled, 1 free)

## province of British COLUMBIA-Chier Supervisor J. A. Mothrrwell

## Special angling permits

Indian permits.
Ahalone fishery licences
Crab fishery licences.
Smelt or sardine fishery licences.
Sturgeon fishery licences
Miscellaneous licences.
Salmon fishery licences.
Salmon trolling licences.
Salmon trap-net licences.
Salmon purse-seine licences
Salmon drag-seine licences.

Grayfish fishery licences..............................................
Licence to assistant operator of salmon (purse or drag) seine....
or drift-net.
Cod fishery licenses.
Licence to a captain of a Canadian fishing vessel (using an otter
or other trawl of a similar nature)..................................
1,362 (5 complimentary, 1 cancelled)
1,259
1511 (cancelled)
79
Nil
157 (14 cancelled)
4,930 ( 6 cancelled)
3,078 (4 cancelled) 7
343 (1 cancelled)
21
247
$+320$
1,811
1,106 (1 cancelled) hy inshore fishermen fishing in inshore waters and using a small drag).
Herring or pilchard gill-net or drift-net licences.
Herring or pilchard purse-seine licences.
Licence to a captain of a herring or pilchard seine boat
Licence to assistant operator of herring or pilchard purse seine used under licence No. 417

## Herring pound licence.

Whale fishery permits 10

Pelagic sealing certificates.

16,301 (29 cancelled, 5 complimentary, 1 drag-seine)

## NORTHWEST TERRITORIES

Reduction works licences. ..... 12
YUKON
Special fishery licences. ..... 28
PACIFIC COAST
Licences to United States fishing vessels264 (1 cancelled)
Total

## APPENDIX No. 12

RETURN SHOWING THE DETAILS OF PROSECUTION FOR OFFENCES AGAINST THE FISHERIES ACT DURING FISCAL YEAR 1930-31
nova scotia-district No. 1-Supervisor, A. G. McLeod


Return showing the Details of Prosecutions for Offences Against the Fisheries Act During the Fiscal Year 1930-31-Con.
NOVA SCOTIA-DISTRICT No. 2-Concluded


## Nova sCotia-District No. 3-Supervisor, H. H. Marbhall

| 1 | Wilfred Robbins. |
| :---: | :---: |
| 2 | Judson Zwicker. |
| 3 | William Greenlow |
| 4 | Kenneth Schofield |
| 5 | Marry O'Brien. |
| 6 | John Zwirker. |
| 7 | William Tracey. |
| 8 | Samuel Cohen. |
| 9 | İRoy Farnsworth |



PRINCE EDWARD ISLAND-NIL
NEW BRUNSWICK, DISTRICT No. 1-Supervibor, J. F. Calder

| . 1 | Earl Green........................ | Having illegal lobsters in his possession. | Near Brown's pt., Grand harbour. | Fined $\$ 150.00$ and costs of court, $\$ 4.70$. and had confiscated from him 50 lobsters. Fine reduced to $\$ 50.00$ under authority of Sec. 94 of Fish Act. |
| :---: | :---: | :---: | :---: | :---: |
| 2 | Fred Titus. | Having illegal lobsters in his possessi | Near Brown's pt., Grand harbour. | Fined $\$ 150.00$ and costs of court. $\$ 4.70$, and had confiscated from him 61 lobsters. Fine reduced to $\$ 50.00$ under authority of Sec. 94 of Fish Act. |
| 3 | Reid Benson... |  | Seal cove, Grand Manan...... | Fined $\$ 50.00$ and costs of court. 85.30 , and had confiscated from him 30 lobsters. Fine reduced to $\$ 25.00$ under authority of Sec. 94 of Fish Act. |

Return showing the Details 'f Prosecutions for Offences Against the Fisheries Act During the Fiscal Year 1930-31-Con.
NEW BRUNSWICK, DISTRICT No. 1-Concluded.

| Pros. <br> Nos. | Name of Offender | Nature of Offence | Place of Offence | Result of Prosecution |
| :---: | :---: | :---: | :---: | :---: |
| $\cdots 4$ | Garfield Morse. | Having illegal lobsters in his possession. | White head, Grand Manan.... | Fined $\$ 50.00$ and costs of court, $\$ 2.70$, and had confiscated from him 25 lobsters. Fine reduced to $\$ 25.00$ under authority of Sec. 94 of Fish Act. |
| 5 | Clifford Alward. | For attempting to spear salmon..................... | Petitcodiac river.............. | Fined $\$ 10.00$ and had confiscated from |
| - 6 | Donald S. McLean................ | For attempting to net salmon in non-tidal waters.. | Black river, St. John co....... | him 1 Salmon spear. Allowed to stand, |
| 7 | Hollis Richardson. | Having illegal lobsters in his possession............. |  |  |

NEW BRUNSWICK, DISTRICT No. 2-SUPERVIsor, A. L. BARRY

| 1 | Geo. Cormier. . | Having in his possession and solling illegally caught oysters. | Buctouche..................... | Fined $\$ 25.00$ and costs of court, $\$ 7.20$, in each case or 30 days in jail. Defendant went to jail. |
| :---: | :---: | :---: | :---: | :---: |
| $\because 2$ | Margaric Duplacy or Margorique | Having in his possession and selling illegally caught | Buctouche. | Fined $\$ 25.00$ and costs of court, \$7.20, in |
| $\therefore$ ! | Duplissis. . . | oysters. |  | each case or 30 days in jail. Defendant |
|  |  |  |  | went to jail and became ill and was ordered released by the doctor; he |
|  |  |  |  | served about half time and magistrate |
|  |  |  |  | accepted $\$ 12.00$ in lieu of balance of jail |
| : 3 | Edward Cormier. |  | Moncton. | term. <br> Fined $\$ 10.00$ and had confiscated from |
| 3 | Laward Cormier | H | Moncton. | him $\frac{1}{3}$ gal. of oysters. |
| 14 | Louis Collett. | Drifting for salmon inside statutory line. | Miramichi bay. | Fined \$10.00. |
| 5 | John Mauzerall | Drifting for salmon inside statutory line. | Miramichi bay. | Fined \$10.00. |
| 6 | Thomas Lewis | Drifting for salmon inside statutory line. | Miramichi bay. | Fined \$10.00. |
| 7 | F. G. S. Richard. . . . . . . . . . . . . . | Having in his lobster pound lobsters illegally caught. | St. Thomas. . . . . . . . . . . . . . . . | Fined $\$ 50.00$ and costs of court, $\$ 2.50$. Fine suspended. |
| 8 | Wright Gibbs. | Drifting for salmon inside statutory line............ | Miramichi bay. | Fined \$10.00. |
| 9 10 | \| Dave Manuel...................... | Fishing for oysters in close season........ | Miramichi bay. | No fine-admonished. |
| 10 | Theophile Robichaud............. | Having portion of salmon during close season | Maltempeque. | Admonished. Had confiscated from him 15 pounds of salmon. |

NLEW BRUNSWICK, DISTRICT No. 3-Supervisor, II. E. IArraibon

| 1 | Charles Robbins.. | Water pollution. | Cross creek, York co. | d \$20.00 and costs of court, \$4.50 |
| :---: | :---: | :---: | :---: | :---: |
| 2 | J. Hilton Hawkins. |  |  |  |
|  | J. Hilton Hawkins. | Water pollution. |  | Sentence suspended, but required to pay penalty assessed on Oct. 25, 1929, Pros. No. 24, which was suspended at that time. |
| 3 | Lealie McKay | Fishing salmon with net in close seaso | St. John river. | Fined $\$ 10.00$ and costs of court, $\$ 12.10$, and had confiscated from him 1 salmon - net. |
| 4 | Peter Stairs |  |  |  |
| 8 | George Lockha | Fishing with net for salmon in close season......... | St. John river, York co. | Fined $\$ 10.00$ and costs of court, $\$ 13.30$. |
| 6 | W. J. McGuire. | Fishing for salmon with illegal apparatus. .......... | St. John river, York co........ | Fined $\$ 10.00$ and costs of court, $\$ 14.75$, or one month in jail. |
| 7 |  |  | Miramichi river, North'ld co. | Fined $\$ 10.00$ and costs of court, $\$ 2.50$. |
| 8 | Eddie Smit | Fishing in closed period............................. | St. John river, Carleton co.... | Fined $\$ 10.00$ and costs of court, $\$ 3.00$. Also had confiscated from him 1 salmon net. Suspended sentence. |
| 9 | Thomas Vickers. | Fishing for salmon with a small mesh net | Southwest Miramichi river.... | Fined $\$ 10.00$ and costs of court, $\$ 11.50$, and had confiscated from him 3 twine nets. |
| 10 | Irvine Robinson. | Drifting for salmon. . . . . . . . . . . . . . . . . . . . . . . . . . . . | Southwest Miramichi river.... | Fined $\$ 50.00$ and costs of court, $\$ 12.80$, or two months in jail. Also had confiscated from him 1 boat and 1 drag net with lead sinkers and wood floats. |
| 11 | Hardy Amos. | Fishing for salmon with wire net................... | Southwest Miramichi river.... | Fined $\$ 50.00$ and costs of court, $\$ 13.40$, or two months in jail. Also had confiscated from him wire and 18 iron pickets. |
| 12 | Lloyd Amos. | Fishing for malmon with wire net. . . . . . . . . . . . . . $\vdots$ | Southwest Miramichi river.... | Fined $\$ 50.00$ and costs of court, $\$ 13.40$, or two months in jail. Also had confiscated from him wire and 18 iron pickets. |
| 13 | James Tucker. | Fishing with net for salmon in close season | Southwest Miramlchiriver.... | Fined $\$ 50.00$ and costs of court, $\$ 3.50$, or two months in jail. Had confiscated from him 1 gill-net. Sentence suspended. |
| 14 | Benj. Tucker. | Fishing with net for salmon in close season......... | Southwest Miramichi river.... | Fined $\$ 50.00$ and costs of court, $\$ 3.50$, or two months in jail. Had confiscated from him 1 gill-net. . Sentence suspended. |
| 15 | Rainsford Kelly.. | Fishing with net for salmon in close season. | St. John river, York co........ | Fined $\$ 50.00$ and costs of court, $\$ 12.55$, or two months in jail. Also had confiscated from him 1 salmon net. |
| . 16 | Philip Price. | Spearing for salmon................................... | Southwest Miramichi river. . . . | Fined $\$ 5.00$ and costs of court, $\$ 5.00$, and had confiscated from him 2 spears, torch, 1 boat and 3 salmon. |

Return showing the Details of Prosecutions for Offences Against the Fisheries Act During the Fiscal Year 1930-31-Con. NEW BRUNSWICK, DISTRICT No. 3-Concluded

*BABKATCHEWAN-GUPERVIBOR, G. C. MACDONALD

| 1 | Rudolph Lutz. | Using dip-net without licence, sub-sec. 1, Sec. 2,Fish | Hyde dam, Qu'Appelle river. . | Fined \$2.00 and costs of court, \$3.50, and |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Regrs. | IIy | had confiscated from him 1 dip-net. |
| 2 |  | Using dip-net without licence, sub-sec. 1, sec. 2, Fish Regs. | Hyde dam, Qu'Appelle river.. | Fined $\$ 2.00$ and costs of court, $\$ 2.50$, and had confiscated from him 1 dip-net. |
| 3 | Fred Kahuhr | Using sp | Hyde dam, Qu'Appelle river. | d $\$ 2.00$ and costs of court, $\$ 3.50$, and |
| 4 | James Richarda. | Fishing during the close season, cont. sec. 12, subsec. 2 of the Regs. | Candle Lak | had confiscated from him 1 spear. <br> Fined $\$ 5.00$ and costs of court, 75 c ., and had confiscated from him 50 lbs. of |
| 5 | James Richards. | Spearing fish cont. to sec. 14, sub-sec. 3 of the Regs.. | Ca | m |
| 6 | Gordon R | Fishing during close season cont. sec. 12, sub-sec. 2 of the Regs. | Candle Lake creek | Fined $\$ 1.00$ and costs of court, 75 c . |
| 7 | Gordon Richards | Spearing fish cont. Sec. 14, sub-sec. 3 of the Regs... | C | Pleaded guilty. Sentence suspended and had confiscated from him 1 spear. |
| 8 | Howard Holden | Fishing during close season cont. sec. 12, sub-sec. 2 of the Regs. | Candle Lake creek | Fined $\$ 1.00$ and costs of court, 75 c . |
| 9 | IIoward Holden. | Spearing fish cont. Sec. 14, sub-sec. 3 of the Regs... | Ca | Pleaded guilty. Sentence suspended, and had confiscated from him 1 spear. |
| 10 | Kenneth | Fishing during close season cont. sec. 12, sub-sec. 2 of Regs. | Candle Lake | Fined $\$ 1.00$ and costs of court, 75 c . |
| 11 | Kennet | Spearing fish cont. Sec. 14, sub-sec. 3 of the Regs... | Candle Lake | leaded guilty. Sontence suspended, and had confiscated from him 1 spear |
| 12 | IHenry | Fishing with illegal apparatus cont. sec. 2 (0) of Regs. | Chamberlain dam, Little Arm river. | Fined $\$ 5.00$ and costs of court, $\$ 4.50$ and had confiscated from him 1 wire dipnet. |
| 13 | Henry | Fishing in close season cont. Sec. 12 of the Regs.... | Chamberlain dam, Little Arm river. | Fined \$5.00 and costs of court, \$4.50. |
| 14 | Steinie IIanson | Fishing with illegal apparatus, cont. sec. 2 (6) of the Regs. | Chamberlain dam, Little Arm river. | Fined $\$ 5.00$ and costs of court, $\$ 4.50$, and had confiscated from him 1 wire dipnet. |
| 15 | Steinie |  | Chamberlain dam, Little Arm river. | Fined $\$ 5.00$ and costs of court, $\$ 4.50$. |
| 16 | Wm. J. Judd | Illegal possession of fish in close season, cont. Sec. 29 of Fish. Act. | Regina, Sask................... | Fined $\$ 10.00$ and costs of court, $\$ 4.25$, or 14 days in jail and had confircated from him 150 lbs . mullet and 20 lbs . of whitefish. |
| 17 | Charles Nabiss. | Over-fishing on Free Permit, cont. Sec. 2 (3) of Fish. Regs. | Regina, Sask................. | Fined $\$ 10.00$ and costs of court, $\$ 4.50$ or 14 days in jail, and had confiscated from him 150 lbs . buffalo fish and 50 lbs . of pickerel. |
| 18 | Lloyd Sempl | Fishing by illegal means cont. Sec. 14, Sub-sec. 1 of the Fish. Regs. | Pasqua dam, Moose Jaw creek | Dismissed. |
| 19 | Fric Pouls | Fishing by illegal means cont. Sec. 14, Sub-sec. 1, of the Fish. Regs. | Pasqua dam, Moose Jaw creek | Dismissorl, but had confiscated from him 1 wire dip-net. |
| 20 | James Wilson | Fishing by illegal means cont. Sec. 14, Sub-sec. 1 of the Fish: Regs. | Pasqua dam, Mooso Jaw creek | Fined \$5.00 and costs of court, \$3.50. |

Return showing the Details of Prosecutions for Offences Against the Fisheries Act During the Fiscal Year 1930-31-Con.
*SASKATCHEWAN-Continued

| Pros. <br> Nos. | Name of Offender | Nature of Offence | Place of Offence | Result of Prosecution |
| :---: | :---: | :---: | :---: | :---: |
| 21 22 | C. Gordon. . . . . . . . . . . . . . . . . . . . . J. E. Langford. . . . . . . . . . . . . . . . | Fishing by illegal means cont. Sec. 14, Sub-sec. 1 of the Fish. Regs. <br> Fishing by illegal means cont. Sec. 14, Sub-sec. 1, of | Pasqua dam, Moose Jaw creek Pasqua dam, Moose Jaw creek | Fined $\$ 5.00$ and costs of court, $\$ 3.50$. Fined $\$ 5.00$ and costs of court, $\$ 3.50$ and |
| 1. |  | the Fish. Regs. |  | had confiscated from him 1 wire dipnet. |
| 23 | Harold Grieg. | Fishing by illegal means cont. Sec. 14, Sub-sec. 1 of the Fish, Regs. | Pasqua dam; Moose Jaw creek | Fined $\$ 5.00$ and costs of court, $\$ 3.50$, and had confiscated from him 1 wire dipnet. |
| 24 | Chow Woo. | Buying whitefish in closed season, without lawful excuse, cont. Sec. 29 of the Fish. Act. | Moose Jaw | Fined $\$ 5.00$ and costs of court, $\$ 5.00$, and had confiscated from him 10 lbs . of whitefish. |
| 25 | Suey Sang | Buying whitefish in closed season, without lawful excuse, cont. Sec. 29 of the Fish. Act. | Moose Jaw. . . . . . . . . . . . . . . . . | Fined $\$ 5.00$ and costs of court, $\$ 5.00$, and had confiscated from him 10 lbs . of whitefish. |
| 26 | Martin Loffgren. | Selling or having in possession fish in closed season cont. Sec. 29 of the Fish, Act. | Moose Ja | Fined $\$ 20.00$ and costs of court, $\$ 5.00$, or 30 days in jail and had confiscated from him 300 lbs , mullet and 20 lbs . of pike. |
| 27 | Simon Desjalais................... | Using more net than allowed by permit, sub-sec. 3, Sec. 2, Fish. Regs. | Mission Lake, Lebret. . . . . . . . | Fined $\$ 1.00$ and costs of court, $\$ 4.00$, and had confiscated from him 2 gill-nets, 34 lbs. suckers and 10 lbs, of whitefish. |
| 28 | Wm, Fisher, J | Having his net not numbered, sub-sec. 1, Sec. 3, Fish. Regs. | Katepwe lake, Lebret......... | Fined $\$ 1.00$ and costs of court, $\$ 4.00$, and had confiscated from him 1 gill-net. |
| 29 | J. W. Durı | Using gill-net without licence. | Long creek, near Bromhead... | Fined $\$ 5.00$ and costs of court, $\$ 5.00$, and had confiscated from him 1 gill-net. |
| 30 | Dmytro Kuszman | Using fish-trap without licence...................... | Long creek, near Maxim, Sec. 34, Tp. 3, Rge. 15, W. of 2nd Mer. | Fined $\$ 5.00$ and costs of court, \$5.00. |
| 31 | Sigmund Karst... | Trapping fish, cont. Sec. 14 (5) of Regs............. | English river. | Fined $\$ 3.00$ and costs of court, $\$ 1.50$, or 10 days in jail, and had confiscated from him 1 wire fish trap. |
| 32 | John Daunheimer. | Fishing by means other than gill-neta, violation of sub. sec, 1, Fish. Regs. | Hyde dam, Qu'Appelle river.. | Fined $\$ 5.00$ and costs of court, $\$ 10.50$, and had confiscated from him 1 dip-net. |
| 33 $\vdots$ 34 | Frank Simpson................. | Using more net than allowed by hall-breed permit, violation of sub, sec. 3, Sec. 3. of Regs. | Qu'Appelle lake, Fort Qu'Appelle. | Fined $\$ 1.00$ and costs of court, $\$ 2.75$, or 14 days in jail, and had confiscated from him 1 gill-net. |
| 34 | Thomas Vessie. | $\underset{2}{\text { Fishing in close seasen, vial Fish. Rega. }}$ | Arm river, near Bethune...... | Fined \$2.00 and costs of court, \$5.00. |



Wagle creek, near Raddison... Fined $\$ 10.00$ and costs of court, $\$ 3.25$, and Eagle creek, near Raddison... Fined $\$ 10.00$ and costs of court, $\$ 3.25$, had confiscated from him 2 gill-nets. The confiscated articles are the same articles as in Pros. No. 35.
Eagle creek, near Raddison..

Devils lake, at or near Sec. 19 , Tp. 30, Rge. 5, W. of 2nd Mer Devils lake, at or near Sec. 19 . Tp. 30, Rge. 5, W. of 2nd Mer. Devils lake, at or near Sec. 19, Tp. 30, Rge. 5, W. of 2nd Mer. Devils lake, at or near Sec. 19,
Tp. 30, Rge. 5, W. of 2 nd Mer Fined $\$ 10.00$ and costs of court, $\$ 3.00$, and had confiscated from him 2 gillnets. The confiscated articles are the same articles as in Pros. No. 35 . ${ }^{(1 y}$ Fined $\$ 2.50$ and costs of court, $\$ 3.00$, and had confiscated from him 1 gill-net.
Fined $\$ 2.50$ and costs of court, $\$ 3.00$.
Fined \$2.50 and costs of court, \$3.00.
*ALBERTA-SUPERvisor, R. T. Rodd.

| 1 | A. F. Pinder | Having set gill-net in waters inhabited by pike, | Kehiwin lake.................... | Fined 850 and costs of court, 75 c ., and |
| :---: | :---: | :---: | :---: | :---: |
|  |  | pickerel and perch during close geason. |  | had confiscated from him 1 gill-net. |
| 2 | Jo |  | Plamondon | Fined \$10 and costs of court, \$2. |
| , |  | Depositing mill rubbish in the water... | Lake Muriel | Fined $\$ 20$ and costs of court, |
| 4 | C. Richardson. | Angling in close season cont. Sec. 1, para. E., special Fish. Regs. | Cotton Wood creek, near Waterton. | Fined $\$ 10$ and had confiscated from him 1 willow pole, common string, hook and |
| 5 | E. Koch | I | Cotton Wood creek, near | meat. |
|  |  | h. Regs. |  | 1 willow pole, common string, hook and meat. |
|  | Alberta Wood Preserving Co..... | Pollution of river by allowing creosote to enter it. . | Bow river...................... | Fined \$20 and costs of court, \$2.25. |
| 7 | Albert Brunel | Fishing without a licence. | Boggy slough, Lesser Slave lake. | Fined $\$ 10$ and had confiscated from him 3 gill-nets and 192 lbs . of fish. |
| 8 | Irva Clark | Obstructing the passage of fish, cont. Sec. 41 Fish. Act. | Outlet of Hoople lake......... | Fined $\$ 2.00$ and costs of court, \$5.75. |
| 9 | A. Webber. | Fishing out of season and without permit.......... | Bow river, Carseland......... | Fined $\$ 1.00$ and costs of court, $\$ 2.25$, and had confiscated from him I fishing rod and tackle. |
| 10 | F. J. Wassarnaar | Fishing out of season and without | w river, Carseland......... | Fined $\$ 1.00$ and costs of court, $\$ 2.25$, and had confiscated from him 1 fishing rod and tackle. |
| 11 | Lark Cunningham | Violation of Sec. 11, Para. 1, Spec. Fish. Regs..... | Lake Wabamun:.............. | Fined $\$ 5.00$ and costs of court, $\$ 1.25$, or 7 days in jail and had confiscated from him 1 gill-net. |
| 12 | Ole Johnson. | Violation of Sec. 11, Para. 1, Spec. Fish. Regs. . . . . . | Lake Wabamun............... | Fined $\$ 5.00$ and costs of court, $\$ 1.25$, or 7 days in jail and had confiscated from him 1 gill-net. |

- So far as Manitoba, Saskatchewan and Alberta are concerned, the prosecutions shown are only those instituted prior to the transfer of the fisheries from Dominion to provincial control-in the case of Manitoba prosecutions up to July 15 th and in the case of each of the other two provinces September 30 th.

Return showing the Details of Prosecutions for Offences Against the Fisheries Act During the Fiscal Year 1930-31-Con.
ALBERTA-Continued

| Fros Nos. | : Name of Offender | Nature of Offence | Place of Offence | Result of Prosecution |
| :---: | :---: | :---: | :---: | :---: |
| 13 | B. A. Hicken. | Angling during close season, cont. Sec.1, Para. E.. Angling during close season, cont. Sec. 1, Para. E. | Lees cree Lees cree | Fined $\$ 5.00$ and had confiscated from him 1 rod, reel and line and 14 cut throa trout. <br> Find 5.00 and had conferated from |
| 14 15 | A. E. Hicken M. Strate.... | Angling during close season, cont. Sec. 1, Para. E. Angling during close season, cont. Sec. 1, Para. E. |  | Fined $\$ 5.00$ and had confiscated from him 1 rod, reel and line and 14 cut throat trout. |
| 15 $\vdots$ 16 |  | Angling during close season, cont. Sec. 1, Para. E. | Lees creek, near Cardston.... | Fined $\$ 5.00$ and costs of court, $\$ 5.50$, and had confiscated from him stick, string and 1 trout. |
| 16 17 | S. Kosko. | Angling without permit cont. Sec. 1, Fish. Act | Drywood creek, near Twin Buttes. | Fined $\$ 6.00$ and costs of court, $\$ 4.25$, and had confiscated from him 1 rod, reel and line. |
| 18 | C. R. How | Fishing in a closed stream. | Rickman creek, ${ }^{\text {a tributary }}$ | Fined costs of court, $\$ 3.50$. <br> Fined costs of court, $\$ 3.50$. |
| 19 | M. W. MacKenzie. | Fishing in a closed stream | Rickman creek, a tributary of | Fined costs of court, \$3. |
| 20 | W. J. Ranson | hing in a closed | Rickman cree | Fined costs of court, \$3.50. |
| 21 | Frank Chambers | Obstructing passage of fish with net, cont. Sec. 41, | Willow creek <br> Mouth of Sturgeo | Not guilty-Had confiscated from him 1 |
| 22 | Fred Hatte | of Fish. Act. <br> Obstructing passage of fish with net, cont. Sec. 41 |  | net. <br> Case dismissed |
|  |  | of Fish. Act. <br> Violation of Sec. 45, Para. 3, of Fish. Act | Cold creek |  |
| 24 | R. E. Foot | Exceeding limit of catch of lake trout. | ld creek | Fined $\$ 5.00$ and costs of court, $\$ 2.50$. <br> Fined $\$ 1.00$ and costs of court, $\$ 2.25$. |
| 25 | , | Exceeding limit of catch of lake trout. | Cold lak | Fined $\$ 1.00$ and costs of court, $\$ 2.25$. |
| 28 | J. B | Angling without permit cont. Sec. 1, Fish. Act.. | Crows Nest or Old Man river, | Fined costs of court, \$5.50. |
| 27. | J. Cocolone. | Having trout undersize, cont. Sec. 1, Para. 2. | Crows Nest or Old Man river near Coleman. | Fined $\$ 10.00$ and costs of court, $\$ 5.50$, and had confiscated from him rod, reel, line and 17 trout. |
| 28 | N. McKenzie. | Angling without permit, cont. Sec. 1, Para B, Fish. Act. | Carpentier creek, near Pincher | Fined $\$ 5.00$ and costs of court, \$4.50. |
| 29 | Walter Birney. | Fishing in a closed stream | Fish creek, North Fork | Fined $\$ 50.00$ and costs of court, $\$ 5.25$, and had confiscated from him 1 fishing tackle and rod. |
| 30 | J. B. W | Yaving small f | Muskeg river, at or near Mile 21 | Fined $\$ 10.00$ and costs of court, \$5.75. |
| 32 |  | Having smallish in possesss | Mus |  |
| 33 | z. | Having small fish in possession | Muskegriver, at or near Mile 21 | Fined $\$ 10.00$ and costs of court, 85.75 . |


| 34 | D. ${ }^{\text {D }}$ | F | $y \text { of }$ |  |
| :---: | :---: | :---: | :---: | :---: |
| 35 | E. |  | . | Fined \$5.50 and costs of court, \$4.25. |
| 36 | J. II. Graff. | Angling in closed waters, cont. Sec. 14, Par. 7, Fish. Act. | Pine creek, near Twin Buttes.. | Case dismissed. |
| 37 | S. Withrow | Angling in closed waters, cont, Sec. 14, Para. 7, Fish. Act. | Pine creek, near Twin Buttes. | Case dismissed. |
| 38 | A. E. Greig | Fishing in a closed stream........................... . | Langford , creek, tributary of Willow creek. | Fined $\$ 100.00$ and costs of court, $\$ 3.50$, and had confiscated from him 1 fishing rod. |
| 39 | J. F. Fraser | Fishing in a closed stream | Langford creek, tributary of Willow creek. | Fined $\$ 100.00$ and costs of court. $\$ 3.50$, and had confiscated from him 1 fishing rod. |
| 40 | H. Dunn. | Fishing without an | Elbow river, near Bragg creek | Fined $\$ 5.00$ and had confiscated from him 1 fishing rod. |
| 41 | Brodi | Fishing in the Edson River without a permit...... | Edson river, near Yo | Fined $\$ 1.00$ and costs of court, $\$ 3.00$. |
| 42 | Roy | Having no permit, cont. Sec. 1, Para. 13, Fish. Act | Waterton or Kootenay river near Twin Buttes. | Fined $\$ 5.00$ and costs of court, $\$ 2.00$ and had confiscated from him rod, reel and line. |
| 43 | A. F. Weiderman. | Having undersized trout cont. Sec.1, Para. 2 of Fish. Act. | Yarrow creek. | Fined $\$ 10.00$ and costs of court, $\$ 2.75$, and had confiscated from him 7 small trout, rod, reel and line. |
| 44 | C. K. Walker | Having undersized trout cont. Sec.1; Para. 2 of Fish. Act. | Yarrow creek. | Fined $\$ 10.00$ and costs of court, $\$ 2.75$, and had confiscated from him 7 small trout, rod, reel and line. |
| 45 | Fred Thael........................ | Having undersized trout cont. Sec.1, Para. 2 of Fish. Act. | Drywood creek, near Twin Buttes. | Fined $\$ 10.00$ and costs of court, $\$ 4.75$, and had confiscated from him 7 trout. |
| 46 | C. A | Ilaving undersized trout cont. Sec.1, Para. 2 of Fish. Act. | Yarrow er | Fined $\$ 10.00$ and costs of court, $\$ 4.75$, and had confiscated from him 7 trout. |
| 47 | II. Challo | Fishing without an angling permit.................. | Elbow river, near Bragg creek | Fined $\$ 5.00$ and costs of court, $\$ 2.25$, and had confiscated from him 1 fishing rod. |
| 48 | S. Morelan | Fi | Michael creek, a tributary of Elbow river. | Case dismissed. |
| 49 | II, M | Fis | Red Deer river, near Coal camp. | Fined \$5.00 and costs of court, \$2.00. |
| 50 | W. Blair | Violation of Sec. 12, Para. 2, Spec. Fish. Regs. ..... | Chip | ined $\$ 5.00$ and costs of court, $\$ 0.05$, or 30 days in qaol. |
| 51 | W. M | Vi | Ch | Fined $\$ 1.00$ and costs of court, $\$ 3.75$, and had confiscated from him 1 gill-net. |
| 52 | Alick IIulak | Fishing in close scaso | Lesser Slave lake, near mouth of Swan river. | Fined $\$ 25.00$ and costs of court, $\$ 3.50$, and had confiscated from him 2 double gill-nets. |
| 53 | Charles Larson. | Fishing in close seaso | Lesser Slave lake, near mouth of Swan river. | Fined $\$ 25.00$ and costs of court, $\$ 3.50$, and had confiscated from him 2 double gill-nets. |
| 54 | Arthur Johnson. | Fishing in close season............................... . | Lesser Slave lake, near Swan River point. | Fined $\$ 25.00$ and costs of court, $\$ 3.50$, and had confiscated from him 2 double gillnets. |
| 55 | Jack Murray | Fishing in close season for whitefish................ | Lesser Slave lake, near Swan River point. | Fined $\$ 25.00$ and costs of court, $\$ 2.00$, and had confiscated from him 6 double nets, and 53 lbs. of fish. |

Return showing the Details of Prosecutions for Offences Against the Fisheries Act During the Fiscal Year 1930-31-Con.
ALBERTA-Concluded

| $\begin{aligned} & \text { Pros. } \\ & \text { Nos. } \end{aligned}$ | Name of Offender | Nature of Offence | Place of Offence | Result of Prosecution ' |
| :---: | :---: | :---: | :---: | :---: |
| 56 | Jack Murray | Fishing with illegal gill-nets | Lesser Slave lake, near Swan River point. | Fined $\$ 25.00$ and costs of court, $\$ 3.50$, and had confiscated from him 6 double gill-nets, and 53 lbs. of fish. The articles confiscated in this Prosecution are the same articles as in Pros. No. 55. |
| 57 | Archie Whitford................. | Fishing with illegal nets............................ | North shore of Lesser Slave lake. | Not guilty, had confiscated from him 5 gill-nets. |
| 58 | Nick Kruko.. | Fishing with illegal nets............................. . | Lesser Slave lake, east of Swan River point. | Not guilty, had confiscated from him 5 cill-nets. |
| 50 | II. Adair. ...: ................... | Fishing in a closed stream | Bragg Creek, tributary of the Elbow river. | Fined $\$ 50.00$ and had confiscated from him 1 fishing rod. |

BRITISH COLUMBIA-Chief Supervisor, Major J. A. Motherwell
DISTRICT No. 1-Supervisor, R. W. McLeod


| Romanik. |
| :---: |
| Kenneth Chandler. |
| E. II. Chandler.. |
| L. Chartier. |
| R. A. Knight. |
| S. Sotero. |
| Matsuo Shimono. |
| G. Davis. . |
| F. Dickerson. |
| W. Vipers. |
| J. S. Fox. . |

Violation Sec. 51, Fisheries Act. Violation Sec. 1, sub. sec. 7, Regulations

Violation Sec. 79 Fisheries Act
Violation Sec. 1, sub. sec. 7. Regulations
Violation Sec. 1, sub. sec. 7, Regulations.
Taking undersized trout.
Angling without permit (non-resident)
Fishing for salmon during weekly closed season. Fishing for salmon during weekly closed season. Fishing for trout in closed area.
Fishing for trout in closed are
Violation Sec. 45, sub. sec. 3, Regulation............
In possession undersized trout gulation
Angling without permit (non-resident)
In possession undersized trout. .
In possession undersized trout.
In possession undersized trout
In possession undersized trout.
In possession underrized trout.
In possession undersized trout
Pollution of water by sawdust...................... Fishing with salmon gill-net without a licence. Fishing with samon gill-net without a licence. .
Fishing with salmon gill-net without a licence. In possession undersized sturgeon.
In possession undersized sturgeon.
Violation Sec. 1, sub. sec. 7, Regulations.
Violation Sec. 1, sub. sec. 7, Regulations.
Violation Sec. 13, Fisheries Act
Catching and killing par or smolt.
In possession undersized trout
In possession undersized trout.
In possession undersized trout
Violation Sec. 1, sub. sec. 7, Regulations
Violation Sec. 1, sub. sec. 7, Regulations
Violation Sec. 11, sub. sec. $2 b$ Regulations
Violation Sec, 11, sub, sec. $2 d$ Regulations

Palmer Bar creek.
Palmer Bar creek.
Peavine creek. . . . . . . . . . . . . . . . .

## Wolf lake.

## Wolf lake

Silver creek. . . . . . . . . . . . . . . . . . . . . . . . .

Capilano river.
Fraser river.
Fraser river. ........ . . . . . . . . . . . . . .
Trout creek. .......................................
Trout creek. . . . . . . . . . . . . . . . . . . . .
Drout creek. . . . . . . . . . . . . . . . . . . . .
Gold creek. . . . . . . . . . . . . . . . . . . . .

Tranquille
Tranquille.
Tranquillo.
Chilliwack river
Kettle river.
Capilano river.
21 mile creek
Fraser river.
Fraser river

## New Westminster

New Westminster
Princeton.
Michel creek
Durley.
Durieu.
Matzic slough

## Tataic sloug

## Edgewood.

## Apex

Apex. ....
Squamish
Squamish.

Fined $\$ 25$ and 14 trout confiscated Fined $\$ 25$ and fishing rod, reel, line and 3 trout confiscated. mon , line and reel confiscated.
Fined $\$ 10$ and 21 trout confiscated. Fined $\$ 10$.
Fined 85.
Found guilty. No fine. Warned.
Fined $\$ 15$.
Fined $\$ 15$.
Fined $\$ 2.50$.
Fined \$2.50.
Fined $\$ 10$.
Fined $\$ 10$ and 19 trout confiscated. Fined $\$ 10$.
Fined $\$ 10$ and few small trout confiscated.
Fined $\$ 10$ and few small trout confiscated.
Fined $\$ 10$ and few small trout confiscated.
Fined $\$ 2.50$ and 4 small trout confiscated.
Fined $\$ 5$ and few small trout confiscated Suspended sentence and rod, line, reel and 13 small trout confiscated.
Fined 55.
Warned.
Warned.
Fined $\$ 15$.
Fined $\$ 2.50$ and 2 small sturgeon confiscated.
Fined $\$ 2.50$ and 2 small sturgeon confiscated.
Fined $\$ 5$ and fishing rod, line, reel, and few small trout confiscated.
Fined $\$ 7.50$ and fishing rod, reel, line, bag and 30 small trout confiscated.
Fined $\$ 2$ and few small par or smolt confiscated.
Fined $\$ 2$ and few small par or smolt confiscated.
Fined $\$ 2$ and few small trout confiscated. Fined $\$ 2$ and few small trout confiscated. Fined $\$ 5$ and few small trout confiscated. Fined $\$ 5$ and 22 small trout confiscated Fined $\$ 5$ and 38 small trout confiscated. Fined \$5
Fined \$5.
Fined $\$ 5$ and part of cohoe salmon confiscated.

Return showing the Details of Prosecutions for Offences Against the Fisheries Act During the Fiscal Year 1930-31-Con.
BRITISH COLUMBIA-Continued


| 74 | （E．Egly | Violation Sec．16，sub．sec．20，Regulations | Okanagan river | ned \＄2．50． 1 gaff and few kokances |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { 苞 } \\ & \hline \mathbf{0} 45 \end{aligned}$ | H．Robb． | Violation Sec．16，sub．sec．20，Regulations． | Okanagan river． | confiscated． <br> Fined $\$ 2.50$ ． 1 gaff and few kokanees confiscated． |
| $\bigcirc \quad 76$ | Olger Emil I | Gill－netting in prohibited ar | IIowe sound． | Fined \＄5． |
| 77 | Roy Wright | Gill－netting in prohibited area | Howe sound | Fined $\$ 5$. |
| 78 | Geo．McKenz | Gill－netting in prohibited area | Howe sound | Fined 85. |
| 79 | Man Yow． | Violation Sec．16，sub．sec．23，Megulat | Mission creek | Fined $\$ 5$ and 30 kokanee confiscated． |
| 80 | Lee 1 uen | Violation section 16，sub．sec．23，Regulations | Mission creek． | Fined $\$ 5$ and 30 kokanee confiscated． |
| 81 | Joo Casino | In possession salmon illegally | Thompson riv | Fined $\$ 10$ and few salmon confiscated． |
| 82 | Jack Dyck． | Taking salmon illegally | Sumas river． | Fined 85． 1 salmon and 1 gaff confis－ cated． |
| 83 | Peter Dyck | Taking salmon illegally | Sumas river | Fined \＄5． 1 salmon confiscated． |
| 84 | Abe Dyck． | Taking salmon illegally． | Sumas riv | Fined \＄5． 1 日almon confiscated． |
| 85 | Geo．Kanaries． | Violation Sec．11，sub．sec．2，R | Chehalis | Fined $\$ 10$. |
| 88 | Long Charlie． | Violation Sec．61，Fisheries Act． | Stella Indian－rescrva | Fincd \＄10． |
| 87 | Jon Johannsson． | Fishing with gill－net during weekly closed period．． | Unchi lake． | Fined $\$ 100.200 \mathrm{yds}$ ．gill－net and 100 lbs ． whitefish confiscated． |
| 88 | Kjarstan Eylfson．． | Fishing with gill－net during weekly closed period．． | Unchí lake | Fined $\$ 100.200$ yds．gill－net and 100 lbs．whitefish confiscated． |
| 89 | Yong Wong | Angling with more than one line． | Mission | Fined costs of court．Fishing rod，lines |
| 00 | Dave Johnston． | Bringing fresh fish from above commercial bound－ ary at Mission Bridge． | Mission． | Fined $\$ 5$. Ford motor truck， 16 cohoe salmon and 14 steelhead trout con－ fiscated． |
| 91 | Alex．Johnston． | Bringing fresh fish from above commercial bound－ ary at Mission Bridge． | Ifammond． | Fined $\$ 5$. |

BRITISII COLUMBIA，DISTRICT No．2－SUPERvisor，J．Boyd


Return showing the Details of Prosecutions for Offences Against the Fisheries Act During the Fiscal Year 1930-31-Con.
BRITISII COLUMBIA-DISTRICT No. 2-Concluded

| $\begin{aligned} & \text { Pros. } \\ & \text { Nos. } \end{aligned}$ | Name of Offender | Nature of Offence | Place of Offence | Result of Prosecution |
| :---: | :---: | :---: | :---: | :---: |
| 9 | Alf. Shrubsall. | Carrying long gill-net on boat....................... | Chatham sound. | Fined $\$ 50$ and 36 fathoms $5 \frac{3}{4}$-inch mesh net complete with cork and lead lines confiscated. |
| 10 | W. II. Walters. . . . . . . . . . . . . . . | Fishing during weekly closed season............... |  |  |
| 11 | D. Cameron. | Fishing during weekly closed season. | Smiths inlet. . . . . . . . . . . . . . . | Fined \$15. |
| 12 | D. Carnerie. | Fishing during weekly closed season. | Smiths inlet. . . . . . . . . . . . . . . | Fined \$15. |
| 13 | F. McGovern | Fishing during weekly closed scason. | Smiths inlet. | Fined \$15. |
| 14 | J. Edwards... | Fishing during weekly closed season. | Smiths inlet. | Fined \$15. |
| 15 | J. Matheson. | Fishing during weekly closed season. | Smiths inlet. | Fined \$15. |
| 16 | II. Brock.... | Fishing during weekly closed season................. | Rivers inlet. | Fined $\$ 250$ and fishing skiff with equipment complete, 200 fathoms salmon gill-net 5 -inch mesh, 50 meshes deep, with lines complete, and 107 sockeye salmon confiscated. |
| 17 | Stanley Shaw. . . . . . . . . . . . . . . . . | Fishing inside boundary. | Rivers inlet. | Fined $\$ 20$. |
| 18 | Matice Johnny . . . . . . . . . . . . . . . . . | Fishing inside boundary................................. | Rivers inlet. | Fined \$20. |
| 19 | O. Schoen. . . . . . . . . . . . . . . . . . . . | Fishing during weekly closed season.................. | Rivers inlet. | Fined \$10. |
| 20 | Peter Leighton. . . . . . . . . . . . . . . . . | Fishing with purse-scine without licence............ | Squally channel................ | Fined $\$ 10$ and 25 sockeye, 9 cohoe, 3,723 pinks and 8 chums confiscated. |
| 21 | Tom Colburne. . . . . . . . . . . . . . . . | Fishing with purse-seine without licence. . . . . . . . . . | Squally channel. . . . . . . . . . . . . | Fined $\$ 20$ and 16 sockeye, 3 cohoe, 1,254 pinks and 4 chums confiscated. |
| 22 | Tohn Sebastian. . . . . . . . . . . . . . . . | Not carrying licence when fishing . . . . . . . . . . . . . . . | Skeens river, ... . . . . . . . . . . . | Fined \$10. |
| 23 | T. Kishijama. . . . . . . . . . . . . . | Fishing during weekly closed period.................. | Observatory inlet | Fined $\$ 20$. |
| 24 | T. Gosnell. . . . . . . . . . . . . . . . . . . | Fishing salmon in closed area............................. | Port Simpson harbour. . . . . . . . | Case dismissed. |
| 25 | G. Dick... | Fishing inside boundary...... | Wannock river. | Fined \$50. |
| 26 | A. Charleson | Fishing inside boundary ........... . . . . . . . . . . . . . . . . | Wannock river | Fined \$50. |
| 27 | W. Jow...... | Fishing inside boundary................................ | Wannock river. | Fined \$50. |
| 28 | W. Galagher...................... | Fishing inside boundary. | Wannock river. | Fined \$50. |
| 29 | J. Rasmussen.......................... | F'ishing inside boundary . . . . . . . . . . . . . . . . . . . . . . . . . . . | Wannock river. . . . . . . . . . . . . . . | Fined \$50. |
| 30 | S. Matiland........................ | Fishing inside boundary ................................ | Wannock river................. . . | Fined \$50. |
| 31 | D. Moon.... | Fishing inside boundary. | Wannock river. . . . . . . . . . . . . . | Fined $\$ 50$. |
| 32 | Geo. Craigan. | Fishing inside boundary. | Wannock river. | Fined \$25. |
| 33 | D. Backie... | Fishing inside boundary. | Wannock river. | Fined \$50. |
| 34 | J. Augustine. | Fishing inside boundary.................................... | Wannock river. | Fined \$25. |
| 35 | W. Mearns.. | Fishing inside boundary. | Wannock river. | Fined \$150. |
| 36 | F. Point. | Fishing inside boundary. | Wannock river. | Fined \$150. |
| 37 | E. White | Fishing inside boundary. | Wannock river. | Fined \$150. |
| 38 | F. Mille. | Fishing inside boundary. | Wannock river. |  |
| 39 | F. Mraul. . . . . . . . . . . . . . . . . . . . . . . . . | . Fishing inside boundary.. | Wannock river. . . . . . . . . . . . . . . . | Fined \$25. |


| 40 | F.J. Bra | Fiehing inside b | Wannock river. | Fined \$25. |
| :---: | :---: | :---: | :---: | :---: |
| 41 | J. Croves | Fishing inside boundary | Wannock rive | Fined $\$ 25$. |
| 42 | J. Legiak | Fishing inside boundary | Wannock rive | Fined \$150. |
| 43 | F. Guerin | Fishing inside boundary | Wannock river | Fined $\$ 150$. |
| 44 | W. Watt. | Fishing during weekly closed se | Wannock rive | Fined 820. |
| 45 | C. Hurst | Fishing inside boundary. | Wannock rive | Fined 8100. |
| 46 | D. S. Denman | Angling without permit (non-resident) | Ingram river | Fined \$30. |
| 47 | Adarn Abrahams. | Fishing for salmon with set net. | Juskatla inlet. | Fined $\$ 25$ and 342 pink salmon confiscated. |
| 48 | Ben Wilson. | Fishing above boundary line. | Cridgo Inlet lagoon. | Fined $\$ 200$ and 40 sockeye salmon confiscated. |
| 49 | Nathan Shaw. | Fishing above boundary line | Kitkatla inlet | Fined \$250. |
| 50 | William Kobinson. | Fishing above boundary line. | Turtlo creek. | Fined \$50. |
| 51 | Tom Colbourne. | Fishing during weekly closed season | Black Fly point. . . . . . . . . . . . . | Frned $\$ 50$ and 10 sockeye, 9 cohoe, 3,723 pinks and 8 chums confiscated. |
| 52 | Charles Wilson. | Fishing salmon within hall a mile of mouth of stream. | Grenville channel. | Fined \$75. |
| 53 | Gus Webster. | Fishing salmon within half a mile of mouth of stream. | Khutze inlet................... | Fined $\$ 100$ and 425 pink salmon confiscated. |
| 54 | Lorne Williams. | Fishing during weekly closed season............... | Iliggins pass.................... | Fined $\$ 300$ and 438 sockeye, 19 cohoes and 519 pinke confiscated. |
| 55 | P. Walse. | Fishing alove boundar | Danube bay, Verney pass..... | Fined $\$ 25$ and 1 sockeye, 2 cohoes, 13 chums and 197 pinks confiscated. |
| 36 | George Jones. | Fishing with salmon purse-seine within hall a mile of mouth of stream. | Indian Cabin creek. | Fined $\$ 100$ and 250 chum salmon confiscated. |
| 57 | Mathew Yeomans. | Fishing with salmon purse-seine within half a mile of mouth of stream. | Indian Cabin creek. | Fined $\$ 100$ and 3,272 chum salmon confiscated. |
| 59 | Charies Strom. | Fishing with salmon purse-scine inside boundary... | Tinkey bay.. | Case dismissed. |
| 59 | Olaf Knutson. | Fishing with salmon purse-seine inside boundary.. | Huston-Stewart chann | Fined $\$ 200$. |
| 60 | Thomas Julian. | Fishing with salmon purse-seine inside boundary... | IUston inlet | Fined $\$ 150$ and 2,120 chum salmon confiscated. |
| 61 | Willred Matheson. | Fishing with salmon purso-seine inside boundary... | Long arm, Skidegate inlet. . | Fined $\$ 150$ and 3,203 chum salmon confiscated. |

DISTRICT No. 3-SUPERyISOR, J. F. TAIT

| 1 | Peder Lerntsen. . . . . . . . . . . . . . . . | Violation Sec. 3, sub. sec. 1, Regulations... . . . . . . . | Port Neville... . . . . . . . . . . . . | Fined 830 and 25 cases abalone confiscated. |
| :---: | :---: | :---: | :---: | :---: |
| 2 | Elphege Gosseli | Viol. Sec. 1, sub, sec. 6, Regulations | Campbell river................. | Fined \$15. |
| 3 | Louis Wain. . . . | Viol. Sec. 1, sub. sec. 6, Requlations. | Campbell river . . . . . . . . . . . . . | Fined \$15. |
| 4 | William Roberts. | Viol. Sec. 19, sub. sec. 10. Regulations. | Cape Mudge. | Fined $\$ 10$. |
| 5 | Andrew Tom. | Viol. Sec. 21, sub. sec. 12a, Regulations. . . . . . . . . . . . | Saanich arm | Fined $\$ 10$ and 250 lbs. ling cod configcated. |
| 6 | Mrs. Posnline Johnny . . . . . . . . . . | Violation Sec. 5, sub. sec. 7, Regulations. . . . . . . . . . | Duncan. | Case dismissed. |
| 7 | 1R, Yoshida........................ | Viol. Sec. 11, sub. sec. 1a, Regulations.............. | Port Neville. | Fined $\$ 10$. |
| 8 | K. Kanai... | Violation Sec. 11, sub. ser. 1a, Regulations.. | Port Neville. | Fined $\$ 10$. |
| 0 | T. Tanaka. | Violation Sec. 11, sub. sec. 1a, Regulations.... | Port Neville..... | Fined \$10. |

BRITISII COLUMDIA-DISTRICT No. 3-Concluded

| Pros. <br> Nos. | Name of Offender | Nature of Offence | Place of Offence | Result of Prosecution |
| :---: | :---: | :---: | :---: | :---: |
| 10 | Peder Berntsen. | Viol. Sec. 2, sub. see. 1, Regulations. | Port Neville. | Fined $\$ 25$. |
| 11 | Giovanni Dorriman. | Violation Sec. 16 , sub. sec. 10 b , Regulations. | Somass river | Fined \$50. |
| 12 | Tommy Tatoosh. . | Violation Sec. 11, sub. sce. 1a, Regulations........... | Goose creck. | Fined \$10. |
| 13 | Harry Moon..... | Violation Sec. 16, sub. sec. 19, Regulations........... | Hayden bay | Fined $\$ 35$. |
| 14 | Remi Lescule....... | Violation Sec. 16, sub. sec. $16 a, 1$ egulations......... | Hayden bay. | Fined $\$ 20$. |
| 15 | Mrs. Chiyo 1 anino. | Violation Sec. 4, sub. sec. 2, Regulations.............. | Nanaimo. | Fined \$5. |
| 16 | J. S. Shannon. | Violation Sec. 51, Act.................... | Kuper island. |  |
| 17 | Fred Logvinoff | Viol, Sec. 16, sub, sec. $16 a$, Regulation | Tofino inlet. | Fined $\$ 15$. |
| 18 | Justus Ieander | Violation Sec. 16, sub. sec, 10a, Regulations.......... | Glendale cove | Fined $\$ 10$. |
| 19 | Walter White. | Violation Sec. 16, sub. sec. 16a, lRegulations.......... | Glendale cove | Fined \$25. |
| 20 | Mosabura Suguira | Violation Sec. 16, sub. sec. 16a, legrulations.......... | Glendale cove. | Fined 850. |
| 21 | Robert Wiilson.... | Violation Sec. 16, sub. sec. 16 m , Regulations........ | Baronet pass. | Fined $\$ 10$. |
| 22 | William Billy. | Violation See. 16, sub. sec. 26 , Treaulations.. | Black creek. | Fined \$5. |
| 23 | William Johnston. | Viol. Sec. 16, sub. sec. 16a, legulations..... | Wakeman sound. | Fined $\$ 10$. |
| 24 | George Witson.. | Violation See. 16, sub. sec. 16a. IRegulations. | Wakeman sound. | Fined $\$ 25$. |
| 25 | William Johnston. | Violation Sec. 12, sub. sec. 1, lierulations............ | Wakeman sound. | Fined \$10. |
| 26 | Barney Lundquist | Violation Sec. 16, sub. see. 16a, Regulations. | Wakeman sound. | Fined $\$ 20$. |
| 27 | lRobert Taylor... | Violation Sec. 16, sub. sec. 16a, Regulations..... | Adams river.... | Fined 5200. |
| 28 | Joseph Skinner. | Violation Sec. 22, sub. see. 1, lRegulations........ | Loughboro inlet. | Fined \$50. |
| 29 | Dan Assu.. | Violation Sec. 40, Act. . . . . . . . . . . . . . . | Johnstone strs... | Fined \$20. |
| 30 | Joseph Peter | Violation Sec. 19, sub. sec. 7a, Rerulations.......... | Cape Mudge... | Fined $\$ 15$. |
| 31 | Casper Joe. | Violation Sec. 16, sub. sec. 11b, legulations........ | Cowichan river. | Suspended sentence and 110 lbs spring salmon confiscated. |
| 32 | A. Fredericksen | Violation Sec. 16, sub. sec. 16, Regulations......... . | Homalko river. | Fined $\$ 25$. |
| 33 | Emil Salo. | Violation Sec. 16, sub. sec. 16b, licgulations......... | ILomalko river. | Fined $\$ 25$. |
| 34 | A. Karme. | Violation Sec. 16, sub. sec. 16b, Regulations......... | IIomalko river. | Fined $\$ 20$. |
| 35 | Leslie Wilscen. | Violation Sec. 16, sub. sec. 11 b , Requlations.......... | Cowichan river. | Fined $\$ 20$ and salmon gill-net confiscated. |
| 36 | Dan Woodward | Violation Sec. 1, sub. sec. 4, Regulations............ | Finlayson arm | Fined $\$ 15$. |
| 37 | Clito Ferrario. | Violation Sec. 16, sub, see. 19, Regulations......... | Robson bight. | Fined \$50. |
| 38 | John Vukovich. | Violation Sec. 16, sub. sec. 16b, Regulations......... | Fcoole........ | Fined $\$ 75$ and 702 chum salmon confiscated. |
| 39 | Art Smith. | Violation Sec. 16, sub. sec. 16a, Regulations.... | Blinkinsop bay. | Fíned $\$ 100$. |
| 40 | George Sibbald. | Violation Sec. 12, sub. sec. 1, lkeculations........... | 13linkinsop bay. | Fined \$25. |
| 41 | George Sibbald. | Violation See. 16, sub. sec. 16a, Regulations......... | Blinkinsop bay. | Fined $\$ 100$. |
| 42 | George Sibbald. | Violation Seo. 16, sub. sec. 2, Regulations.......... | Blinkinsop bay | Fined $\$ 50$. |
| 43 | Alex. 'Thomson. | Violation Sec. 16, sub. sec. 16a, llegulations. | J3linkinsop bay. | Fined $\$ 20$. |
| 44 | James Gilbert... | Violation Ree. 10, sub. sec. 16a, Regulations.. | Orford bay .... | Fined \$15. |
| 45 | Otomatsu Ishida. | Violation Sce. 16, sub, sec. 16a, lequlations.... | Ramsay arm | Fined $\$ 7.50$. |
| 46 | Otomatsu Ishida. | Violation See, 16, sub. sec. 16h, Regulations..... | Southgate river. |  |


| 47 | J. Edwards | (Violation Sec. 16, sub. sec. 16a, Regulations....... | $\mathrm{S}_{2}$ | Fined $\$ 75$ and 91 chum salmon confiscated. |
| :---: | :---: | :---: | :---: | :---: |
| 48 | Frank Emil Holt. | Violation Section 16, sub. sec. 16b, Regulations | Polly pt., Alberni canal. | Fined $\$ 10$ and 4 chum salmon confiseated. |
| 49 | Louis Mall. | Violation Sec. 16, sub. sec. 25, Regulations | Baynes sound. | Fined \$20. |
| 50 | Mate Benieh | Violation Sec. 20n, Regulations. | Coon Dog bay. | Fined \$10. |
| 51 | Olaf Fylling | Violation Siec. 20n, Regulations | Coon Dog bay. | Fined $\$ 10$. |
| 52 | Edgar Lepine | Violation Sec. 16, sub. sec. 11, Regulations. | Cowichan bay. | Fined \$5. |
| 53 | J. II. Tahouney | Violation See. 16, sub. sec. 11, Regulations. | Cowichan bay. | Fined $\$ 5$. |
| 54 | John Jackson... | Violation Sec. 16, sub. sec. 16, Regulations. | Saltery bay... | Fined $\$ 100$ and 58 chum salmon confiscated. |
| 55 | Frank IIadley | Violation Sec. 16, sub. sec. 16, Regulations. | Saltery bay. | Fined $\$ 100$. |
| 56 | H. Mase. | Violation Sec. 16, sub. sec. 18, Regulations. | Saltery bay. | Suspended sentence. |
| 57 | Pese Christensen | Violation Sec. 18, sub. sec. 11, Regulations. | Saanich arm. | Frmed \$200. |
| 58 | Shinzo Osawa | Violation Sec. 10, sub. sec. 11, Regulations. | Shingle bay. | Fined \$50. |
| 59 | Stanko Veljacich | Violation See. 10, sub. sec. 1f, Regulations. | Beaver point. | Fined \$50. |

## NOTES AS TO THE GRAPHS FOLLOWING

Weights shown in these graphs are in hundredweights of one hundred pounds each.

For the graph showing export trade in dried fish, the figures for the several countries have been obtained from the following sources:-

The figures for Newfoundland are from the "Newfoundland Customs Returns" which are for fiscal years ending June 30 . The figures include dried cod, dried haddock, dried hake and cusk, and dried pollock.

The figures for Norway were supplied by the Director of Fisheries, Bergen, Norway. They are for klipfish only, and include dried cod, dried haddock, dried cusk, dried coalfish, and dried ling.

The figures for Iceland were obtained through the British Consul General at Reykjavik. They are for klipfish only.

The figures for the United Kingdom are taken from the "Annual Statement of the Trade of the United Kingdom with Foreign Countries and British Possessions." They are for the calendar year, and include dried cod and dried haddock.

The figures for France are from the "Tableau General du Commerce et de la Navigation." They are for the calendar year. Included are dried cod (klipfish) only.

The figures for the United States are from the "Foreign Commerce and Navigation" reports of the Department of Commerce. They are for the calendar year. Included are dried cod, dried haddock, dried hake, and dried pollock.

Canadian figures are from the "Trade of Canada" reports of the External Trade Branch of the Dominion Bureau of Statistics. The figures are for the year ending March 31 in each instance. Included are dried cod, dried haddock, dried hake and cusk, and dried pollock.




CWTS.
2340000

2250000

2160000
2.070000

1980000

1890000

1800000

1710000

1620000

1530000

1440000

## 1350000

## 1260000

1170000

1080000
890.000

900000

810000

90000




GRAPHS
Showing the catch of SALMON Since 1912 for
1 All Canada
2 British COLumbia.
3 New Brunswick.
Note: Copparafively small
quantities are landed in
Nova Scotia, Pince Edward Island


| Cwts. | $\frac{N}{\sigma}$ | $\frac{m}{\square}$ | $\frac{7}{\square}$ | $\frac{10}{0}$ | $\frac{0}{0}$ |  | $\frac{\infty}{\sigma}$ | $\frac{\square}{\sigma}$ | ~ | N | $N$ <br> $N$ <br> $\sim$ | $\begin{aligned} & N \\ & N \\ & \sim \end{aligned}$ | N <br> $\sim$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 300000 |  |  |  |  |  |  |  |  |  |  |  |  |  |





，化隹

$\qquad$

＋？ ，

解
， ，

$\square$
\＃．

H



## —

 $1+1,41+1,411$

CWTS (100 LES) 1957000

1751000

1648000

1545000

1442000

1309000

1236000

1133000

1030000

927000

## Showing the Exports of

 DRIEDFISHSINGE 1912 FROM
NEWFOUNDLAND
Norway
GANADA
UCELAND
UNITEDKINGDOM FRANGE
UNITEDSTATES
$+1+$
$+$




号 $\begin{array}{llllll}\cdots & \stackrel{\leftrightarrow}{\sigma} & \pm & \frac{\pi}{\sigma} & \frac{N}{\sigma} & \frac{N}{\sigma}\end{array}$

## F'SHERIES STATISTICS OF CANADA

## 1930

(Prepared in collaboration with Dominion and Provincial Fisheries Departments)

Published by Authority of the Hon. H. H. Stevens, M.P.
Minister of Trade and Commerce


## CONTENTS

$p_{\text {age }}$
$p_{\text {age }}$
Preface. ..... 3
The Fisheries of Canada. ..... $\frac{4}{4}$
Introduction and Summary
Quantity and Value of Chief Commercial Fishes, 1926-1930 ..... 11
Review oi the Fisheries of 1930 .......
Summary of Production, 1929 and 1930 ..... $\frac{12}{21}$
Agencies of Production, 1928-1930-
In Primary Operations- Capital.
Employees ..... 8
In Tish Canning and Curing Establishments- Capital.
Employees ..... $3 i$
$i 7$
$i$Time in OperationEmployies and Wages.
Number of Waga-earners by Months
Fuel Used
Power EquipmentValue of Materiasl Üsed.
Value of Production. ..... $\frac{9}{30}$
Review by Provincus-
Total Yalue of Fisheries, 1926-1930 ..... 31
Quantity and Value of Chif Commercial Fishes, 1926-1930 ..... 31
Quantity and Value of All Fish Caught and Marketed, 1930.
Total Valu for Counties and Districts of All Sea Fish Caught and Landed and Marketed, 1929 and 1930
Proportion of Catch of Sea Fish taken Offshore, 1930
Capital Equipment, 1930
Number of Employees, 1930
Fishing Bounty
Fishing Bounty
Imports and ExportsHistorical Review.4
4
439
5
General Tables
I. Fish Caught and Marketed, 1930
Prince Edward Island, 60; Nova Scotia, 62; New Brunswick, 86; Quebee, 98; Ontario, 106; Manitoba, 106; Brition Columbia 112
Part 1. In Primary Operation-
Prince Edward Island, 124; Nova Scotia, 126; New Brunswick, 138; Quebec, 144; Ontario, 150; Manitoba, 152; Saskatchewan, 152; Alberta, 154; Yukon, 154; British Columbia, 156.
Part 2. In Fish Canning and Curing Establishments ..... 163 ..... 162
(a) General Summary of Statistics
(a) General Summary of Statistics
(b) Capital Invested ..... 170
(c) Numberees of Wage-earners by Months (d) Number of Ware-earners by Mont
(e) Quantity and Value of Fuel Used. ..... 173
(I) Power Equipment. ..... 176
(g) Time in Operation and Hours Worked ..... 170
(h) Classification of Establishments According to Value of Product ..... 178

(i) Classification of Establishments According to Number of Employees. ..... | 179 |
| :--- |
| 180 |

III. (1) Classification of Vessels and Boats, Used in the Sea Fisheries, According to Principal Kinds of Fish Taken, 1930 ..... 182
(2) Imports and Exports of Fish and Fishery Products, calandar years, 1928, 1929 and 1930 ..... 200
(3) The Salmon Pack of British Columbia, 1920-1930 ..... 210
(4) The Lobster Pack of Canada, 1919-1930 ..... ${ }_{212}^{2}$
(6) Fishing Bounties, 1930 . ..... 213

# DOMINION BUREAU OF STATISTICS 

ADDRESS ALL

FISHERIES STATISTICS REPORT, 1930

ERRATA
Page 20 - Lines 6 and 7 of the last paragraph
should read as follows, - "fertilizer
was some three thousand tons less than
in the preceding year, or 18,123 tons
as against 21,084 tons".
Change "PILCHARD MEAL" statistics as follows:-
Page 22 - Read 13,934 tons in place of 18,934 tons.
Page 36 - Under column "British Columbia" - read
Page 115 - Total quantity: read 13,934 tons, instead
of 18,934 tons on lines 1 and 29 . On line 24,
read 6,104 tons, instead of 11,104 tons.

Change "Grayfish" statistics as follows:-
Page 38 - British Columbia column:- Grayfish caught and landed: read $98,680 \mathrm{cwt}$. in place of $4,934 \mathrm{cwt}$.
Page 23 - Grayfish oil: read 114,558 gal. in place of 14,558 gal.
Page 38 - British Columbia column:- Grayfish oil: read 114,558 gal. in place of $14,558 \mathrm{gal}$.

## PREFAGE

This Report is issued under an arrangement for statistical co-operation between the Dominion Bureau of Statistics and the Government departments having jurisdiction with regard to fisheries throughout Canada. These departments comprise: The Dominion Fisheries Department, which exercises jurisdiction over the fisheries of the Maritime provinces, the Yukon Territory and British Columbia, and the Fisheries Branches of departments of Ontario, Quebec, Manitoba, Saskatchewan and Alberta which have jurisdiction over the fisheries of their respective provinces, excepting in the case of Quebec, the fisheries of the Magdalen Islands, which are under the jurisdiction of the Dominion Fisheries Department. The province of British Columbia has a Fisheries Branch, but it does not engage in independent statistical work.

Under the arrangement above referred to, the statistics of the catch, and of the products marketed in a fresh state or domestically prepared, are collected by the local fishery officers, checked in the Department of Fisheries, and compiled in the Dominion Bureau of Statistics. In the case of manufactured fish products, schedules in conformity with those of other sections of the Census of Industry are sent by the Bureau to the operators of canneries, fish-curing establishments, etc., the fisheries officers assisting in securing an expeditious and accurate return. The grateful acknowledgments of the Bureau are tendered to the officers of the provincial governments who co-operate in these arrangements.

R. H. COATS,<br>Dominion Statistician.

Dominon Bureau of Statistics, Ottawa, August 7, 1931.

## THE FISHERIES OF CANADA

The Early Fisheries-Fishing is one of the historic industries of Canada. From a date which precedes authentic record, the Normans, the Bretons and the Basques were on the cod-banks of Newfoundland. Cabot, in 1498, when he first sighted the mainland of North America, gave it the name of "Bacalaos," the Basque word for codfsh, which he found already in use among those hardy seamen. Cape Breton, one of the oldest place-names in America, is another memorial of the early French fishermen,-and the Spaniards and the Portuguese were but little behind. Fernandez de Navarette mentions all three as frequenters of the "Grand Bank" before 1502. The fishing was by hand lines over barrels made fast to the bulwarks to prevent fouling, the vessels remaining during fine weather, then retwring to France with from 30,000 to 50,000 cod. Voyages along the coast soon showed the cod as plentiful inshore as on the outer banks, and it became common for a crew to anchor in a bay, erect a hut on shore, and make daily excursions to the fishing grounds-the product being salted and dried on land and at the end of the season shipped to France. Jacques Cartier, when he went up the St. Lawrence in 1534, found traces everywhere of these early "Captains Courageous" and of their rivalries in arms no less than in the capture of the teeming product which had tempted then so far from home. An establishment of the kind just mentioned was founded at Tadoussac by Chauvin in 1599. Soon the fishermen began to stay all winter and thus to erect permanent fishing settlements. The first grant of the fisheries of Canada was made by the King of France to de Monts in 1603. Fishing, therefore, may well be regarded as the first industry to be systematically prosecuted by Europeans in what is to-day the Canadian domain. It has never since ceased to yield a perennial harvest both to Europe and America.

By the Treaty of Utrecht in 1713, Britain became the owner of Newfoundland and excluded France from fishing and drying fish on certain sections of the coast, but France retained the Fisheries of Cape Breton and the Gulf. The Seven Years' War (1756-1763) put a stop to continuous fishing. At its close, the Robin family of Jersey came to Canada, and gradually acquired the former French fishing stations. Until the arrival of the Loyalists all other fishing but cod was neglected. Inshore fisheries alone (including those of the Labrador coast) were developed during this phase; no deep-sea fishing vessel put out from Lunenburg, now the chief centre of the deep-sea fishery, until 1873.

The Canadian Fishing Grounds-Canada's fishing grounds are perhaps the most extensive in the world. On the Atlantic, from Grand Manan to Labrador, the coast line, not including the lesser bays and indentations, measures over 5,000 miles. The bay of Fundy, 8,000 square miles in extent, the gulf of St. Lawrence, fully ten times that size, and other ocean waters comprise not less than 200,000 square miles, or over four-fifths of the area of the fishing grounds of the North Atlantic. In addition there are on the Atlantic seaboard 15,000 square miles of inshore waters controlled entirely by the Dominion. Large as are these areas they represent only a part of the fishing grounds of Canada. The Pacific coast of the Dominion measures 7,180 miles in length and is exceptionally well sheltered, whilst throughout the interior is a series of lakes which together contain more than half of the fresh water on the planet, Canada's share of the Great Lakes alone amounting to over 34,000 square miles, a total which of course does not include lake Winnipeg ( 9,457 square miles), lake Manitoba, and others of even greater area.

Still more important than the extent of the Canadian fishing grounds is the quality of their product. It is an axiom among authorities that food fishes improve in proportion to the purity and coldness of the waters in which they are taken. Judged by this standard, the Canadian cod, halibut, herring, mackerel, whitefish and salmon are the peer of any in the world. It is possible, therefore, to state that


Angling in Nova Scotia
Engraving, courteny Dept. of the Interior.


The New Brunswick Sardine Industry.-Fishermen laying a weir at St. Andrews. Photo, courlesy Can. Goot. Motion Picture Buredu.


Some of the Boats of the Famous Lunenburg Fishing Fleet.
Photo, courtesy Dominion Government Motion Picture Bureah.


Gill Net Fishing, Fraser River, B. C.
Engraring, courteay Dept. of the Interior.
by far the most valuable fisheries of the western hemisphere, if not of the globe, belong to Canada.

It will be seen from the foregoing that it is impossible to deal with the Canadian fisheries in the aggregate; they are those of a continent rather than of a country, and are of corresponding diversity. Omitting the tremendous Hudson Bay and peri-Arctic region, which extends from Ungava to Alaska, there are roughly the following divisions of the Canadian fisheries:

1. Atcantic Fisheries.-These were the first Canadian fisheries in point of time and until 1918 they remained the most important for aggregate value of product. Cod, halibut, haddock, hake, herring, mackerel, lobster, oyster and hair seal fisheries are included. The estuarian and inland waters of the Maritime provinces and of Quebec are sometimes considered as distinct; if they are added, the list of products would embrace the salmon, the shad, the gaspereau (alewife), the smelt, the striped bass, the tom cod, the trout and the maskinonge. Conditions are fairly uniform throughout these fisheries, which are commonly divided into the inshore and deep-sea fisheries. The inshore or coastal fishery is carried on in small boats usually motor driven, with crews of two or three men, and in a class of small vessels with crews of from four to seven men. The means of capture employed by boat fishermen are gill nets and hooks and lines, both hand lines and trouls; whilst from the shore are operated trap nets, haul seines and weirs. Haddock as well as cod is a staple product; during the spring and summer it is split and salted but the important season comes with the autumn, when the fish are shipped fresh or else smoked and sold as finnan haddie. The deep-sea fisheries are worked by vessels of from 40 to 100 tons, carrying from twelve to twenty men operating with trawl lines from dories. The fleets operate on the various fishing banks, such as Grand Bank:, Middle Ground and Banquereau. The vessels, built by native hands, remain at sea, sometimes for months at a time, and in the hands of sailors who have no superior, seldom come to grief. When they return, the fish, which have been split and salted on board, are taken on shore and washed and dried. The West Indies are the chief market for this product; no cod fish in the world stands the tropical climate like that cured by the fishermen of the Maritime provinces. Steam trawling as it is carried on in the North Sea, was introduced on the Atlantic coast of Canada a number of years afo. There are now seven steam trawlers operating from Nova Scotia ports. They operate practically the whole year. and their catches are utilized entirely for the fresh fish trade.

Lobstering, which had its beginning about 1870, is another distinctive industry. In that year there were three lobster canneries on the Atlantic coast of Canada; in 1930 the canneries numbered 383 and gave work to 5,600 people: $30,000,000$ lobsters is a normal catch. The difficulty of enforcing regulations prohibiting the captitre of undersized and spawning lobsters offers a constant problem in connection with the output, but it is thought that a decline has now been arrested. In New Brunswick the canning of sardines, which are young herrings and not a distinct type of fish, equals in importance the lobster industry. Oysters, once plentiful everywhere are now found in diminished quantities, but the Government is expecting to restore the industry through the development of oyster farming: favourable areas in Prince Edward Island waters are to be seeded, and this and the resulting work will be carried on under the direction of experts in oyster culture.

The fishing population of the Maritime provinces is a specialized and stable industrial class. The coast-wise fisheries are operated from April to November, or to January in sheltered districts: and though the larger vessels work all winter, several thousand men are available for a time each ycar for other employment. This they find about the small plots of land which the most of them own or occupy, in the lumber camps of New Brunswich, or in the collieries of Nova Scotia. A few from Lunenburg and other centres engage in the West Indian trade. Apart from restrictions of weather and close scasons, the prevailing method of paying the men on shares has a further tendency in years of low catches or prices to drive them into secondary occupations.
2. Inland Fisheries.-The Great Lakes and tributary waters of the St. Lawrence are a second great division of the Canadian fisheries. The value of the inland fisheries of Quebec lies chiefly in the output of the eel, dore (pickerel), smelt and sturgeon fisheries. Whitefish, trout, pickerel, and lake herring are the most important commercial fishes of Ontario, though pike, sturgeon and coarse fish yield a fair return. The season on the Great Lakes lasts from six to eight months, and though fishing through the ice is followed by many, a large number depend on miscellaneous employment between the seasons. Moving westward, lake Winnipeg, lake Winnipegosis, lake Manitoba and the smaller lakes to the north and east furnish most of the fish products of Manitoba. Whitefish and pickerel are the chief products, but pike, tullibee, goldeye and many other varieties abound. In Saskatchewan and Alberta commercial fishing is confined to the regions north of the Saskatchewans river, where whitefish in large quantities are taken. The problem of transportation is keenly felt; some of the greatest lakes of the continent-Reindeer, Athabaska, Great Slave, Great Bear-and hundreds of smaller bodies of water are still beyond reach from a marketing point of view. The lakes of the west, however, repeating the part which the St. Laurence played in the days of the French regime, and the cod banks in the history of New England, have assisted greatly in the settlement of the country by providing a much needed food supply for early arrivals.
3. Pacific Fisheries.-In British Columbia there is an interior fishing region which corresponds in the main to the prairie section; in the early history of the province it is doubtful if the fur trade (which opened the door by way of the Rocky Mountains to later enterprise) could have established its footing but for these fisheries. The great wealth of British Columbia, however, in this respect-the source from which she produces approximately two-fifths of the fish products of Canada, and has built up a trade which reaches to the ends of the earth-is in the estuarian salmon fisheries of the Fraser, the Skeena, the Naas, and other rivers of the Pacific slope. Every species of this king of food fishes linown to the waters of the Pacific (which, however, is not the true salmon) is to be found on the British Columbia coast-the sockeye, the spring, the cohoe, the pink and the chum salmon. Of these, the sockeye is by far the most important, owing to its abundance and to its prevailing deep red colour and excellent texture, which have created so keen a demand for it in the British market. On the Fraser river, which used to be the chief source of supply, but which has now yielded place to the Skeena and other northern waters, the yield varies to a considerable extent from year to year. The run begins late in July and is at its height in the opening weeks of August, though the northern rivers have a somewhat earlier season. The spring or quinnat salmon is a much larger fish; it was the species first used in the United States for canning. The run begins early in the spring and continues until July. The cohoes are smaller, running like the sockeye in compact schools, during September and October on the Fraser and earlier on the northern streams. The chum salmon is camed and a considerable quantity also is salted for export to the Orient. The pink salmon again follows the sockeye. Many of the employees in this Fishery are Chinese, Japanese and Indians, the Chinese preponderating in the canneries and the Indians and Japanese in the fishing operations.

Halibut abounds off Vancouver island and between the Queen Chanlotte Islands and the mainland, and though the first endeavour to establish an industry was unsuccessful, by 1903 British Columbia supplied $10,000,000$ pounds of $25,000,000$ pounds taken on the whole Pacific coast north of California. The former figure has since trebled. The annual catch of herring in British Columbia represents about 56 per cent of the totàl catch of sea herring for the Dominion, and nearly the whole of it is dry-salted for export to China and'Japan. The pilchard fishery has become of importance in recent years, the greater part of the catch being used in the manufacture of oil and meal, of which large quantities are produced annually. In 1980 the pilchard was third on the list of principal Kinds of fish in British Columbia in order of value, and eighth on the list of the chief commercial fishes for the whole of Canada. There is also the whale fishery which has now two stations on the

Queen Charlotte islands. The yearly catch includes whales of many kindssulphur bottom, finback, and humpback with an occasional sperm whale. Whale hunting is carried on in fast boats with Svend Foyn harpoon guns-a method which was introduced from Norway. Every scrap of the whale is used-oil, meal and fertilizer are its more important products. Black and ling cod, oulachon, founders, skate. soles, smelts, and sturgeon are also abundant in British Columbia waters.

A word might be added with regard to the Canadian fur-seal fisheries of the Pacific whose historic headquarters were the city of Victoria. The industry has disappeared, in part through the scarcity of the animals, and in part through the workings of the Pelagic sealing treaty of 1911. This Treaty was made in the interests of the conservation of the seal herds, and under its terms pelagic or open-sea fishing is prohibited. As compensation for the suspension of her sealing privileges Canada receives annually from the governments of the United States, Russia and Japan a share of the proceeds of the sealing on the Pribaloff islands and other rookeries owned by the respective countries. The Indians of the Pacific coast are exempted from the provisions of the Treaty in as much as they are allowed to hunt seals from open boats manned by not more than five persons, and without the use of firearms.

Game Fish—The above is a purely industrial and commercial survey. Fishing for sport, however, has its economic side in a country of such famous game fish as the salmon of the Restigouche, the black bass of the Quebec and Ontario highlands, and the trout of the Nipigon. A considerable public revenue is derived from the leasing of waters in sparsely settled districts to clubs and individuals for sporting purposes. Several hundreds of guides find employment here during the summer months.

The Government and the Fisheries-At Confederation, the administration of the Canadian fisheries and marine was placed in the charge of a department of the Dominion government which then exercised complete jurisdiction over the fisheries, under the supervision of a Cabinet Minister, with a large staff of inspectors, overseers and guardians to enforce the fishery laws. In 1930 the Department of Marine and Fisheries was divided, and separate departments, each in charge of a Cabinet Minister, were created to administer respectively the marine and the fisheries. In 1882, 1898, 1913 and 1920 decisions in the courts considerably altered the status of jurisdiction as between the Dominion and the provinces, and further changes were effected in 1922, when the Dominion Government transferred to the province of Quebec the administration of the fisheries of that province, with the exception of the fisheries of the Magdalen Islands, and again in 1980 when the fisheries of Manitoba, Saskatchewan and Alberta were transferred, with the other natural resources, to the Governments of those provinces. To-day the Dominion controls the tidal fisheries of the Maritime provinces and British Columbia and the fisheries of the Magdalen Islands in Quebec province. The non-tidal fisheries of the Maritime provinces, Ontario and the Prairie provinces, and both the tidal and non-tidal fisheries of Quebec (excepting the Magdalen Isiands) are controlled by the respective provinces, but the right of fisheries legislation for all provinces rests with the Dominion government. The expenditure of the Dominion on the Fisheries in the fiscal year ended March 31st, 1931, was $82,435,299$, and its r"сnue S186,935.

Conservation-River and lake fisheries certainly, and sea fisheries probably, if left to themselves, conform to the economic law of diminishing returns. The Canadian government, accordingly, has had for a main object the prevention of depletion, the enforcement of close seasons, the forbidding of obstructions and pollutions, and the regulation of nets, gear and of fishing operations generally. In addition, an extensive system of fish culture has been organized: in 1930 the Dominion operated 29 main hatcheries, 10 subsidiary hatcheries and 7 salmon retaining ponds at a cost of S322,586, and distributed 479,412,046 eggs, fry and older fish, mostly

British Columbia salmon, pickerel and whitefish. The young fish are distributed gratis if the waters in which they are to be placed are suitable and are open to public fishing.

Scientific Research-Stations under the direction of the Biological Board of Canada for the conduct of biological research into the numerous complex problems furnished by the fisheries are established at Halifax, N.S., St. Andrews, N.B., and Nanaimo and Prince Rupert, B.C. Toronto, McGill, Queens, Manitoba, British Columbia and the chief Maritime province universities send workers to both stations, chiefly professors and trained specialists. The life-histories of edible fishes, the bacteriology of fresh and cured fish, improved methods of handling and preparing fish, and numerous other practical problems have been taken up and scientific memoirs and reports issued.

Direct Assistance-In the field of direct assistance, apart from the fishing bounty payments, which are referred to in another paragraph, the government has taken various steps from time to time: Beginning in 1927, fish collection services have been operated on several stretches of the Atlantic coast by the Department of Fisheries. By the operation of these services fishermen in the territories covered by the fish collection boats are enabled to sell their catches promptly and have them delivered to purchasers at central points at a small cost per hundredweight of fish. Thus the areas that have the facilities of the fresh fish markets available to them have been considerably extended at a time when the fish trade is of growing importance. The fishermen are able to obtain returns from their labour earlier than would otherwise be possible, and there is the further benefit to them that they can devote to the actual process of catching fish time which formerly they were compelled to employ in preparing their catches for the dried and.cured fish markets. As another step to assist the fishermen a system has been established of broadcasting radio reports as to weather probabilities, bait and ice supplies, ice conditions along the coast, and prevailing local fish prices. During most of the season these radio reports are broadcast twice daily from Halifax and Louisburg, and the weather reports are also broadcast from Saint John. As most of the fishing vessels are now equipped with radio receiving sets this service has proved of much value. Telegraphic information as to bait supplies on the coast is also made available daily by the Department of Fisheries in a number: of fishing ports during spring and summer months. Statistical bulletins dealing with the sea fisheries are prepared by the Department, monthly and quarterly, and are distributed throughout Canada for the benefit of the fishermen and fishing industry. Monthly reports are also issued on fish market conditions in the principal countries to which Canadian fish is exported. For several years past bounties have been paid for the destruction of harbour seals in certain areas. With a view of improving the quality of Canadian cured herring, an expert was employed for some time by the government to conduct demonstrations in the Scottish method of curing these fish. Under authority of the Fish Inspection Act, systems of instructions in improved methods of fish-curing and barrel-making and of the inspection of cured fish by specially appointed officials have been in operation for several years. To prevent poaching and to assist in the proper enforcement of fisheries regulations a fleet of vessels patrols the coastal and inland waters. Scientific research and experimentation on behalf of the fishing industry have been carried on for some years at government scientific stations. Some reference to this phase of effort on behalf of the industry is made elsewhere in this review under the heading "Scientific Research."

International Problems-So rich a fishing area as the North Atlantic could not fail to attract other countries, and old customs became elevated into rights, some of which have lasted until the present. The French shore is a Newfoundland question, now a sentimental one entirely. Very different is the question of the rights of the United States, whose fishermen in the colonial period provided the chief food supply for New England and who were granted by the Treaty of Versailles, 1\%8S,
a specific liberty to a share of the Canadian inshore fisheries. Losing this by the war of 1812, the United States after 1818 surrendered all but their liberty to call at Canadian ports for sheller, wood or water or to make repairs, and to fish around the Magdalen Islands and on the north shore of the Gulf of St. Lawrence from Point Joli eastward, and to dry and cure their fish in any of the unsettled bays, harbours and creeks on this portion of the North shore. In the years 1854-1866, the Reciprocity Treaty set at rest for the time questions of interpretations to be placed on certain parts of the Treaty of 1818. The former Treaty provided for the admission into either country, duty free, of the fish and fish products of the other, and United States fishermen were allowed to fish in Canadian Atlantic territorial waters and Conadian fishermen in certain United States territorial waters on that coast, with the exception in either instance of rivers and mouths of rivers, and for shell fish. In 1871, the Treaty of Washington revived the fishery provisions of the Reciprocity Treaty of 1854, and provided for the appointment of a commission to determine the amount of compensation to be paid by the United States to Great Britain as the difference in the value of the concessions mutually granted. This commission sat in Halifax in 1877, and its findings have since been known as the "Halifax A ward." The amount of the award was $\$ 5,500,000$, of which $\$ 1,000,000$ was apportioned to Newfoundland. In 1885, however, the United States terminated the fisheries articles of this Treaty, and a period of disagreement between the countries followed. A settlement was negotiated in 1888 when the plenipotentiaries appointed by the two nations" agreed to what since has been known as the "Unratified Treaty of 1888," under the terms of which United States fishing vessels were to be granted, without fee, annual licences authorizing them to purchase in Canadian ports provisions and outfits, to tranship their catches and to ship crews. Out of this treaty grew the so-called modus vivendi licences. The treaty makers recognized that the treaty could not receive the sanction of the governments of the countries concerned before the commencement of the fishing season, and, as a temporary arrangement to last not longer than two years, it was agreed that United States fishing vessels on the payment of a fee of $\$ 1.50$ per registered ton, should receive annual licences conveying the privileges covered by the treaty. The treaty was rejected by the United States Senate, but Canada continued to issue modus vivendi licences up to 1918, when arrangements were made for reciprocal privileges in the ports of cither country. This arrangement was discontinued in the United States when their special war legislation under which it was made, ceased to be effective on July 1st, 1921. The following year the modus vivendi licences were revived in Canada; but the system was discontinued at the end of 1923, and the United States fishing vessels are now limited to the provisions of the Traty of 1818.

On the Great Lakes, also, the more important fishery problems, such as restocking and marketing, are necessarily international in character, and are complicated by the number of state governments interested. Much the same situation has developed in British Columbia, where the sockeye of the Fraser are taken by the camers of Puget Sound in quantities that largely excecd the catch of the Canadian canners and by trap nets and other methods forbidden in Canadian waters. In 1905 an international commission first discussed the question, while in 1922, prohibition of sockeye fishing in the Fraser for five years, with a view to conservation, was recommended by a Parliamentary commission.

The Halibut Fishery on this side of the Pacific is engaged in only from Canadian and United States ports, but owing to the fact that it is largely carried on beyond territorial waters neither country alone can control it. At the same time it is in the interests of both countries that the fishery should be permanently maintained in a flowishing condition. The question of finding an adequate method of dealing with the matter was therefore one of those that was referred to the Canadian-American Fisheries Conference that was appointed in 1918 by the governments of the two countries to consider a settlement of outstanding fishery questions between Canada and the United States. In 1922 Canada proposed that the halibut question should be considered by itsclf. This was agreed to, and resulted in the Treaty of the 2nd
of March, 1923, "For the Protection of The Pacific Halibut." Under this Treaty a close season was provided for halibut fishing from the 16th of November in each year to the 15th of February following, both dates inclusive. A further Convention, signed by the plenipotentiaries of both countries at Ottawa on the 9th day of May, 1980, extended the close season for halibut fishing to cover the period November 1st in each year to February 15th following, both dates inclusive, such Convention to supplant the Treaty of the 2 nd of March, 1923, and to remain in force for a period of five years and thereafter until two years from the date when either country shall give notice to the other of its desive to terminate it.

Fishing Bounties-An important though indirect aftermath of the Washington Treaty remains. By an Act of 1882 (45 Vict., c. 18) for the development of the sea fisheries and the encouragement of boat building, provision was made for the distribution annually among fishermen and the owners of fishing boats of \$150,000 in bounties, representing the interest on the amount of the Halifax award. An Act of 1891 (54-55 Vict., c. 42) increased the amount to $\$ 160,000$, the details of the expenditure being settled each year by Order in Council.

The Modern Industry-The existing fishing industry of Canada is the growth of the past century. In 1844, the estimated value of the catch was only $\$ 125,000$. It doubled in the following decade, and by 1860 had well passed the million mark. Ten years later it was six millions, and this was again more than doubled in 1878. In the 90's it passed twenty millions, and in 1911, thirty-four millions. In 1930 it was forty-seven and a half millions. The highest record was reached in 1918, with over sixty millions. It will be understood that these figures represent the total value of fish marketed, whether in a fresh, dried, canned or otherwise prepared state. Meanwhile the number of employces has mounted to 80,000, and the total capital invested to $\$ 60,000,000$. The annual per capita consumption of fish in Canada is estimated at upwards of 21 pounds.

Among individual fish products, the cod and the salmon long disputed the primacy; if the record back to the beginning is taken the cod is the most valuable fishery; in the past thirty years, however, the salmon has definitely taken the lead and the heary pack and high price of lobsters have more than once sent cod down to third place. This, has, of course, affected the relative standing of the prounces accordingly, British Columbia now occupying the leadership that in earlier times belonged to Nova Scotia. Halibut takes fourth place among the chief commercial fishes.

Trade-For reasons already noted, the domestic consumption of fish is relatively small in Canada, and the trade depends largely upon foreign markets. From 60 to 70 per cent of the annual capture is an average export, of which the United States takes approximately one-third and the United Kingdom one-sixth. In the calendar year 1930, total exports amounted to $\$ 31,869,350$ of which $\$ 14,374,096$ went to the United States and $\$ 4,790,032$ to the United Kingdom. The most important single export is canned salmon (to the United Kingdom and European markets), followed closely by cod, dry salted (to the West Indies, South America, etc.) For fresh fish, especially whitefish and lobsters, the United States is the chief market. In brief, Canada's export trade in fish, falls below that of the United Kingdom, and Norway alone; including Newfoundland it exceeds both. Canadian imports of fish in 1930, amounted to $83,446,601$.

## FISHERIES STATISTICS OF CANADA, 1930

The total value of production of the fisheries of Canada for the year 1930 was $\$ 47,804,216$, compared with $\$ 53,518,521$ in 1929 and $\$ 55,050,973$ in 1928. These totals represent the value of the product as marketed, whether fresh, domestically prepared or factory made. The following table shows the quantity caught and the value marketed of the chief commercial fishes (those valued at $\$ 100,000$ or upwards) for the past five years, with a statement in the final column of the increase or decrease for 1930 compared with 1929.

## 2. Quantity ${ }^{1}$ and Value ${ }^{2}$ of the Chief Commercial Fishes, Canada, 1926 to 1930

| Kind of Fish | 1926 | 1927 | 1928 | 1029 | 1930 | Increase or decrease 1930 compared with 1929 inc. + des.- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Salmon. ....................................... cwt. | 2,180,470 | 1,541,447 | 2,286, 151 | 1,550,780 | 2,362,529 | $+811,749$ |
|  | 19,607, 082 | 15,065,063 | 17,867,053 | 15,008,825 | 17,731,891 | $+2,723,066$ |
| Lobsters...... . . . . . . . . . . . . . . . . . . . . . . cwt. | $339,583$ | $316,831$ | 332,437 | , 372,820 | $407,265$ | + 34,445 |
|  | $5,883,672$ | $5,426,176$ | 5,183,988 | 5,696,542 | 5,214, 643 | - 481,899 |
| Cot | 2,733,864 | 1,978,803 | 2,150,078 | 1,979,440 | 1,662,421 | - 317,019 |
|  | 6,995,283 | 4,881,980 | 6,285,777 | 5,394,636 | 4,288, 813 | $-1,105,823$ |
| Halibut. | 339,918 | 299,854 | 329,923 | 335,824 | 282,605 | - 53,219 |
|  | 4,935,472 | 3,945,312 | 3,812,321 | 4,832,296 | 2,871,455 | $-1,960,841$ |
| Herring | 2,423,457 | 2,724,113 | 2,396,054 | 2,317,806 | 2,190,776 | - 127,030 |
|  | 3,238,919 | 3,358, 098 | 3,104,911 | 3,186,669 | $2,623,174$ | 563,495 |
| Haddock. | 496,802 | 421,709 | 481,708 | 545,400 | 486, 344 | - 59,056 |
|  | 1,754,846 | $1,483,844$ | 1,733,781 | 1,951,642 | 1,851,724 | 99,918 |
| Whitefish. | 190,644 | 185,664 | 180,695 | 196,386 | , 169,747 | - 26,639 |
|  | 2,167,865 | 2,192,738 | 2,192,567 | 2,453,703 | 1,818,941 | - 634,702 |
| Pilchards. | 969,958 | 1,368,582 | 1,610,252 | 1,726,851 | 1,501,404 | - 225,447 |
|  | 1,256,721 | 1,838,867 | 2,563,137 | 2,199,834 | 1,589,609 | - 610,225 |
| Sardines.$\mathrm{bbl}$$\$$ | $173,166$ | $174,695$ | 285,990 | 249,194 | 129,459 | - 119,735 |
|  | 1,175, 268 | 1,046,575 | 1,291,722 | 1,626,764 | 1,074,487 | - 552,277 |
| Trout. | 78,710 | 92,007 | 91,694 | 90, 854 | 69,809 | - 21,045 |
|  | 1,051,196 | 1,397,294 | 1,347,779 | 1,324,775 | 1,031,979 | - 292,796 |
| Pickerel or Dore. | 126,086 | 140,019 | 142,610 | 128,500 | 103,146 | - 25,354 |
|  | 1,385, 856 | 1,347,589 | 1,616,442 | 1,453, 847 | 939,762 | - 514,085 |
| Smelts. | $02,311$ | $82,762$ | -91,877 |  | 66,121 | $-\quad 17,863$ |
|  | 1,174,185 | 1,117,330 | 1,241,452 | 1,190,908 | 853,034 | $\text { - } \quad 337,874$ |
| Nackerel. | 115,487 | 158,797 | 123,768 | 152,756 | 178,464 | + 25,708 |
|  | 443,155 | 582,705 | 528,267 | 536,021 | 598,019 | + 61,908 |
| Tullibee. | 101,525 | 121,764 | 104,145 | 97,669 | 62, 041 | 35,628 |
|  | 645,945 | 633,150 | 612,931 | 687,731 | 461,676 | - 226,055 |
| Hake and Cusk. | 151,051 | 175,370 | 253.244 | 339,217 | 294,376 | - 44,841 |
|  | 203,502 | 232,404 | 368,237 | 517,311 | 431,566 | 85,745 |
| Blue picherel. | 30,385 | 31,173 | 21,496 | 25,831 | 59,284 | $+\quad 33,453$ |
|  | 182,310 | 187, 038 | 257, 25.5 | 333,220 | 420,917 | + 87,697 |
| Perch. | 30,498 | 34,573 | 53,176 | 67,055 | 43,762 | 23,293 |
|  | 230, 155 | 272,687 | 763,315 | 616,722 | 346,649 | 270,073 |
| Ling $\cot { }^{3}$. | - | 49,916 401,250 | 50,772 | 48,489 415,776 | 49,591 333,564 | + 1,102 |
|  |  |  | 36, |  | , |  |
| Clams and quahaugs................. . . . . bbl. | -54,230 | 57,712 | 63,320 | 67,739 | 64,709 | - $\quad 3.030$ |
|  | 268,887 | 274,287 | 322,874 | 346,772 | 319,469 | $27 \times 303$ |
| Pike . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . orvt. | 72,520 | 70.473 | 62,701 | 82,546 | 56,464 | - 26,082 |
| \$ | 407,181 | 356.992 | 362,922 | 409,970 | 228,905 | 181,065 |
| Swordfish, | 12,936 | 7,299 | 8,088 | 6,336 | 11,933 | + 5,597 |
|  | $207,248$ | 120.692 | 132,345 | 98,241 | 214,806 | $+116,565$ |
| Oysters. | 22, 255 | 21,650 | 21,493 | 24,959 | 23,942 | - 1,017 |
|  | 209,378 | 197,781 | 214,180 | 226,876 | 205,019 | 21,857 |
| Lels. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . cwt | 24,466 | 15,926 | 25.661 | 14,539 | 16,388 | $+1,849$ |
| $\$$ | 231,559 | 139,932 | 227,751 | 133,542 | 147,114 | $+13,572$ |
| Mhacl: cond. | 10,358 | 16,430 | $13,388$ | 15,308 | 16,517 | $+\quad 1,209$ |
|  | 89,371 | 123,421 | $101,452$ | 118,362 | 120,583 | + 2,221 |
| Alerives, | 72,237 | 54,775 | 36,252 | 67,968 | 71,539 | $+3,571$ |
|  | 149,610 | - 86,608 | 57, 729 | 123,508 | 112,451 | - 11,057 |
| Sturcmon. | 5,198 | 4,788 | 4,866 | 5,143 | 4,977 | - . 166 |
|  | 159,438 | 143.720 | 141,009 | 132,530 | 112,622 | - 19,908 |

[^5]The following review of the fisheries of Canada for the year 1930 is issued through the courtesy of the Deputy Minister of Fisheries, for whose annual report it was prepared.

## REVIEW OF THE FISHERIES OF 1930

Fisheries operations in the calendar year 1930 resulted in a production having a marketed value of $\$ 47,804,216$, or $\$ 5,714,000$ less, in round figures, than in the year 1929. Landings were smaller than in 1929 in each of the three divisions of the fisheries-Atlantic Coast Fisheries, Inland Fisheries and Pacific Coast Fisheries-and for the Dominion as a whole the catch showed a decrease of approximately $53,000,000$ pounds. The major factor in causing a decrease in the marketed value of the year's production, however, was not the drop in landings, but the unsettled and depressed conditions prevailing in most of the markets where Canada's fisheries products are sold. Price levels declined and the industry had to face very many adverse marketing conditions.

As compared with the returns for 1929 there were decreases in the marketed value of the fisheries production in all the provinces. The sea fisheries output for the year had a marketed value of $\$ 41,451,977$, but in the preceding year the total had been $\$ 44,928,742$. The inland fisheries production, $\$ 6,352,239$, was smaller by over $\$ 2,237,000$ than it had been in 1929 . British Columbia continued first among the provinces in point of value of fisheries output, and accounted for about forty-eight per cent of the production value for the Dominion, as compared with thirty-four per cent in the case of the Maritime Provinces, seven per cent for Ontario, five per cent for Quebec, and four per cent for the Prairie Provinces and the Yukon Territory combined.

Capital Investment and Personnel.-Notwithstanding that the fishing industry, in common with other industries, was seriously affected during the year by unfavourable general economic conditions, a substantial increase was made in the capital investment, which reached a new high level. In 1929 the investment amounted to $\$ 62,579,444$, but by the end of 1930 this sum had increased by over $\$ 2,000,000$ and the capital in the industry amounted in all to $\$ 64,026,297$. There was a decrease in 1930 of something more than $\$ 700,000$ in the investment in vessels and boats and gear used in the primary operations of catching and landing fish, which amounted to $\$ 33,198,690$, but this was more than offset by an increase in the money invested in cameries and fish curing establishments, which reached a total of $\$ 30,827,607$. As has been noted in several previous reports, there has been a steady increase in capital investment in the fishing industry in the past few years. It may probably be taken for granted that this process of increase will be temporarily checked by the general adverse economic conditions at present prevailing throughout the world. Its occurrence has been significant, however, of the growing Canadim interest in the fisheries, and of the widening realization of the possibilities presented by the Dominion's remarkable fisheries resources, and it is reasonable to expect that investment will again increase when general conditions shall have again become favourable for business expansion.

During the year the number of persons directly engaged in the industry was 79,558 , or 892 less than in the preceding year. The personnel employed in the primary operations numbered 63,836 , as compared with 64,083 in 1929. In fish canning and curing establishments 15,722 persons were at work, or 645 less than in the year before.

Major Fisheries.-Outstanding among the features of the year's operations was the exceptional success of the salmon fishery so far as quantity of landings was concerned. In the sea fisheries of both coasts greatly increased landings of salmon were made-over 229,600,000 pounds in British Columbia and nearly $6,500,000$ pounds in the Atlantic provinces. New records were established in catches; and in marketed value, despite the unfavourable world conditions,
the production of the fishery showed a value increase of $\$ 2,700,000$ over the figures for the preceding year and reached a total of $\$ 17,697,655$. The lobster fishery, which is carried on in Atlantic coast waters only, was again second only to the salmon fishery in point of marketed value return. An increased catch was made, but the lobster industry, like all others, was affected by the unsatisfactory market conditions, and despite the gain in landings the marketed value of the production was about $\$ 481,000$ less than in 1929 , amounting to $\$ 5,214,643$. The cod fishery ranked third in point of value, with a marketed return of $\$ 4,288,813$, as compared with $\$ 5,394,636$ in the preceding year. There was a large decrease in the marketed value of the halibut catch, which was only $\$ 2,871,455$, as compared with $\$ 4,832,296$ in 1929 . In the herring fishery there was a smaller return, or $\$ 2,623,174$ as against $\$ 3,186,669$. Whitefish, the most, valuable of the Inland fishes, brought in $\$ 1,818,941$, but that amount was less by over $\$ 600,000$ than the marketed value for 1929 .

## Nova Scotia

An increase of more than $1,800,000$ pounds in the lobster catch was a feature of 1930 operations in Nova Scotia, although lowered prices reduced the marketed value of the year's lobster production, $(\$ 3,046,084)$, by about $\$ 165,000$. There were very large increases relatively in the catch both of salmon and swordfish; in each case the landings were almost twice as large as in the previous year. The mackerel fishery was also more successful than in 1929, both in point of size of landings and marketed value. There were larger catches of hake and cusk, flounders, skate, soles, alewives, smelts, albacore, eels, oysters, and of one or two other varieties. On the other hand, the landings of cod fell off by more than $23,000,000$ pounds, and the marketed value of the cod production decreased by nearly $\$ 800,000$. Unfavourable market conditions in the dried fish trade operated to keep down the return from cod fishery operations. The total catch of fish made by the Lunenburg fleet, which operates chiefly for the dried fish trade, was much smaller than in 1929, or 14,078,000 pounds as against 20,870,000 pounds. The haddock, pollock, halibut, herring, scallop and clam and quahaug fisheries were less successful than in 1929, both as to catch and marketed value. All told the marketed value of the Nova Scotia fisheries production for the year was $\$ 10,411,202$, or $\$ 1,016,289$ less than in the preceding year.

## New Brunswick

In New Brunswick the marketed value of the sea fisheries production, $\$ 4, \$ 19,396$, was less by more than $\$ 1,000,000$ than the total for 1929 , but the output from inland fisheries showed a slight increase in value on the market, or $\$ 34,179$ as compared with $\$ 31,452$. The lobster and sardine fisheries, together accounted for about 47 per cent of the marketed value of the fisheries production of the province for the year. The catch in the lobster fishery, slightly more than $9,000,000$ pounds, was greater by 870,000 pounds than in the preceding year, but the marketed value showed a decrease. The sardine fishery, which in 1929 had been in first place among New Brunswick fisheries in point of value of production, was much less successful in 1930. The catch fell off sharply and the marketed value decreased by $\$ 550,000$. The pack of canned sardines totalled 244,238 cases, as compared with 329,204 cases in the previous year, and there was a decrease of more than $\$ 340,000$ in canned sardine value. There were decreased catches and decreases in marketed value in the smelt, haddock, cod, herring, hake and cusk, mackerel, shad, oyster, and clam and quahaug fisheries. The pollock catch showed a large relative increase, and a gain of over $\$ 23,000$ in marketed value. The commercial salmon landings fell not very far short of being twice as large as in 1929 , or $3,332,600$ pounds, as compared with $1,765,000$ pounds. The marketed value of the catch was $\$ 641,734$ as compared with $\$ 416,925$.

## Prince Edward Island

The year's operations in Prince Edward Island were featured by an increase of nearly $1,610,000$ pounds in the landings of cod, which amounted in all to $6,625,500$ pounds. The lobster fishery was also more productive and over $8,000,000$ pounds were landed as compared with $7,359,000$ pounds in 1920. In the case of the cod fishery, there was also some increase in marketed value, a condition probably chiefly attributable to improved processing methods employed in some parts of the province as a result of special instructional work carried on among the fishermen by the department's officers. The mackerel fishery was more successful than in 1929, both as to catch and marketed value, but most of the other fisheries showed decreases in landings and value, although so far as catch was concerned the clam and quahaug fishery was more productive than in the previous year. The oyster fishery was not quite as successful as in 1929 .

## Quebec

In Quebec there was a decrease in marketed value both in the case of sea fishery production and inland fishery production. The products of the sea fisheries had a value on the market of $\$ 1,976,798$, which was less by over $\$ 392,000$ than the total for 1929. Operations in the inland fisheries yielded a production valued on the market at $\$ 526,200$, or about $\$ 38,000$ less than in the preceding year. There was again a substantial increase in the salmon catch in the sea fisheries, the landings amounting in all to $1,685,600$ pounds, as against $1,005,400$ pounds, and marketed value increased by about $\$ 55,000$. The mackerel fishery also showed a gain in catch and marketed value. Scallop landings increased and there was also an increase in marketed value. Practically all of the other sea fisheries, however, including cod and herring, yielded smaller catches and smaller monetary return than in the preceding year. The catch of lobsters increased slightly, but the marketed value fell off. Fishermen in the inland fisheries made larger catches of eels than in 1929, and increased their market return by a few thousand dollars. The herring fishery was slightly more successful than in the previous year, and this was true also of the whitefish fishery and one or two others. The pickerel catch was not as large as in 1929, although the decrease was not great. As in the sea fisheries the salmon fishermen engaged in inland operations did very substantially better than in the previous year, but the commercial catch of salmon in Quebec inland waters is not large.

## Manitoba

With all the principal fisheries showing smaller marketed returns than in 1929, Manitoba's production for 1930 amounted to only $\$ 1,811,962$, or a decrease of more than $\$ 933,000$. The pickerel fishery yielded a catch with a marketed value of $\$ 581,018$, while the return from 1929 operations amounted to $\$ 988,563$. The catch of whitefish increased, but marketed value fell off by some $\$ 80,000$. The tullibee catch, $4,749,900$ pounds, was very much smaller than in the year before, and the marketed value, $\$ 370,074$, showed a decrease of $\$ 218,000$. The catch of goldeyes was not much more than one-half as large as in the earlier year. The trout catch also decreased.

## Saskatchewan

The landings of pickerel, tullibee and mullets in Saskatchewan were larger last year than they had been in 1929, but the catches of whitefish and trout showed decreases Taking all fisheries together, there was a decrease of about $1,433,000$ pounds in catch and of more than $\$ 338,000$ in marketed value, the total production value for the year being $\$ 234,501$ as compared with $\$ 572,871$. In the whitefish fishery, the most important of Saskatchewan's fisheries from the standpoint of market return, the catch for the year was $3,152,200$ pounds as compared with $4,593,400$ pounds in the year before.

## Alberta

The whitefish and trout fisheries are the most important in Alberta, and in 1930 each was considerably less productive than in the preceding year. These decreases chiefly explain the drop in total marketed value of fisheries production from $\$ 732,214$ in 1929 to $\$ 421,258$ in the year under review. The 1930 catch of trout was $1,491,800$ pounds, but this was a decrease of over 800,000 pounds from the 1929 figures, while marketed value was $\$ 148,959$ as against $\$ 235,391$. The catch of whitefish was $1,906,200$ pounds, as against $2,809,100$ pounds in the previous year, and had a marketed value of $\$ 187,751$, a decrease of over $\$ 138,000$. The catches of all other kinds of Alberta fish except mullets were less in 1930 than in the preceding year. The mullet fishery is relatively unimportant.

## British Columbia

The marketed value of British Columbia's fisheries production in 1930, $\$ 23,103,302$, was less by some $\$ 827,000$ than the total for 1929 . This decrease was due in part to the decline in price levels, and in part to curtailment of operations in some fisheries because of unfavourable market conditions. The exceptionally large runs of salmon led to an increase of some $\$ 2,345,000$ in the marketed value of salmon production, but halibut marketed value decreased by more than $\$ 1, \$ 70,000$, herring marketed value by nearly $\$ 265 ; 000$ and pilchard marketed value by some $\$ 600,000$. There were also decreases in catch and value in the case of a number of the other Pacific coast fisheries. The number of whales captured, for instance, was only 320 , as against 407 in 1929, and the marketed value of whale products $\$ 227,993$, represented a decrease of nearly $\$ 160,000$.

## Yukon Territory

The marketed value of the catch taken in the Yukon Territory during the year was between four and five thousand dollars greater than the total for 1929, or $\$ 29,510$ in 1930 , as compared with $\$ 24,805$. The salmon catch, 54,900 pounds, was some 23,000 pounds smaller than the 1929 total, but the landings of trout were more than twice as large as in the preceding year, and that was true also in the case of whitefish and mixed fish.

## Atlantic Coaśt Results

Catches of sea fish made during the year by the fishermen of Nova Scotia, Ner. Brunswick, Prince Edward Island and Quebec, the four Atlantic coast provinces, amounted in all to $483,935,700$ pounds, as compared with $536,193,900$ pounds in 1929. The landings had a marketed value of $\$ 18,909,054$, which was approximately $\$ 1,090,000$ less than in the preceding year. The Prince Edward Island catch showed an increase of substantially more than a million pounds, but the landings in each of the other three provinces showed a decrease.

Cod, Haddock, Hake and Cusk, and Pollock.-The landings of each of these varieties of fish were smaller, talking the coast as a whole, than they had been in 1929, and the marketed value also showed a decline. Except in Prince Edward Island where, once more as in 1929, there were increased catches, the landings from the cod fishery fell off along the coast. In all three of the Maritime provinces the haddock catch decreased; no haddock landings were reported from Quebec, either in 1929 or 1930. The Nova Scotia catch of hake and cusk was larger than in the previous year, but the total catch from Maritime province waters decreased; hake and cusk are not taken by Quebec fishermen. The pollock fishery was more productive in New Brunswick than it had been in the previous year, but less productive in Nova Scotia, and the net result of pollock fishing operations in these two provinces, the only provinces where pollock are taken, was a decrease of upwards of 186,000 pounds in catch.

The total Atlantic coast catch of cod was $166,146,600$ pounds with a marketed value of $\$ 4,284,209$, as compared with the catch of $197,883,200$ pounds
and a marketed value of more than $\$ 5,391,627$ in 1929 . The chief production of cod is in Nova Scotia, and the landings made during the year by the fishermen of that province were $106,513,300$ pounds, as against $129,784,100$ pounds in the year before.

All of the annual catch of haddock, except a relatively small quantity, is taken by the fishermen of Nova Soctia, and their operations in 1930 yielded a catch of $47,163,900$ pounds out of a total catch for the Atlantic coast of $48,634,400$ pounds. As compared with the results in the fishery in 1929 , the total catch for the coast showed a decrease of over $5,900,000$ pounds, and the Nova Scotia catch a decrease of about $4,450,000$ pounds. The New Brunswick haddock landings, $1,320,300$ pounds, were not quite one-half as large as the 1929 catch. In Prince Edward Island, where the haddock landings are never large, the 1930 catch was slightly smaller than the catch of the previous year. Taking the coast as a whole the marketed value of the haddock catch was $\$ 1,851,724$, a decrease of $\$ 100,000$.

Nova Scotia's catch of hake and cusk, $19,020,300$ pounds, was about 550,000 pounds larger than the catch in 1929. In New Brunswick and also in Prince Edward Island, however, the catch decreased, and the combined catch for the three provinces, $29,437,400$ pounds, was $4,500,000$ pounds under the figures for the previous year. The marketed value was $\$ 431,562$, as against $\$ 517,296$.

New Brunswick fisherman landed $1,289,400$ pounds of pollock during the year, and Nova Scotia fishermen $3,942,200$ pounds, or a total of $5,231,600$, as compared with $5,417,900$ in the year before. The New Brunswick catch increased by some 443,000 pounds, but Nova Scotia landings fell off by more than 600,000 pounds. The total pollock marketed value for the two provinces, $\$ 80,662$, was about $\$ 4,300$ less than in 1929 .

The quantity of fish marketed fresh and in the form of fresh fillets from the catch of cod, haddock, hake and cusk, and pollock, increased by nearly $1,800,000$ pounds, amounting to $36,053,400$ pounds. On the other hand the production of the dried and boneless products from the catches of these fish was only $42,561,800$ pounds, or about $12,435,000$ pounds less than in the year before. The production of smoked fish and smoked fillets from this group also fell off, and amounted to $8,191,600$ pounds, as against $10,453,100$.

Herring, Mackerel and Sardines.--The total Atlantic coast catch of these varieties of fish in 1930 amounted to $134,108,300$ pounds, or some $25,700,000$ pounds less than in 1929: the marketed value totalled $\$ 2,785,942$, a decrease of about $\$ 752,000$. The returns from the herring fishery, both catch and marketed value, decreased. This was true, also, as regards the sardine fishery. The mackerel fishery showed increase in catch, and increase in marketed value, although a falling off from New Brunswick operations.

The herring fishery was less successful in all four provinces than it had been in 1929. Altogether the catch was $90,370,100$ pounds, with a marketed value of $\$ 1,113,436$. For 1929 the figures were $94,757,700$ pounds and $\$ 1,375,310$.

The mackerel catch amounted in all to more than $17,846,400$ pounds, or approximately $2,500,000$ pounds more than in 1929. The marketed value, $\$ 598,019$, represented an increase of nearly $\$ 62,000$.

The sardine catch, all of it save a few thousand pounds to be credited to New Brunswick, was $25,891,800$ pounds, or nearly $24,000,000$ pounds less than the total for 1929. The catch had a marketed value of $\$ 1,074,487$, as compared with over $\$ 1,626,000$ in the year before. Only 244,238 cases of canned sardines were put up, a decrease of more than 84,900 cases.

Flounders, Halibut and Swordfish.-The swordfish fishery, which is carried on in Nova Scotia waters only, was very much more successful in 1930 than it had been in the preceding year. The catch amounted to $1,193,300$ pounds, an increase of over 559,000 pounds. On the market the fish had a value of $\$ 214,806$, as against $\$ 98,241$. Halibut landings decreased in Nova Scotia, the principal producer, Quebec and New Brunswick; halibut are not usually taken
in Prince Edward Island waters. There was also a decrease in halibut marketed value. The Nova Scotia catch was $2,725,800$ pounds, but this was about 370,000 pounds under the 1929 figures. Quebec's catch was only 45,100 pounds as against more than 73,000 pounds. The New Brunswick landings-the halibut catch in New Brunswick is never large-amounted to 10,000 pounds, or only a little more than one-half of the 1929 catch. The flounder fishery is carried on in Nova Scotia and New Brunswick only, and in the year under review it was substantially more successful than it had been in 1929. The catch landed was 640,900 pounds, an increase of over 178,000 , while the marketed value of the catch was $\$ 27,941$, as compared with $\$ 19,243$ in the year before.

River Spawning Fish.-A very large increase in the salmon catch was recorded during the year, and there was a substantial increase in the catch of alewives. On the other hand there was again a decrease in the landings of smelt. In 1929, the salmon catch was $3,528,700$ pounds, but in 1930 it increased to $6,448,600$ pounds, and notwithstanding disturbed economic conditions the marketed value showed an increase of over $\$ 375,000$ and totalled $\$ 1,086,821$. There was gain in the salmon catch in all four of the Atlantic coast provinces, but the landings in Prince Edward Island are never large. In New Brunswick 3,332,600 pounds were taken as compared with $1,765,000$ pounds in 1929. The Quebec catch was $1,685,600$ pounds, an increase of nearly 680,000 , and in Nova Scotia 1,419,800 pounds were landed, as against 755,600 pounds in the preceding year. The Prince Edward Island catch totalled 10,600 pounds, or about four times as great a quantity as was landed in 1929.

New Brunswick is by far the largest producer of smelts, but the 1930 catch in the province was considerably smaller than the total landings in 1929-or $3,838,500$ pounds as compared with $5,102,300$ pounds-and the marketed ralue was $\$ 551,443$, as compared with $\$ 816,303$. The Prince Edward Island smelt fishery produced a smaller catch than in the previous year, and this was true also of the fishery in Quebec, but in Nova Scotia there was some gain.

Practically all the Dominion's catch of alewives is taken in New Brunswick and Nova Scotia. In 1930, the New Brunswick catch of $4,079,000$ pounds (including landings in inland waters) was less by nearly 300,000 pounds than the catch in 1929. In Nova Scotia, on the other hand, the catch was $3,071,900$ pounds as compared with $2,418,300$ pounds in the preceding year. In both provinces, however, there was a decrease in marketed value.

Lobsters.-There was again a substantial increase in the catch of lobsters in the four Atlantic provinces. In 1929, the lobster landings were greater by more than $5,000,000$ pounds than they had been in 1928, and in 1930 there was a further gain of approximately $3,500,000$ pounds. There were gains in all four of the provinces in 1930, although the increase in Quebec was small. The marketed value of the combined production of the provinces, $\$ 5,214,643$, however, was less by some $\$ 482,000$ than in the preceding year.

Other Shellfish. -The quantity of clams and quahaugs taken, 40,722 barrels, was less by 8,760 barrels than in 1929. In Prince Edward Island the landings Were greater than in the previous year, or 4,921 barrels as compared with 4,275 . In Quebec, with 2,668 barrels landed, there was a decrease of a few barrels from the figures for 1929. In New Brunswick, the biggest producer, there Was a drop of some 5,600 barrels, or 22,450 barrels as against 28,065 barrels. Nova Scotia produced 10,683 barrels, compared with 14,462 barrels in the year before.

Over 700 barrels more scallops were taken than in 1929, or 18,636 barrels as compared with 17,921.

The landings of oysters, 20,745 barrels, were about the same as in the preceding year. There were decreases in Prince Edward Island and New Brunswick, but they were offset by a gain in the Nova Scotia production.

32810-2

## Inland Fisheries

Operations in the Inland fisheries, which are the fisheries carried on in Ontario, the Prairie Provinces, and the Yukon Territory, and in the fresh-water areas of Quebec and New Brunswick, produced a smaller catch in 1930 than had been landed in the previous year, and the marketed value was $\$ 6,352,239$, as compared with $\$ 8,589,779$. The landings of all the principal varieties of fish taken in the inland fisheries, except herring, eels and blue pickerel, were smaller than in the year before. The blue pickerel catch, all of which is made in Ontario, was not far short of being twice as large as in 1929.

Ontario continued to be the largest producer of whitefish, although its landings for the year, $5,543,300$ pounds, were less by 615,000 pounds than in 1929. Manitoba's catch of whitefish was somewhat larger than in the year before. Landings in Saskatchewan and Alberta, respectively, were smaller.

Manitoba was first among the pickerel producing areas in point of size and catch, although the fishermen of the province landed only $6,905,300$ pounds, or about two and one-half million pounds less than in 1929. Ontario, with $2,091,300$ pounds, and Saskatchewan with 338,700 pounds, showed increased landings. The Alberta catch dropped from 741,800 pounds to 595,800 .

Although Manitoba landed more pike than any other province, its catch of $3,402,700$ pounds was less by over $2,000,000$ pounds than the 1929 total. Landings of these fish were also smaller than in the previous year in Saskatchewan, Alberta, Ontario and Quebec.

Catches of catfish, salmon, maskinonge, saugers and shad.increased in 1930, taking the inland fisheries as a whole, but fewer alewives, bass and smelts were taken.

The Prairie Provinces.-Unfavourable market conditions sharply checked during the past year the fisheries expansion which had been in steady progress in the Prairie Provinces for several years past. Marketed value of the output for 1930 was $\$ 2,467,721$, or $\$ 277,000$ under the marketed value for Manitoba's production alone in 1929. The check in expansion is not to be taken, however, as any indication of the depletion of the Prairie Province fisheries resources. It was due entirely to the unsatisfactory conditions in various markets. There is no depletion of the stocks of fish in Prairie waters which have already been exploited commercially, and there are numerous fish bearing areas where development waits only on a more favourable season. As indicating the expansion' possibilities it may be noted that despite adverse circumstances commercial fishing operations were carried on during the year in a number of waters in northern Manitoba which had not previously been the scene of fisheries production, and in some cases substantial catches were made.

Manitoba's catch in 1930 had a marketed value of $\$ 1,811,662$ as compared with $\$ 2,745,205$ in 1929 . The value of the Alberta catch, which had amounted to $\$ 732,214$ in 1929 , decreased to $\$ 421,258$. In Saskatchewan the 1930 catch had a value on the market of $\$ 234,501$, which was less than one-half as great as the total for the previous year.

The total capital investment in fisheries in the three provinces was not much less than in the year before, and amounted to $\$ 1,936,221$, as compared with $\$ 1,986,036$. The number of persons engaged in the fisheries in these provinces totalled 6,905, or a decrease of about 600, although the Manitoba personnel $(4,781)$, showed an increase of 94 .

As was perhaps to be expected in view of unsettled economic conditions there was rather less interest in angling than in the previous year, although in Saskatchewan the number of anglers showed an increase. In all three provinces further fruits of the fish cultural activities of the department were seen in the improvement of the angling resources. In several cases, especially in Alberta and Saskatchewan, excellent angling was found in waters which had been barren of sport fish prior to action taken by the department to introduce different species of trout.

## Pacific Coast Fisheries

The remarkable success of the salmon fishery, from the standpoint of size of runs and quantity of production, overshadowed all else in British Columbia fisheries operations in 1930. So large were the runs, indeed, that had it not been for the restraining influence upon production which was exerted by the unsatisfactory economic conditions obtaining in virtually all markets, the output of British Columbia's salmon industry for the year would have mounted to figures substantially higher than the record-breaking total which was actually reached. These market conditions were so extremely unfavorable, however, that not only was there greatly lessened incentive for the salmon interests to take advantage of the exceptional size of the runs but the year was made one of very serious difficulty for the industry. In this connection it may be added, moreover, that the present outlook is that operations in the salmon industry in 1931 will continue to be attended by a good deal of difficulty because of the depressed and unsettled market situation.

The appearance of the great runs of salmon in 1930 was a reason for much satisfaction, especially since it indicated that the steps taken in recent years to regulate and conserve the fishery have been sound and that there need apparently be no apprehension that the stocks of the several varieties of salmon cannot be successfully maintained for the future. In this connection it is illuminating to look at figures showing the annual production of canned salmon in British Columbia since 1916 as averaged for five-year periods. From 1916 to 1920 , koth years inclusive, the average yearly pack was $1,349,895$ cases. In the next five years the annual average was $1,340,735$ cases, but this period included a time of market depression and it may reasonably be assumed that had it not been for this market condition the average canned salmon production would have exceeded that for the previous five years. For $1926-1930$ the yearly average was $1,816,754$ cases, or an increase of more than 465,000 cases over the figures for either of the earlier five-year periods. This growth in pack indicates clearly that the salmon runs have not been undergoing depletion, although it may be noted that the size of the growth is explained, in part, by greater cannery activity in processing pinks and chums because of an enlarged demand, in more recent years, for these varieties of canned salmon.

The sockeye runs in 1930, especially to the Naas, Skeena, and Fraser areas, were gratifyingly large, and in the case of the late runs to the Fraser system the individual fish were of bigger size, speaking generally, than in most preceding seasons. The year's pack of canned sockeye, 477,678 cases, was the largest since 1914. As compared with the production in the last preceding sockeye cycle year (1926), the 1930 pack represented a gain of nearly forty-two per cent. These figures are useful as giving some indication of the size of the sockeye runs but any estimate of the measure of sockeye abundance during the year must take into account the fact that, in order that there might be no doubt that sufficient fish would be able to make their way to the spawning grounds, the department enforced various "closed times", in addition to those specifically set out in the regulations, when no fishing was permitted. In the Fraser river, for instance, fishing was stopped completely from September 20th to October 20th. As a result of the enforcement of these extra "closed times" in different areas the catch of salmon was, of course, considerably curtailed and production figures, therefore, do not give a true indication of the actual size of the runs. At the same time, the evidence given by the increased volume of canned sockeye production was quite sufficient to show that these fish were running in much greater abundance in 1930 than for years past.

The runs of chums, springs, and cohoes were all satisfactory but it was the abundance of pinks which was the outstanding feature of the salmon fishery, apart from the sockeye showing. The pink salmon is a two-year fish-that is, the run of any year is the product of the spawning of two years previously-and such large quantities of pinks were taken in 1928 that there had been some

32810-2
apprehension that the 1930 runs might show diminution. Events showed that fears of this kind were without foundation. "Enormous runs of this variety of salmon arrived at practically every area to which pinks were due in the even-numbered years", the Chief Supervisor for British Columbia reported, "and, in addition, streams which in the past had been unknown to contain this species received abundant quantities of spawning fish". So great was the abundance of pinks in some parts of the province that the canners found it necessary to place a limit on the quantity of fish which they would take from the fishermen. The pack of pinks went nearly. 320,000 cases above the previous record for annual production, which was established in 1928, and altogether $1,111,937$ cases were put up for market.

Despite the fact that such large catches of salmon were made during the year, making possible the record output of $2,221,783$ cases of canned salmon, the spawning grounds, generally, were exceptionally well seeded. The size of the year's runs made for this condition, and the departmental action in stopping the fishing from time to time had the effect of ensuring greater certainty that parent fish would reach the spawning areas in adequate numbers. Barring extraordinary circumstances, the result should be very satisfactory runs in the forthcoming cycle years, the cycles, of course, differing with the several varieties of salmon.

As was to be expected, in view of world economic conditions, the export of canned salmon from British Columbia to foreign markets fell off very substantially. Sales to the United Kingdom increased but to most of the markets where Canadian canned salmon is sold the exports were much smaller than they had been in 1929. The shipments to Italy stood up fairly well to the figures for the year before but in the case of the business done in such important markets as Australasia, France, and Belgium there was sharp decline.

Decreases in halibut landings during the year, in the pack of drysalted herring, and in the output of canned pilchards were reflexes of the adverse conditions in world markets rather than indications of scarcity of fish. Halibut prices were unsatisfactory throughout the halibut fishing season. Market conditions in the Orient, where virtually all of British Columbia's drysalted herring are sold, were so unfavourable that the drysalting industry curtailed its operations. Pilchards were abundant but the market for these fish in canned form was in such a depressed state that there was no incentive toward quantity production. Under the circumstances it is not at all surprising that there were large decreases in output. Halibut landings were smaller by more than 4,950,000 pounds than they had been in 1929. The pack of drysalted herring decreased substantially. The production of canned pilchards was only 55,166 cases as compared with 98,821 cases in the previous year, when a record pack was processed.

Like all other branches of the fishing industry the producers of fish meal and oil, and the fishermen who supplied the reduction plants with raw material, were serioulsy affected by the unsettled and depressed situation in the markets. Somewhat less oil was manufactured than in 1929 , or $3,872,600$ gallons in all, but prices were very low. The total output of meal (the figures including some fertilizer) was some two thousand tons more than in the preceding year, or 23,123 tons as against 21,084. The price situation as regards meal was also rather better than in the case of oil. The major production of meal and oil in British Columbia is from pilchards but there is'also large production of oil and some production of meal and fertilizer from whales and herring. Greyfish and fish offal are also used in operations of this kind. The expansion of such operations on the Pacific coast of the Dominion has been very rapid in the past few years, and while world conditions are temporarily checking expansion it is reasonably to be expected that when the economic situation is once again normal there will be renewed development in this field, and, indeed, greater development than has been seen so far. Experimentation and scientific investi-
gation have been widening the range of uses for the output of reduction plants, and the discovery by research workers that the oils in fish tissues, and not only fish livers, are expecially rich in such elements as vitamins may probably be regarded as certain to lead to an increasing utilization of fisheries by-products in different forms.

## SUMMARY OF PRODUCTION, 1930

The following table gives a statement for the whole of Canada of all fish caught and marketed during the year 1930 with comparative statistics for 1929. For each kind the total caught and the value at the vessel's or boat's side is first given, this being followed by statements showing the form in which each kind was marketed and the value.
2.-Quantity and Value of Fish Caught and Marketed, Canada, 1929 and 1930

| Kind of Fish |  | Sea Fisheries |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1929 |  | 1930 |  |
|  |  | Quantity | Value | Quantity | Value |
|  |  |  |  |  |  |
|  |  | 109,36t | 401,96t | 112,866 | 434,553 |
| Fresh fillets. | ${ }_{\text {cowt. }}^{\text {cwit }}$ | 16,187 |  | - 27.386 |  |
| Creen-salted. | ${ }_{\text {cases }}^{\text {cwi }}$ | 138,929 |  | 149,076 | 599,122 28,391 |
| Smolred. | cwt. |  | $3{ }_{3,166}$ |  |  |
| Smoked fillet | cat. | 46,565 | ${ }^{\text {5959,231 }}$ | 33,564 | ${ }^{395,701}$ |
| Bronaless... |  | ${ }^{424} \mathbf{3 1 , 7 6 8}$ | ${ }^{3}$ 3,077, 3898 | -322,960 <br> 24 <br> 1700 | 2,116,889 |
| Cod liver oil, medici |  | ${ }^{91,922}$ | 83,167 | ${ }^{84} 1.596$ | 65,046 |
| Cod oil...... |  | 169,714 | 77,089 | 181,326 | 80,883 |
| Total value marketed. |  | - | 5,394,636 | - | 4,288,813 |
| Haddock caurht and landed...............................wt.     <br> Marketed-t $\mathbf{3 4 5 , 4 0 9}$ $\mathbf{1 , 0 5 2 , 5 6 3}$ 486,34 $\mathbf{1 , 0 0 6 , 1 4 4}$ |  |  |  |  |  |
|  | owt. | 147,761 | 572,743 | 136,816 | 575,831 |
| Fresh fillets | cwt. | ${ }^{53,739}$ | 656,001 | 59,357 | 743,924 |
| Crnoked. | cases | ${ }_{38}^{11,993}$ | - $39,682,72$ |  | 95,014 293,282 |
| Smoked fillet | cwt. | 10,400 | 132, 119 | ${ }_{4}^{4,122}$ | ${ }^{48,161}$ |
| Green-salted | cwt. | 17,210 | ${ }^{52,997}$ | 10,208 | ${ }^{266,116}$ |
| Dried....... | ${ }_{\text {cowt. }}^{\text {cowt. }}$ | ${ }^{24,769}$ | 108,62 ${ }_{6} 676$ | (13,049 1 | 55,160 14,236 |
| Total value marketed.. |  | - | 1,951,642 | - | 1,851,724 |
| Hake and Cusk, caught and landed $\qquad$ owt. Marketed- |  | 339,217 | 249,401 | 291,376 | 201,207 |
|  |  |  |  |  |  |
| Used fresh..................................... cwt. |  | 9,707 <br> 3,498 |  | 8,4533 |  |
|  |  | 62,661 | 133,880 | 37,849 | 86,556 |
| Green-silted.......................................... cryt. |  |  |  | 1,193 | 6,562 |
| Smoked fillets............................................ ${ }^{\text {duvt. }}$ vwt. |  | - ${ }^{9} 9.156$ | -88,776 | 9,641 50,900 | 83,341 151,033 |
| Brieless. | cryt. | - | 13,815 | 1,867. | ${ }_{13,681}$ |
| Total value marketed. |  | - | 517,311 | - | 431,566 |
| Pollock cautht and landed............................... ew |  | 54,179 | 51,425 | 52,316 | 52,33 |
|  |  |  |  |  |  |
|  |  | 2,881 | 7, ${ }^{7}, 175$ | 8,023 | 16,84 |
|  |  | - ${ }^{4}, 883$ | - 12,280 | \%,699 | ${ }_{48,588}^{15,593}$ |
| Boneless........................................... cwt. |  | 13,395 | 64,232 | 10,301 14 | ${ }^{48,093}$ |
| Total value mark |  |  | 84,967 |  | 80,66 |
| Whilling, caught and landed. Marketed fresh |  | $\begin{aligned} & 12 \\ & 12 \end{aligned}$ | ${ }_{69}^{69}$ | 40 40 | ${ }_{211}^{168}$ |
| Catfish, caught and landed. |  | 781 | 781 | 1,905 | 1,91 |
| 3arketed- |  |  |  |  |  |
| Fresh fillets....................................................... cwt. |  | 781 | 2,411 | 1,886 | 4,57 |
| Total value marketed. |  | - | 2,411 |  | 4,603 |
| Hallbut, caught and landed. |  | 335,824 | 3,970,598 | 282,605 | 2,339,413 |
|  |  |  |  |  |  |
|  |  | $\begin{array}{r}334,812 \\ 401 \\ \hline 0\end{array}$ |  | 35 | 130 |
|  |  | 301 | $\begin{array}{r} 3,890 \\ 2,846 \\ 4,832,296 \end{array}$ | 35. | 1,36 |

2.-Quantity and Value of Fish Caught and Marketed, Canada, 1929 and 1930-con.

| Kind of Fish |  | Sea Fisheries |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1929 |  | 1930 |  |
|  |  | Quantity | Value | Quantity | Value |
|  |  |  | \$ |  | \$ |
|  |  | 9,951 | 23,507 | 11,422 | 26,075 |
|  |  | 9,951 | 44,980 | 11,389 11 | 48,088 121 |
| Total value marketed.. |  | - | 44,980 | - | 48,209 |
| Skate, caught and landed................................. cwt. |  | 2,926 | 5,073 | 3,381 | 5,488 |
|  |  | 2,926 | 9,810 | 3,381 | 8,870 |
| Marketed fresh. |  | 17,939 | 55,943 | 19,069 | 62,199 |
| Soles, caught and landed $\qquad$ cwt. <br> Marketed- |  |  |  |  |  |
| Used fresh $\qquad$ cwt. <br> Fresh fillets. |  | 15,540 | 80, 894 | 19,069 | 97,619 |
|  |  | 801 | 13,678 |  |  |
| Total value marketed. |  |  | 94,572 | - | 97,619 |
| Herring, caught and landed................................ cwt. |  | 2,263,244 | 1,700,603 | 2,125,663 | 1,287,645 |
| Marketed fresh- <br> Used fresh. |  | 185,397 | 290.821 | 205,096 | 65,450 |
| Boneless................................................... cw. |  | 1,380 | 12,504 | 6,688 | 6,810 |
| Boneless........................................... ${ }_{\text {case }}^{\text {cases }}$ |  | 2,207 | 8,853 | 2,740 | 11,333 |
| Canned. ..................................................... case ewt. |  | 106,918 | 447,762 | 74,489 | 263,265 |
|  |  | 923,848 | 1,248, 832 | 805,973 | 961,364 |
|  |  | 37,597 | 232,779 | 20,846 | 122,403 |
|  |  | 203,476 | 440,266 | 183,915 | 381,524 |
| Fertilizer................................................. bbl. |  | 82,541 | 87,045 | 102,792 |  |
|  |  | 100,284 1,138 | 32,088 | 98,038 2,899 | 25,488 114,449 |
| Seales................................................. , cru. |  | 2,236 | 7,820 | 182 | . 447 |
| Total value marketed. |  |  | 2,861,965 | - | 2,335,739 |
| Mackerel, caught and landed. Marketed- |  | 152,756 | 363,926 | 178,46t | 442,143 |
|  |  |  |  |  |  |
|  |  | 44,913 | 181,514 | 35,809 | 162,699 |
|  |  | ${ }_{45}^{455}$ | 2,103 |  | 2,386 |
|  |  | $\begin{array}{r}\text { r } \\ \hline 36989\end{array}$ | 352, 2411 | 47, ${ }^{131}$ | 896 432,038 |
| Used as bait. bbl. Total value marketed. |  | 15 | -53 | 4, |  |
|  |  | - | 536,021 | - | 598,019 |
| Sardines, caught and landed. |  | 249,191 | 363,983 | 129,459 | 122,158 |
|  |  |  |  |  |  |
|  | Marketed-- | 329,204 177,068 | $\begin{aligned} & 1,319,584 \\ & 307,180 \end{aligned}$ | 244,238 79,349 | 979,298 |
| Sold fresh and salted Total value marketed. |  | - - | 1,626,764 |  | 1,074,487 |
| Pilchards, caught and landed Marketed- |  | 1,226,851 | 966, 999 | 1,501,409 | 613,94 |
| Marketed <br> Used iresh $\qquad$ cwt. |  | 6 | 18 | 25 | 154 |
|  |  | 20 | 140 |  |  |
| Smoked..................................................... cw. cast. |  | 98,821 | 411,011 | 55,166 | 220,468 2,415 |
|  |  | 2,856,579 | 1,128,164 | 3,201,058 | 678,115 |
|  |  | -15,826 | 1656,867 | 18,934 | 688,457 |
| Meal......................................................... |  |  | 2,199,834 | - | 1,589,609 |
| Alewives, caught and landed $\qquad$ cwt. Marketed- |  | 67,418 | 66,401 | 70,996 | 62,337 |
|  |  |  |  |  |  |
|  |  | 14,428 | 30,594 | 15,130 |  |
|  |  | 17,672 | 4,950 85,869 | 14,593 | 71,531 |
| Used as brit | bbl. | 1.230 | ${ }_{525}$ | 6,011 | 9,736 |
| Fertilizer............................................................ bbl. |  | - | - | 1,875 | 37 |
| Total value marketed. |  | - | 121,938 | - | 111,160 |
| Bass, caught and landed................................. cwit. |  | 179 | 2,172 | 119 | 1,573 |
| Marketed fresh................................................ cwt. |  | 179 | 3,022 | 118 | , 83 |
| Pereh, eanght and landed. . . . . . . . . . . . . . . . . . . . . . . . . . . cwit. |  | 2,223 | 19,538 | 1,733 | 14,792 |
|  |  | 2,228 | 21,811 | 1,733 | 15,576 |
| Salmon, caught and landed. |  | 1,549,325 | 7,855,867 | 2,360,699 | 9,038,984 |
| Marketed- |  |  |  |  |  |
| Usedircsh.......................................... cwt. |  | 239,745 | 2,465,334 | 310,352 | 2,9151,30t |
| Canne d.......................................... creveres |  | 1,399,464 | 11,020,725 | 2,24,383 | 20,253 |
| Smoked................................................... ${ }_{\text {D }}^{\text {cwit. }}$ cwt. |  | 77,362 | 355, 740 | 116,223 | 292,782 |
| Miid cured................................................. . cwt. |  | 22,246 | 511,590 | 25,095 | 463,397 |
| Picklad.............................................. ${ }^{\text {cwit: }}$ cwt.Used as bait. |  | 750 | 8,371 | 2,462 | 19,008 |
|  |  | 542 | 2,309 | +729 | 2,837 |
| Roe................ | . ewt. | 70 | 210 | 19,333 | 24,00 |
|  |  | - | 14,976,110 |  | 17,697,653 |


| - | Sea Fisheries |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 1929 |  | 1930 |  |
|  | Quantity | Value | Quantity | Value |
|  |  | 8 |  | 8 |
| Shad, caught and landed. $\qquad$ ewt. | 6,389 | 37,963 | 3,965 | 27,107 |
| Marteted- $\begin{gathered}\text { Used frash..................................... cwt. } \\ \text { Snlted }\end{gathered}$ | 6,329 | 50,933 | 3,909 | 35,351 |
|  |  | 500 | 22 | 550 |
| Total value marketed. | - | 51,433 | - | 35,901 |
| Smelts, caught and landed. <br> Marketed fresh. | 75,330 | $\begin{array}{r} 757,433 \\ 1,122,897 \end{array}$ | 58,944 | $607,890$ $796,700$ |
| Sturgeon, caught and landed. $\qquad$ ewt. <br> Marketed fresh. <br> cwt. | 334 334 | $\begin{aligned} & \mathbf{6}, 266 \\ & 7,445 \end{aligned}$ | 526 526 | $\underset{7,368}{\mathbf{6 , 1 1 2}}$ |
|  | 198 198 | $\begin{aligned} & 3,457 \\ & 3,917 \end{aligned}$ | 139 139 | $\underset{\substack{2,524 \\ 2,914}}{ }$ |
| Black cod, caught and landed. $\qquad$ cwt. | 15,308 | 101, 719 | 16,517 | 90,239 |
| Used fresh.................................... ewt. ewt. | 5,911 | 44,675 | 13,414 | 86,705 |
| Green-salted................................................... ewt. ewt. | 4, 27 <br> 4 | 73,401 | 1,584 |  |
| Dried................................................... ewt. | 4,67 | 7,401 | 156 | 2,956 |
| Total value marketed. |  | 118,362 | - | 120,583 |
| Ling Cod, canght and landed............................. cwt. | 48,489 | 383,462 | 48,591 | 302,071 |
|  | 48,351 69 | 414,916 | 48,591 | 333,564 |
| Total value marketed. | - | 415,776 | - | 333,564 |
| Red cod, caurht and landed. $\qquad$ cwt. Marketed- | 5,224 | 26,200 | 4,248 | 21,455 |
|  <br> Smoked. | 5,210 | 28,821 63 | 4,248 | 24,577 |
| Total value marketed. | - | 28,884 | - | 24,577 |
| Abacore, caught and landed. $\qquad$ cwt. Yarketed fresh cwit. | 2,058 2,058 | $\begin{aligned} & 127,480 \\ & \hline 20 \end{aligned}$ | 2, 2,666 | 12,130 16,761 |
|  | 2,429 2,429 | 4,600 <br> 4,600 | -3,639 | 9,014 9 |
| Eels, caught and landed....................................................... <br> Marketed iresh | $\begin{aligned} & 1,882 \\ & 1,882 \end{aligned}$ | 17, 989 18,186 | 2,474 | $\xrightarrow{23,235}$ |
| Grayfish, eaught and landed........................... ewt. | 260,240 | 91,049 | 99,380 | 30,512 |
| Oil <br> Marketed ${ }^{-}$ <br> Oil........................................................ gal. |  |  | 14,558 | 22,229 45,165 |
| Menl............................................ ton |  |  | 899 | 45,165 |
| Total value marketed. |  |  |  | 67,391 |
| Octopus, caught and landed. $\qquad$ cwt. <br> Marketed fresh | 283 <br> 283 | $\begin{aligned} & 1,816 \\ & 2,264 \end{aligned}$ | ${ }_{355}^{355}$ | - 2,555 |
| Oulachons, caught and landed $\qquad$ cwt. Marketed fresh. | 370 370 | (1,745 | ${ }_{899}^{899}$ | 2,762 <br> 4,214 |
| Squid, caught and landed................................ bbl. <br> Used as bait. | $\begin{aligned} & 5,297 \\ & 5,297 \\ & 5 \end{aligned}$ | $\begin{aligned} & 17,166 \\ & 26,258 \end{aligned}$ | 6,572 <br> 6,572 <br> 10 | 19,568 |
| Strordfish, caught and landed.................................. cwt. Marke ted fresh <br> cwt. | $\begin{aligned} & 6,336 \\ & 6,336 \end{aligned}$ | $98,241$ | $\begin{gathered} 11,933 \\ 11,933 \end{gathered}$ | $\begin{aligned} & 139,145 \\ & 214,806 \end{aligned}$ |
| Tom Cod, caught and landed............................................. Marketed iresh. | $\begin{gathered} 28,109 \\ 28,107 \end{gathered}$ | $\begin{gathered} 38,486 \\ 100,993 \end{gathered}$ | $\begin{aligned} & 15,253 \\ & 15,253 \end{aligned}$ | 21,533 52,219 |
|  | $\begin{aligned} & 8,257 \\ & 8,257 \end{aligned}$ | $\begin{aligned} & 40,857 \\ & 40,874 \end{aligned}$ | $\begin{gathered} 85,4312 \\ 5,919 \\ \hline \end{gathered}$ | 39,739 29,359 |
| Clams and Qualaugss, caught and landed.................. bbl. Marketed- | 67,739 | 138,732 | 64,709 | 138,223 |
|  | $\begin{aligned} & 13,345 \\ & 54,289 \\ & \hline \end{aligned}$ | $\begin{array}{r} 42,222 \\ 304,500 \end{array}$ | $\begin{aligned} & 19,677 \\ & 44,708 \end{aligned}$ | 57,111 262,358 |
| Total value marketed. | - | 346,772 | - | 319,469 |
| Cockles, caught and landed...................................... cwt. Marketed iresh | 350 350 | ${ }_{936}^{89}$ | = | = |

[^6]
## 2. Quantity and Value of Fish Caught and Marketed, Canada, 1929 and 1930-con


2. Quantity and Value of Fish Caught and Marketed, Canada, 1929 and 1930-con.


Agencies of Production, Capital Equipment, Employees, Etc.

Capital.-The capital investment of the fisheries of Canada in 1930 had a total value of $\$ 64,026,297$, compared with $\$ 62,579,444$ in 1929 and $\$ 58,072,371$ in 1928. The total for 1930 was apportioned as follows: $\$ 33,198,690$, the value of the vessels, boats, nets, traps, piers and wharves, etc. employed in the primary operations of catching and landing the fish, and $\$ 30,827,607$, the value of the fish canning and curing establishments. The item of capital in the case of the fish canning and curing industry comprises (a) the value of land, buildings and machinery, (b) the value of materials, products and supplies on hand, and (c) cash, and accounts and bills receivable. The increase over 1929 shown by the total capital investment of the fisheries is due to an increase of over two million dollars in the value of the canning and curing establishments: the amount of capital invested in the boats and gear shows a decrease from the preceding year. Tables 3 and 4.

Employees.-The number of fishermen employed in 1930 was 63,836 , and the number of persons working in the fish canning and curing establishments, 15,722, making a total of 79,558, compared with a total of 80,450 in 1929 and 78,219 in 1928. Tables 5 and 6.
3. Capital Equipment-Primary Operations. Value of Fishing Vessels, Boats, Nets. Traps, Piers and Wharves, etc. employed in the Canadian Fisheries, 1928, 1929, and 1930

| Equipment | Sea Fisheries |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1928 |  | 1929 |  | 1930 |  |
|  | Number | Value | Number | Value | Number | Value |
|  |  | \$ | 10 <br> 12 | $\checkmark$ |  | \$ |
| Steam trawlers | 119 | 743,000 |  | 640,000 |  | 470,000 |
| Steam fishing vessels. |  | 164,500 |  | 216,500 |  | 156,000 |
| Sailing and gasolene vessels. | 1,422 | 7,707,251 | 1,309 | 8,048,609 | 1,216 | 7,854,044 |
| Boats (sail and row)..... | 14,877 | 6, 587,472 | 15,985 | -593,427 | 14,571 | 7,475, 369 |
| Boats (gasolene)............ Carrying smacks and scows | 15,136 | 6,004,131 | 16,498 405 | 6,965,284 | 16,642 | 7,875,945 |
| Gill nets.. | 67,139 | 1,231,711 | 72,273 | 1,740,885 | 67,279 | 984,138 |
| Salmon drift nets. | 11,349 | 1,444,019 | 8,877 | 898,011 | 12,619 | 1,433,228 |
| Salmon drag nets. | 21 | 5,500 | 14 | 4,450 | 19 | 10,875 |
| Salmon trap nets. | 136 | 39,500 | 259 | 72,800 | 312 | 103,215 |
| Trap rets, other. | 855 | 449,495 | 1,042 | 575,260 | 1,121 | 668,858 |
| Dip nets.... | + 602 | -1,861, | [18,581 | 664,130 |  |  |
| Smelt Peund nets. | 15,294 | 591,458 13,000 | 18,581 | 664,130 15,200 | 18,482 | 14,600 |
| Pound nets. | 446 | 429,155 | 422 | 401,145 | 346 | 352,329 |
| Weir seines..... | 19 | 3,800 | 23 | 4,000 | - |  |
| Salmon purse seines. | 354 | 512,24t | 485 | 865,035 | 399 | 767,775 |
| Seines, other.. | 1,913 | 449,242 | 3,225 | 656,810 | 3,470 | 422,255 |
| Weir drivers. | 18,557 | 326, 691 | 21,655 | 17,100 351,724 |  | 305,672 |
| Tubs of trawl. | 18,557 | 326,691 | 21,605 | 351,224 | 20,461 | 54,636 |
| Otter trawl... | - |  | - - | 14, $\square^{-}$ | 59 | 15,625 |
| Hand lines.. | 65,303 | 155,693 | 59,028 | 147,250 | 63,699 | 153,789 |
| Crab traps.. | 6,551 | 21,583 | 7,245 | 26,432 | 4,870 | 16,930 |
| Eel traps... | 418 | 1,032 | ${ }^{413}$ |  |  | 1,847 |
| Lobster traps.. | 1,586,576 | $2,050,207$ 39 | 1,618,779 | 2,125,283 | 1,593,584 | 2,116,828 63,640 |
| Oyster rakes. | 1,365 | 5,207 | 1;543 | 6,025 | 1,449 | 5,341 |
| Scallop drags. | 418 | 10,130 | 331 | 10,110 | 322 | 9,760 |
| Quahaug rakes. | 329 | 682 | 289 | 680 | 279 | ${ }^{653}$ |
| Oyster plant and equipment. |  | 26,000 |  | 26,032 | 1 | 21,208 |
| Fishing piers and wharves... | 2,060 | 825.365 | 1,836 |  | 1,793 |  |
| Freozers and ice houses...... Small fish and smoke houses | 2,494 6,049 | 312,275 920,539 | 1,551 6,934 | 782,526 940,985 | 603 6,946 | 282,680 917,323 |
| Total value | - | 25,698,928 | - | 28,162,312 | - | 27,537,258 |

[^7]3. Capital Equipment-Primary Operations. Value of Fishing Vessels, Boats, Nets, Traps, Piers and Wharves, etc. employed in the Canadian Fisheries, 1928, 1929 and 1930-concluded

| Equipment | Inland Fisheries |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1928 |  | 1929 |  | 1930 |  |
|  | Number | Value | Number | Value | Number | Value |
|  |  | § |  | \$ |  | \% |
| Steam vessels or tugs. | 135 | 1,037,084 | 139 | 1,115,375 | 136 | 1,103,695 |
| Basts (sail and row). | 3,860 | 176,471 | 3,853 | 167,501 | 3,722 | 151,770 |
| Boats (gasolene). | 1,557 | 906,516 | 1,533 | 925,656 | 1,480 | 966,020 |
| Scors ... | 7 | 23,500 | 11 | 45, 100 | 8 | 42,500 |
| Gill nets. |  | 1,606,105 |  | 1,802,783 |  | 1,720,632 |
| Seines...... | 160 1,225 | 22,851 672,680 | 151 1,263 | 650,160 | 183 1,182 | 22,747 622,525 |
| Hoop nets.. | 921 | 29,602 | 932 | 31,565 | 887 | 28,767 |
| Dip nets... | 80 | 978 | 123 | 1,585, | 135 | 1,263 |
| Lines... | 2,573 | 43,800 | 3,017 | 19,690 | 1,668 | 15,216 |
| Weirs. | 1,624 | 129,789 | 1,432 | 118,696 | 1,169 | 122,269 |
| Eel traps. | 110 | 320 | 90 | 240 | 80 | 200 |
| Fish wheels. | 6 | 900 | 8 | 1,200 | ${ }^{6}$ | 900 |
| Spears................... | 88 | 1,134 | 75 | 526 | ${ }_{48}^{98}$ | 298 |
| Fishing piers and wharves.. | + 468 | 545, ${ }^{183} \mathbf{1 8 8}$ | $\begin{array}{r}463 \\ 826 \\ \hline 8\end{array}$ | $\begin{array}{r}236,015 \\ 524 \\ \hline 15\end{array}$ | $\stackrel{488}{958}$ | - 2297,435 |
| Freezors ${ }^{\text {and }}$ ice houses..... | 1,331 | 1845 50,912 | 232 | 109,326 | ${ }_{225}$ | 108,538 |
| Total Value | - | 5,432,160 | - | 5,772,690 | - - | 5,664,432 |

4. Capital Equipment-Fish Canning and Curing Establishments, 1928, 1929 and 1930

| Establishments | 1928 |  | 1929 |  | 1930 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Value | Number | Value | Number | Value |
|  |  | \$ |  | S |  | \$ |
| Lobster canneries. | 375 | 1,358,269 | 354 | 1,265,183 | 333 | 1,257,185 |
| Salmon canneries. | 67 | 12,477,218 | 64 | 15,103,888 | 68 | 17,927,102 |
| Clam canneries. | 22 | -271,831 | 23 | 117,352 | 23 | 204,969 |
| Sardine and other fish cannerie | 5 | 1,262,229 | 8 | 1,383,202 | 10 | 1,405,921 |
| Fish curing establishments.. | 204 | 7,520,353 | 242 | 7,685,638 | 234 | 7,562,694 |
| Reduction plants.......... | 40 | 4,051,383 | 39 | 3,089,179 | 31 | 2,469,736 |
| Total. | 713 | 26,941,283 | 730 | 28,644,442 | 699 | 30,827,607 |

: Comprises value of land, buildings and machinery, products and supplies on hand, and cash and accounts and bills receirable.

## 5. Employees in Primary Operations, 1928, 1929 and 1930


6. Employees in Fish Canning and Curing Establishments, 1928, 1929 and 1930

| Employces | 1928 |  |  | 1929 |  |  | 1930 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mals | Female | Total | Male | Female | Total | Male | Female | Total |
| Persons employed in- | nо. | no. | nо. | no. | по. | no. | nо. | no. | no. |
| Lobster canneries... | 2,614 | 3,197 | 5,811 | 2,596 | 3,274 | 5,870 | 2,450 | 3,159 | 5,609 |
| Salmon canneries. | 3,307 | 1,872 | 5,179 | 3,521 | 2,296 | 5,817 | 3,340 100 | 2,504 | 5,844 |
| Sardine and other fish can | 275 | 143 | 418 | 283 | 201 | 484 | 183 | 212 | 395 |
| Fish curing establishment | 2,566 | 229 | 2,795 | 2,859 | 325 | 3,184 | 2,810 | 310 | 3,120 |
| Reduction plants.... | 765 | 37 | 802 | 717 | 24 | 741 | 430 | 25 | 455 |
| Total. | 9,630 | 5,804 | 15,431 | 10,076 | 6,291 | 16,367 | 9,313 | 6,409 | 15,722 |

## Details of Fish Canning and Curing Establishments

Number of Establishments.-The number of plants engaged in the canning and curing of fish in 1930 was 699 , a decrease from the preceding year of 31 and a decrease from the year 1928 of 14 . The lobster canning industry had the largest number of plants with a total of 333 , followed by fish curing establishments with 234 , salmon canneries with 68 , reduction plants with 31 , clam canneries with 23 and sardine and other fish canneries with 10 . The canneries are classified according to the principal kind of fish canned, while the plants which prepare fish in other ways, as salted, smoked, boneless, etc. are classified as fish curing establishments. Reduction plants are those whose output consists of oil, meal and fertilizer. The fish canning and curing industry is found only in the provinces bordering on the sea; the Atlantic coast claims all of the lobster and sardine canneries and most of the clam canneries, while British Columbia had 60 of the 68 salmon canneries in operation in 1930.

Time in Operation.-The total number of days in operation by all establishments in 1930 was 71,789 , or an average of $102 \cdot 7$ days per establishment. An arrangement of the establishments in groups according to the number of days operated during the year places 289 in the group of those operating for periods of less than 60 days; 182 in the group of those operating from 60 to 119 days; 103 in the group of those operating from 120 to 179 days; 58 in the group of those operating from 180 to 239 days; and 67 in the group of plants operating for periods of 240 days and over. Comprised in the last group are 9 lobster canneries, 4 salmon canneries, 1 clam cannery, 3 sardine and other fish canneries, 46 fish curing establishments, and 4 reduction plants.

Employees and Salaries and Wages.-There were 15,722 persons employed in the fish canning and curing establishments in 1930, classified as follows: salaried employees, 591 ; wage-earners, 9,967 ; and contract and piece-workers, 5,164 . The employees classified as contract workers are found in the salmon canneries of British Columbia, where a large part of the work is done under contract, the contractor engaging and paying his own help and being himself paid by the cannery operator according to the quantity of fish packed. About 75 per cent of the workers in British Columbia salmon canneries are engaged under this arrangement. Statistics of the total number of employees in the establishments are based on the average monthly employment of wage-earners, and the total number of salaried employees and contract workers for the full season, the procedure in revising the reports being as follows: on the report of each establishment an addition is made of the number of wage-earners shown for each month and the resulting total is divided by the number of months the plant was in operation during the year. The figure thus obtained is entered as the average number of wage-earners employed in the establishment during the year. To this number is added the number of salaried employees and the number of contract and piece workers, which are recorded for the year or season and not by months. The final figure will be the number of employees credited to the establishment for the year, and the compilation of these totals provides the number of employees in the industry. The period of employment varies with the length of the season of operations; the lobster canneries operate from one to two months, and the salmon canneries for longer periods, while many of the fish curing establishments operate during the entire year. The fluctuation in employment is indicated by the statistics of the number of wage-earners employed in each month. Monthly statistics for contract workers are not available, as, owing to the system of employing these workers through a contractor, the cannery operator keeps no monthly record of the number so employed, and is unable, therefore, to include in his return any further particulars than the average number for the season and the total amount paid to then. The total amount paid to all employees in establishments during the year 1930 was $\$ 5,326,463$, of which the wage-earners received $\$ 3,383,902$, the contract
and piece-workers, $\$ 1,023,609$, and the salaried employees, $\$ 918,952$. The total amount shows a decrease of $\$ 85,392$ from the preceding year. The following table gives the number of employees, under each classification, and the amounts paid to them, for the years 1928 to 1930.
7.-Employees in Fish Canning and Curing Establishments in 1928, 1929 and 1930Number and Salaries and Wages

| Year | Employees onSalaries |  |  |  | Contract and Piece-Workers |  | Total of <br> Employees and of Salaries and Wages |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | no. | \$ |  | \$ | no. | \$ |  | \$ |
| 198 | ${ }_{6} 630$ | 853,800 | 10.579 | 3,539,070 |  | ${ }^{868,226}$ | ${ }_{16,367}^{15,44}$ | $5,261,096$ $5 \times 41,855$ |
|  | 591 | - ${ }^{91818,659}$ | 9,967 | 3,383,902 | 5,164 | 1,023,609 | 15,722 | 5,326,463 |

Wage-earners by Months.-The months of highest employment for wageearners in the industry as a whole were May $(9,176)$ and June $(9,410)$, while the months of lowest employment were February $(1,582)$ and March $(2,050)$. In the lobster canneries, May and June record the largest number of employees; in the salmon canneries, May to September; in the sardine canneries, April to November; while the clam canneries, fish curing establishments and reduction plants operate nearly the whole year. In many of the lobster and salmon cameries, fish curing operations are carried on previous to and after the close of the season for canning. The following table shows the number of wagecarners, by months, for the years 1928 to 1930.
8. Wage-earners ${ }^{1}$ ill Fish Canning and Curing Establishments-Number on Pay Roll on 15th of each month, 1928, 1929 and 1930

| Month | 1928 |  |  | 1929 |  |  | 1930 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | Total | Male | Fermale | Total | Male | Feraale | Total |
|  | ло. | nо. | no. | no. | по. | no. | по. | no. | no. |
| January.. | 1,608 | 111 | 1,719 | 1,675 | 107 | 1,782 | 1,926 | 111 | 2,037 |
| February, | 1,387 | 81 | 1,468 | 1,523 | 78 | 1,601 | 1,435 | 147 | 1,582 |
| Sarch. | 1,634 | 213 | 1,847 | 1,709 | 237 | 1,946 | 1,781 | 269 | 2,050 |
| April. | 3,769 | 1,090 | 4,859 | 3,492 | 974 | 4,466 | 3,320 | 728 | 4,048 |
| Say. | 5,629 | 3,313 | 8,942 | 5,753 | 3,358 | 9,111 | 5,806 | 3,370 | 9,176 |
| June. | 6,270 | 3,148 | 9,418 | 6,450 | 3,277 | 9,727 | 6,182 | 3,228 | 9,410 |
| July. | 4,766 | 910 | 5,676 | 4,870 | 930 | 5,800 | 4,731 | 917 | 5,648 |
| August. | 4,414 | 560 | 4,974 | 4,765 | 674 | 5,439 | 4.474 | 850 | 5,324 |
| September | 4,194 | 496 | 4,690 | 4,403 | 646 | 5,049 | 3,909 | 682 | 4,591 |
| Oetober. | 3,850 | 369 | 4,219 | 3,961 | 601 | 4,562 | 3,142 | 519 | 3,661 |
| Sovember | 3,100 | 210 | 3,310 | 3,329 | 288 | 3,617 | 2,622 | 152 | 2,774 |
| December. | 2,585 | 184 | 2,769 | 2,492 | 145 | 2,637 | 1,962 | 101 | 2,063 |

1 Exelusive of contract and piece-workers.
Fuel Used and Power Employed.-The chief kinds of fuel used in the establishments are coal, with a value in 1930 of $\$ 199,022$, and fuel oil with a value of $\$ 126,629$. Other kinds of fuel include gasolene $(\$ 27,597)$ and wood $(\$ 50,835)$. The cost of the electricity used for power was $\$ 38,279$. The total value of fuel and electricity used in 1930 was $\$ 449,179$, compared with $\$ 471,649$ in 1929. The principal item under the head of power equipment, according to the rated horse power, comprises steam engines and steam turbines, of which 233 were in use in 1930 with a total capacity of $5,742 \mathrm{~h} . \mathrm{p}$. The item of gasolene and oil engines is second with 647 and a capacity of $4,285 \mathrm{~h} . \mathrm{p}$. The item of electric motors is third with 124 and a capacity of $2,122 \mathrm{~h} . \mathrm{p}$. operated by purchased porrer, and 74 with a capacity of 664 operated by power generated by the establishment. The total power equipment of the establishments in 1930 amounted to 1,073 units with a rated capacity of $13,327 \mathrm{~h} . \mathrm{p}$., compared with 1,061 units and a capacity of $12,337 \mathrm{~h} . \mathrm{p}$. in 1929.

Materials Used.-The quantity of fish used by the establishments in 1930 Was $7,881,740$ cwt. This amount represents 76 per cent of the total catch of
sea fish in that year, the remainder of the catch being marketed by the fishermen themselves. The total value of the fish used, namely, the amount paid by the establishments to the fishermen, was $\$ 15,939,137$. Other materials used include salt, value $\$ 348,201$; containers, value $\$ 4,569,026$; and miscellaneous materials, value $\$ 225,125$. The total value of the fish and other materials used by the establishments in 1930 was $\$ 21,081,489$, divided among the different kinds of establishments as follows: lobster canneries, \$3,315,681; salmon canneries, $\$ 9,294,508$; clam canneries, $\$ 150,244$; sardine and other fish canneries, $\$ 602,175$; fish curing establishments, $\$ 7,039,327$; and reduction plants, $\$ 679,554$. The following table shows the value of the fish and other materials used during the years 1928, 1929 and 1930.
9.-Value of Materials Used in Fish Canning and Curing Establishments, 1928, 1929 and 1930

| Materials | 1928 | 1929 | 193 |
| :---: | :---: | :---: | :---: |
|  |  | ${ }_{5}^{561,702}$ | 33,137 |
| Containers | 4, 44, 41,725 |  | cisis. |
| Her matras.......... |  |  |  |
| Tot | 20,588,767 | 21,496,859 | 21,081,49 |

Value of Production.-The total value of output of the establishments in 1930 was $\$ 32,973,308$, comprising $\$ 25,333,751$ the value of the fish canned, cured, etc., and $\$ 7,639,557$ the value of the fish marketed for consumption fresh. The value of output of the establishments represents $791 / 2$ per cent of the total marketed value of the sea fisheries, the remainder being the value of the fish marketed fresh and prepared by the fishermen. To the total value of output of the establishments in 1930 the salmon canneries contributed $\$ 15$, . 149,954 or $46 \cdot 0$ per cent, the fish curing establishments $\$ 10,267,421$ or $31 \cdot 1$ per cent, the lobster canneries $\$ 4,419,208$ or $13 \cdot 4$ per cent, the.reduction plants $\$ 1,701,833$ or $5 \cdot 1$ per cent, the sardine and other fish canneries $\$ 1,180,316$ or $3 \cdot 6$ per cent, and the clam canneries $\$ 254,576$ or 0.8 per cent. The average value of output per establishment in 1930 was $\$ 47,172$. An arrangement of the returns of the establishments in groups according to the value of output gives the following result: 240 establishments are shown in the group of those having a production valued at less than $\$ 5,000 ; 114$ with values of $\$ 5,000$ to under $\$ 10,000 ; 128$ with values of $\$ 10,000$ to under $\$ 20,000 ; 86$ with values of $\$ 20,000$ to under $\$ 50,000$; and 131 plants with product valued at $\$ 50,000$ or over. The last group comprises 17 lobster canneries, 60 salmon canneries, 2 clam canneries, 1 sardine or other fish cannery; 40 fish curing establishments; and 11 reduction plants.

The following table summarizes the value of production in the several kinds of establishments for the years 1928 to 1930.
10. Value of Production of Fish Canning and Curing Establishments, 1928, 1929 and 1930

| Description of establishment | 1928 |  | 1929 |  | 1930 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fish marketed for consumption fresh | Fish canned, cured or otherwise prepared | Fish markated for consumption fresh | Fish canned, cured or otherwise prepared | Fish marketed for consumption fresh | Fish canned, cured os otherwise prepared |
| Lobster canneries..............s. | 1,263,559 | ${ }_{3,258,875}$ | 1,583,035 | 3, ${ }^{\text {\% }}$, 95,721 | $\underset{1,296,099}{\$}$ | \% ${ }_{3}^{123,109}$ |
| Salmon canneries.................? | -338,907 | 14,930,342 | 303,463 | 13,214,069 | -224,734 | 14,925,200 |
| Clam canneries.. | 3,927 | 291,027 | 5,057 | 270,245 | 529 | 251,021 |
| Sardine and other fish canneries. | 241,237 | 1,518,009 | 161,121 | 1,790, 268 | 49, 075 | 1, $131,2{ }^{241}$ |
| Fish curing establishments................ | 6,428,030 | $4,903,851$ $3,089,059$ | 6,914,517 | $4,799,334$ $2,399,370$ | 6,069,120 | 4, <br> $1,701,838$ |
| Total. | 8,275,669 | 27,092,063 | 9,057,253 | 25,909,007 | 7,639,557 | 25,333,751 |

General Tables.-A section of the general tabular matter of the report is devoted to the statistics of fish canning and curing establishments and in this section information regarding capital, employees, salaries and wages, value of production, and other phases, which have been briefly summarized in the foregoing paragraphs, is given in detail by provinces and by counties or districts.

## Review by Provinces

The following tables (11-17) show by provinces: the total value of the fisheries; the quantity caught and landed and the value marketed of the chief commercial fishes; the quantity and value of all fish caught and landed and marketed; the total values for counties or districts of sea fish caught and landed and marketed; the quantity of sea fish taken offshore; the capital equipment; and the number of employees.
11. Value of Fisheries by Provinces, 1926-1930, in order of Value, 1930

| Province | 1926 | 1927 | 1928 | 1929 | 1930 | Increse or decrease 1930 compared with 1929 <br> Inc. + Dec. - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \$ | \$ | S | \$ | § | \$ |
| British Columbis................ | 27,367, 109 | 22,890,913 | 26,562,727 | 23,930,692 | 23,103,302 | - 827,390 |
| Nova Scotia. | 12,505,922 | 10,783,631 | 11,681,995 | 11,427,491 | 10,411,202 | - 1,016,289 |
| New Brunswick. | 5,325,478 | 4,406,673 | 5,001,641 | $5,935,635$ | 4,853,575 | - 1,082,060 |
| Ontario. | 3,152,193 | 3,670,229 | 4,030,753 | 3,919,144 | 3,294,629 | - 624,515 |
| Quebec. | 3,110,961 | 2,736,450 | 2,996,614 | 2,933, 339 | 2,502,998 | - 430,341 |
| Manitoba. | 2,328,803 | 2,039,738 | 2,240,314 | 2,745,205 | 1,811,962 | - 933,243 |
| Prince Edward Island.. | 1,358,934 | 1,367,807 | 1,196,681 | 1,297, 125 | 1,141,279 | - 155,\$46 |
| Alberta...... . . . . . . . . . . . . . . . . . | 749,076 | 712,469 | 725,050 | 732,214 | 421,258 | - 310,956 |
| Saskatchewan. | 444,288 | 503,609 | 563,533 | 572,871 | 234,501 | - 338,370 |
| Yukon Territory .................. | 17,866 | 12,090 | 51,665 | 24,805 | 29,510 | $+\quad 4,705$ |
| Total. | 56,360,633 | 49,123, 609 | 55,050,973 | 53,518, 521 | 47,804,216 | - 5,714,305 |

12. Quantity and Value of Chief Commercial Fishes by Provinces, 1926-1930

| Kind of Fish |
| :--- |

12. Quantity and Value of Ghief Gommercial Fishes by Provinces, 1926-1930-con.


New Brunswick

12. Quantity and Value of Chief Commercial Fishes by Provinces, 1926-1930-con.
Kind of Fish $\mid$ 1926

| Cod. $\qquad$ cwt. s | $\begin{array}{r} 584,567 \\ 1,408,516 \end{array}$ | $\begin{array}{r} 460,573 \\ 1,011,795 \end{array}$ | $\begin{array}{r} 469,924 \\ 1,351,501 \end{array}$ | $\begin{array}{r} 490,062 \\ 1,386,963 \end{array}$ | $\begin{array}{r} 392,642 \\ 1,073,836 \end{array}$ |  | $\begin{array}{r} 97,420 \\ -313,127 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lobsters. $\qquad$ cwt. § | $\begin{array}{r} 29,358 \\ 434,874 \end{array}$ | $\begin{array}{r} 24,606 \\ 359,579 \end{array}$ | $\begin{array}{r} 26,445 \\ 346,415 \end{array}$ | $\begin{array}{r} 27,333 \\ 311,036 \end{array}$ | $\begin{array}{r} 27,677 \\ 267,336 \end{array},$ | $\pm$ | $\begin{array}{r} 344 \\ 43,700 \end{array}$ |
| Herring.................. ewt. | $\begin{aligned} & 326,416 \\ & 278,795 \end{aligned}$ | $\begin{aligned} & 262,521 \\ & 238,093 \end{aligned}$ | $\begin{aligned} & 258,245 \\ & 256,015 \end{aligned}$ | $\begin{aligned} & 230,433 \\ & 291,485 \end{aligned}$ | $\begin{aligned} & 227,173 \\ & 249,708 \end{aligned}$ | - | $\begin{array}{r} 3,260 \\ 41,77 \end{array}$ |
| Salmon $\qquad$ cwt. \$ | $\begin{array}{r} 15,536 \\ 159,303 \end{array}$ | $\begin{array}{r} 14,840 \\ 152,710 \end{array}$ | $\begin{array}{r} 8,159 \\ 100,007 \end{array}$ | $\begin{array}{r} 10,067 \\ 137,404 \end{array}$ | $\begin{array}{r} 17,205 \\ 197,854 \end{array}$ | + | $\begin{array}{r} 7,138 \\ 60,450 \end{array}$ |
| Eel.s......................... owt. | $\begin{array}{r} 21,172 \\ 195,608 \end{array}$ | $\begin{array}{r} 13,570 \\ 113,148 \end{array}$ | 21,871 192,075 | $\begin{array}{r} 11,929 \\ 109,522 \end{array}$ | $\begin{array}{r} 13,154 \\ 118,583 \end{array}$ | $+$ | 1,225 9,061 |
| Mackerel. .................... cwt. | $\begin{gathered} 29,765 \\ 71,353 \end{gathered}$ | $\begin{array}{r} 70,765 \\ 185,296 \end{array}$ | $\begin{gathered} 23,520 \\ 78,548 \end{gathered}$ | $\begin{aligned} & 22,967 \\ & 72.466 \end{aligned}$ | $\begin{array}{r} 31,452 \\ 100,689 \end{array} .$ | $+$ | $\begin{array}{r} 8,485 \\ 28,223 \end{array}$ |
| Emelts. $\qquad$ cret. | $\begin{array}{r} 5,259 \\ 41,811 \end{array}$ | $\begin{array}{r} 13,428 \\ 110,823 \end{array}$ | $\begin{array}{r} 12,018 \\ 101,820 \end{array}$ | $\begin{array}{r} 15,588 \\ 139,141 \end{array}$ | $\begin{aligned} & 10,586 . \\ & 82,438 . \end{aligned}$ | - | $\begin{array}{r} 5,002 \\ 56,703 \end{array}$ |
| Sturgeon....................ewt. | $\begin{array}{r} 3,008 \\ 32,177 \end{array}$ | $\begin{array}{r} 2,046 \\ 35,410 \end{array}$ | $\begin{gathered} 2,775 \\ 50,948 \end{gathered}$ | $\begin{array}{r} 3.163 \\ 55,325 \end{array}$ | $\begin{array}{r} 3,162 \\ 49,{ }^{2}, \end{array}$ | - | 5,488 |
| Pickerel or dore.......... cwt. | $\begin{array}{r} 2,104 \\ 39,214 \end{array}$ | $\begin{array}{r} 8,064 \\ 137,165 \end{array}$ | $\begin{array}{r} 8,725 \\ 149,655 \end{array}$ | $\left.\begin{array}{r} 3,969 \\ 66,459 \end{array} \right\rvert\,$ | $\begin{array}{r} 3,565 \\ 49,150 \end{array}$ | - | $\begin{array}{r} 17,304 \\ 17,309 \end{array}$ |

## Ontario

| Whitefish......................wst. | $\begin{array}{r} 64,049 \\ 864,661 \end{array}$ | $\begin{array}{r} 61,658 \\ 937,202 \end{array}$ | $\begin{array}{r} 58,235 \\ 911,958 \end{array}$ | $\begin{array}{r} 61,591 \\ 1,028,571 \end{array}$ | $\begin{array}{r} 55,433 \\ 886,928 \end{array}$ | - | $\begin{array}{r} 6,158 \\ 141,643 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Trout....................... cwt. | $\begin{array}{r} 69,127 \\ 933,214 \end{array}$ | $\begin{array}{r} 74,978 \\ 1,192,150 \end{array}$ | $\begin{array}{r} 66,596 \\ 1,042,893 \end{array}$ | $\begin{array}{r} 62,547 \\ 1,032,026 \end{array}$ | $\begin{array}{r} 51,205 \\ 844,882 \end{array}$ | - | $\begin{array}{r} 11,342 \\ 187,144 \end{array}$ |
| Blue pickerel $\qquad$ cwt. $\$$ | $\begin{array}{r} 30,385 \\ 182,310 \end{array}$ | $\begin{array}{r} 31,173 \\ 187,038 \end{array}$ | $\begin{array}{r} 21,496 \\ 257,952 \end{array}$ | $\begin{array}{r} 25,831 \\ 333,220 \end{array}$ | $\begin{array}{r} 59,284 \\ 420,917 \end{array}$ | $+$ | $\begin{aligned} & 33,453 \\ & 87,697 \end{aligned}$ |
| Perch $\qquad$ cwt. . | $\begin{array}{r} 20,678 \\ 124,068 \end{array}$ | $\begin{array}{r} 28,180 \\ 211,352 \end{array}$ | $\begin{array}{r} 46,935 \\ 704,025 \\ 7 \end{array}$ | $\begin{array}{r} 60,022 \\ 552,202 \end{array}$ | $\begin{gathered} 36,991 \\ 281,132 \end{gathered}$ | - | $\begin{array}{r} 23,031 \\ 271,070 \end{array}$ |
| Herring. ..................... ewt. | $\begin{array}{r} 44,122 \\ 264,732 \end{array}$ | $\begin{array}{r} 58,099 \\ 302,114 \end{array}$ | $\begin{array}{r} 53,006 \\ 198,772 \end{array}$ | $\begin{array}{r} 49,127 \\ 294,762 \end{array}$ | $\begin{array}{r} 59,573 \\ 256,164 \end{array}$ | $+$ | $\begin{aligned} & 10,446 \\ & 38,598 \end{aligned}$ |
| Pickerel or dore $\qquad$ cwt. \$ | $\begin{array}{r} 23,071 \\ 299,923 \end{array}$ | $\begin{array}{r} 21,163 \\ 300,529 \end{array}$ | $\begin{array}{r} 20,012 \\ 420,252 \end{array}$ | $\begin{array}{r} 19,890 \\ 292,385 \end{array}$ | $\begin{array}{r} 20,913 \\ 248,864 \end{array}$ | $+$ | $\begin{array}{r} 1,023 \\ 43,521 \end{array}$ |
| Tullibee. $\qquad$ cwt. \$ | $\left.\begin{gathered} 11,071 \\ 125,695 \end{gathered} \right\rvert\,$ | $\begin{array}{r} 15,520 \\ 194.001 \end{array}$ | $\begin{array}{r} 10,304 \\ 103,040 \end{array}$ | $\begin{array}{r} 6,975 \\ 62,775 \end{array}$ | $\begin{aligned} & 10,406 \\ & 77,004 \end{aligned}$ | $+$ | $\begin{array}{r} 3.431 \\ 14.229 \end{array}$ |


| Pickerel $\qquad$ cwt. § | $\begin{array}{r} 87,251 \\ 900,608 \end{array}$ | $\begin{array}{r} 99,813 \\ 804,854 \end{array}$ | $\begin{aligned} & 101,870 \\ & 921,010 \end{aligned}$ | $\begin{array}{r} 94,055 \\ 988,563 \end{array}$ | $\begin{array}{r} 69,053 \\ 581,018 \end{array}$ | - | $\begin{array}{r} 25,002 \\ 407,545 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Whitcfish. $\qquad$ cwt. s | $\begin{array}{r} 54,122 \\ 490,625 \end{array}$ | $\begin{array}{r} 49,114 \\ 418,461 \end{array}$ | $\begin{gathered} 49,599 \\ 473,232 \end{gathered}$ | $\begin{array}{r} 58,964 \\ 616,864 \end{array}$ | 61,352 536,151 | $\pm$ | $\begin{array}{r} 2,418 \\ 80,713 \end{array}$ |
| Tullibee.................... ewt. | 85,267 501,814 | 102,451 419,103 | 89,068 484,129 | $\begin{array}{r} 84,043 \\ 587,674 \end{array}$ | $\begin{array}{r} 47,499 \\ 370,074 \end{array}$ | - | 36,544 217,600 |
| Pike $\qquad$ $\underset{s}{c}$ | $\begin{array}{r} 43,467 \\ 176,425 \end{array}$ | $\begin{array}{r} 40,166 \\ 149,658 \end{array}$ | $\begin{array}{r} 36,366 \\ 154,550 \end{array}$ | $\begin{array}{r} 54,919 \\ 225,277 \end{array}$ | $\begin{array}{r} 34,027 \\ 115,736 \end{array}$ | - | $\begin{array}{r} 20,892 \\ 109,541 \end{array}$ |
| Goldeyes. ................. cwt. | $\begin{aligned} & 11,625 \\ & 85,099 \end{aligned}$ | $\begin{array}{r} 11,420 \\ 115,190 \end{array}$ | $\begin{array}{r} 10,642 \\ 115,124 \end{array}$ | $\begin{array}{r} 11,105 \\ 191,267 \end{array}$ | $\begin{array}{r} 5,745 \\ 96,828 \end{array}$ | - | 5,360 94,439 |

12. Quantity and Value of Chief Commercial Fishes by Provinces, 1926-1930-con.


British Columbia


Yukon Territary

| Whitefish............... cwt. | 89 2,492 | 70 1,400 | $\begin{array}{r}\text { r } \\ 13,355 \\ \hline\end{array}$ | 3,100 | $\begin{array}{r} 344 \\ 8,600 \end{array}+$ | 220 5,500 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Salmon.................. crwt. | 656 12,490 | 805 8,050 | 866 17,320 | $\begin{array}{r} 784 \\ 15,680 \end{array}$ | 549 $8,235-$ | 235 7,445 |
| Trout.................... cwt. | 2,548 | 50 1,000 | $\begin{array}{r} 562 \\ 14,050 \end{array}$ | 1200 3,000 | ${ }^{6,750}+$ | 150 3,750 |

IIncluded with cod prior to 1927.
8
13. Quantities and Values by Provinces of All Fish Caught and Marketed during the year 1930

13. Quantities and Values by Provinces of A11 Fish Caught and Marketed during the year 1930-con.

| Kind of Fish | Sea Fisheries |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Prince Edward Island |  | Noxa Scotia |  | NewBrunswick² |  | Quebec ${ }^{1}$ |  | British Columbia |  |
|  | $\begin{aligned} & \text { Quan- } \\ & \text { tity } \end{aligned}$ | Value | $\begin{aligned} & \text { Quan- } \\ & \text { tity } \end{aligned}$ | Value | Quan- | Value | $\begin{aligned} & \text { Quan- } \\ & \text { tity } \end{aligned}$ | Value | $\begin{aligned} & \text { Quan- } \\ & \text { tity } \end{aligned}$ | Value |
| Flounders, Brill, Plaice, etc., caught and landed.............. cwt. MarketedUsed fresh......... cwt. Fresh fillets........ cwt. Total value marketed. . |  | S |  | \$ |  | \$ |  | \$ |  | § |
|  | - | - | 4,226 | 6,401 | 1,683 | 3,665 | - | - | 5,013 | 16,009 |
|  |  |  |  |  |  | 3,665 |  |  | 5,13 | 16,009 |
|  | - | - | 4,693 | 22,170 | 1,683 | 5,650 | - | - | 5,013 | 20,268 |
|  | - | - | 11 | 22,291 | - | 5,650 | - |  | - | 0,268 |
| Skate, caught and landed............. ewt. Marketed fresh....... . ewt. | - | - | 2,352 2,352 | 2,352 4,446 | 61 61 | 80 183 | - | - | 968 968 | 3,056 4,241 |
| Soles, caught and landed............. ewt. Marketed iresh..........wt. | - | - | 10,584 | 22,708 51,402 | - | - | - | - | 8,485 8,485 | 39,491 40,217 |
| Herring, caught and landed.............. ewt. | 49,818 | 30,090 | 201,745 | 200,482 | 427,406 | 170,782 | 221,732 |  |  |  |
| Marketed Used fresh........... cwt. |  | 5,000 | 201,78 | 20, 482 | 21,406 | 18, 81 | 21, 32 | 140,103 | 1,221,962 | 717,198 |
| Used fresh......... cwt. <br> Boneless............ cwt. | 10,014 | 20,860 | 73,467 | 200,499 | 59,061 | 28,608 | 9,170 | 35,630 | 53,386 | 79,853 |
| Boneless........... cwt. <br> Canned............. cases | - | - | 8 | 80 | 2,740 | 6,730 11,335 | - |  | - |  |
| Smoked............. cast. | - | - | 6,419 | 33,591 | 42,569 | 116,068 | 20,788 | 74,939 | 4,713 | 38,667 |
| Dry-salted........... cwt. Pickled.............. bbl. | - |  | 6,4, | 3, | $\bigcirc$ |  | 20,78 | 74 | 805,973 | 961,364 |
|  | 70 | 560 | 10,621 | 55,627 | 3,189 | 22,447 | 6,920 | 42,964 | ${ }^{46}$ | ${ }^{811}$ |
| Pickled............ bbl. Used as bait....... bbl. | 19,797 | 58,791 | 49,780 | 145,705 | 43,909 | 72,025 | 53,801 | 56,416 | 16,628 | 48,587 |
| Fertilizer........... bbl. | - |  | 129 | 308 | 88,748 | 73,412 | 13,915 | 9,472 |  | 8, |
| Oil.............. gal. | - | - | - | - | 37,665 | 6,617 | - |  | 60,373 | 18,871 |
| Scales...............................Total value marketed. | - | - | - | - | 1,125 | 40,299 | - | - | 1,774 | 74,150 |
|  | - | 80,211 | - | 435,810 | 182 | 377, ${ }^{4888}$ | - | 219,427 | - | 1,222,303 |
| Mackerel, caught and landed............. . ewt. |  |  |  |  |  |  |  |  |  |  |
| Marketed-......... | 10,591 | 20, 260 | 130,359 | 314,768 | 6,062 | 10,676 | 31,452 | 87,435 | - | - |
| Used fresh........ cwt. | 3,809 | 18,126 | 24,979 | 125,184 | 5,998 | 15,629 | 1,023 | 3,760 | - | - |
|  | 429 | 2,246 |  | 1400 |  |  | - |  |  |  |
|  |  |  | 35,028 | 846 305,373 | $\overline{30}$ | 210 | 10, $\overline{136}$ |  | - | - |
| PickIed...............bbl. Total value marketed. | 2,100 | - 49,948 | 35,028 | - 431,513 | 30 | 15,839 | 10,136 | 96,329 100,689 | - | - |
| Sardines, caught and landed.............. bbl. | - |  | - |  |  |  |  |  |  |  |
| Marketed- | - | - | - | - | 129,424 | 172,013 | 35 | 145 | - | - |
| Canned............. cases Sold fresh and salt- | - | - | - | - | 244,238 | 979,299 | - | - | - | - |
|  |  |  |  |  |  |  |  |  |  |  |
| Total value marketed. . | - | - | - | - |  | ,074,342 | 35 | 145 | - | - |
| Pilchards, caught andlanded.......... cwt. |  |  |  |  |  |  |  |  |  |  |
|  | - | - | - | - | - | - | - | - | 1,501,404 | 613,947 |
| Marketed- | - | - | - | - | - | - | - | - | 25 | 154 |
| Used fresh. ........ cwt. Canned........ cases | - | - | - | - | - | - | - | - | 55,166 | 220,468 |
| Used as bait....... ${ }^{\text {ches }}$ bli. | - | - | - | - | - | - | - | - | ${ }^{526}$ | 2,415 |
| Oil................................... ton | - | - | - | - | - | - | - | - | 3,204,058 | 678,115 |
|  | - | - | - | - | - | - | - | - | 18,934 | 688,457 $1.589,6093$ |
| Alewires, caught and landed. |  |  |  |  |  |  |  |  |  |  |
|  | 30 | 30 | 30,719 | 23,336 | 40,247 |  | - |  |  | - |
| Marketad-......... |  |  | 30,78 | 2,936 | 40, 24 | 32,971 | - | - | - | - |
| Used fresh........ cwt. | 30 | 60 | 10,649 | 15,305 | 4,451 | 9,308 | - | - | - | - |
|  | - | - | 3, 1608 | 13. 280 | 11,585 | 4, 000 | - | - | - | - |
| Used as bait....... bbl.Fertilizer........ bbl | - | - | 5,736 | 13,549 | 11,385 | 57, 187 | - | - | - | - |
|  | - | - | - |  | 1,875 | 937 | - | - | - | - |
| Fertilizer, .......... bbl. Total value marketed. | - | 60 | - | 38,779 | 1,87 | 72,301 | - | - | - | - |

[^8]13. Quantities and Values by Provinces of All Fish Caught and Marketed during the year 1930 -con.

| Kind of Fish | Sea Fisheries |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Prince Edward Island |  | Nova Scotia |  | Netr Brunspick ${ }^{1}$ |  | Quebecl |  | British Columbia |  |
|  | Quantity | Value | Quantity | Value | Quan- tity | Value | $\begin{aligned} & \text { Quau- } \\ & \text { tity } \end{aligned}$ | Value | Quantity | Value |
| Bass, caught and <br> Ianded.............. cwt. <br> Marketed fresh...... cwt. |  | \$ |  | \$ |  | \$ |  | § |  | \$ |
|  | - | - | 31 | 350 | 88 | 1,733 | - | - | - |  |
| Percli, caught and <br> landed.............. cwt. <br> Marketed fresh...... cwt. | - | - | 524 | 100 | 3 3 | 9 | - | - | 1,678 1,678 | 14,683 15,447 |
| Salmon, caught and landed.............. cwt. Marketed- | 106 | 2,120 | 14,198 | 192,095 | 33,326 | 479,710 | 16,856 | 186,944 | 2,296,213 | 8,178,115 |
|  |  |  |  |  |  |  |  |  |  |  |
| Used fresh......... . cwt. | 106 | 2,120 | 12,893 1,459 | 229,933 | 34,108 | 641,734 | 13,468 | 177,743 2,407 | 249,777 | 1, 899,774 |
| Canned. . . . . . . . . . . cases | - | - | 1,459 | 18,244 1,785 | - | - | 227 | 2,407 | 2,221,783 1,328 | $13,903,380$ 18,468 |
| Smoked............. cwt. Dry-salted......... cwt. | - | - | - | - | - | - | - | - | 116,223 | 292,782 |
| Mild-cured............ cwt. | - | - | - | - | - | - | - | - | 25,095 | 463,394 |
| Pickled.............. . cwt. | - | - | - | - | - | - | 1,611 | 12,855 | 851 | 6,153 |
| Roe.................. ewt. ewt. | - | - | - | - | - | - | - | 12,855 | 19,333 | 24,040 |
| Used as bait....... cwt. Total value marketed. . | - | $2, \stackrel{120}{ }$ | - |  | - | 641,734 | - | 193, $\overline{0} 5$ | 729 | 2,837 $16,610,834$ |
| Shad, caught and landed.............. cwt. | - | - | 440 | 5,347 | 3,490 | 21,410 | - | - | 35 | 350 |
| Marketed- |  |  |  |  |  | 28.11 |  |  |  |  |
| Used fresh......... . cwt. Salted $\qquad$ bbl. | - | - | 384 | 6,617 | 3,490 | 28,117 | - | - | 35 | 617 |
| Total value marketcd. | $\stackrel{-}{-}$ | - | 22 | $\begin{array}{r}\text { 7, } 5160 \\ \hline\end{array}$ | - | 28,117 | - | - | - | - 617 |
| Smelts, caught and landed.............. ewt. Marketed fresh...... cwt. | $\begin{aligned} & 7,789 \\ & 7,789 \end{aligned}$ | $\begin{aligned} & \mathbf{5 9}, 468 \\ & 63,828 \end{aligned}$ | $\begin{array}{r} 27,906 \\ 8,192 \end{array}$ | $\begin{array}{r} 88,725 \\ 136,909 \end{array}$ | $\begin{aligned} & 38,385 \\ & 38,933 \end{aligned}$ | $\begin{aligned} & 408,811 \\ & 551,443 \end{aligned}$ | $\begin{aligned} & 3,409 \\ & 2,575 \end{aligned}$ | $\begin{aligned} & 32,911 \\ & 26,104 \end{aligned}$ | $\begin{aligned} & 1,455 \\ & 1,455 \end{aligned}$ | 17,97518,416 |
|  |  |  |  |  |  |  |  |  |  |  |
| Sturgeo., caught aud landed............. ewt. Marketed fresh........ cwt. | - | - | 225 | 675 | $\cdots$ | - | 24 | 240 | 277 | 5,197 |
|  | - | - | 225 | 1,350 | - | - | 24 | 240 | 277 | 5,778 |
| Trout, caught and landed............. cwt. Marketed fresh....... cwt. | - | - | - | - | 88 88 | 1,760 2,150 | - | - | 51 | 764 764 |
| Black Cod, caught and Ianded....... cwt. | - | - | - | - | - | - | - | - | 16,517 | 90,239 |
| Marketed- |  |  |  |  |  |  | - |  |  |  |
| Used fresh......... . cwt. | - | - | - | - | - | - | - | - | 13,414 51 | 86,703 |
| Green-salted....... cwt. | - | - | - | - | $\pm$ | - | - | - | 1,584 | 29,973 29, |
|  | - | - | - | - | - | - | - | - | 1,584 | 29,979 2,956 |
| Dried.................. ewt. Total value marketed. | - | - | - | - | - | - | - | - | 156 | 2,956 120,583 |
| Red Cod, caught and landed.............. cwt. Marketed fresh....... cwt. | - | - | - | - | $-$ | - | - | - | 4,248 4,248 | 21,455 24,577 |
| Lug Cod, caught and landed.............. cwt. Marketed fresh....... cwt. | - | - | - | - | - | $-$ | - | - | 48,591 48,591 | $\begin{aligned} & 302,071 \\ & 333,564 \end{aligned}$ |
| Albacore, caught and and landed....... cwt. Marketed fresb....... ewt. | - | - | $\begin{aligned} & 2,666 \\ & 2,666 \end{aligned}$ | 12,130 16,761 | - | - | - | - | - | - |
| Caplin, caught and Ianded. $\qquad$ Marketed iresh....... bbl. |  |  | - | - | - | - | 2, 598 | 4,675 | 5 | - - |
|  | 1,041 | $\begin{aligned} & 4,39 \\ & 4,339 \end{aligned}$ |  | - | - | - | 2,598 | 4,675 | 1 - | - |

'See also Inland Fisheries. 2Excess brought in from other provinces.
13. Quantities and Values by Provinces of All Fish Caught and Marketed during the year $1930-\mathrm{con}$.

| Kind of. Fish | Sea Flsheries |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Prince Edward Island |  | Nova Scotia |  | $\stackrel{\text { New }}{\text { Brunswick }^{1}}$ |  | Quebec ${ }^{1}$ |  | British Columbia |  |
|  | $\begin{aligned} & \text { Quar- } \\ & \text { tity } \end{aligned}$ | Value | $\begin{aligned} & \text { Quan- } \\ & \text { tity } \end{aligned}$ | Value | $\begin{aligned} & \text { Quan- } \\ & \text { tity } \end{aligned}$ | Value | Quantity | Value | $\begin{aligned} & \text { Quan- } \\ & \text { tity } \end{aligned}$ | Value |
|  |  | s |  | S |  | \$ |  | \$ |  | \$ |
| Eels, caught and <br> Ianded............. cwt. | 130 | 842 | 1,666 | 12,530 | 258 | 1,798 | 420 | 2,644 | - |  |
| Grayfish, caught and landed |  | - | 700 | 140 | - | - | - | - | 4,931 | 30,372 |
| Marketed- |  |  |  |  |  |  |  |  |  |  |
| Oil.............. gal. | - | - | - | - | - | - | - | - | 14,558 | 22,229 |
| Total value marketed. | - | - | - | - | - | - | - | - | 899 | - 87.1651 |
| Octopus, caught and landed.............. ewt. Marketed fresh....... cwt. | - | - | - | - | - | - | - | - | 355 <br> 355 | 2,353 |
| Oulachons, caught and landed. $\qquad$ cwt. Marketed fresh. $\qquad$ cwt. | - | - | - | - | - | - | - | - | 8809 | 2,762 |
| Squid, caught and landed.............. bbl. Used as bait. ......... bbl. | - | - | 5,965 5,965 | 17,041 28,847 | - | - | 607 607 | 2,527 2,527 | - | - |
| Swordfish, caught and landed............. . cwt. Marketed fresh....... cwt. | - | - | 11,933 11,933 | $\mathbf{1 3 9 , 1 4 5}$ 214,806 | - | - | - | - | - |  |
| Tom Cod, caught and ianded.............. cwt. | 1,352 | 3,268 3,268 | 359 359 | 460 660 | 13,322 | 17,410 47,896 | 190 | 305 305 | 30 30 | ${ }_{90}^{90}$ |
| Marketed fresh....... cwwt. | 1,352 | 3,268 | 359 | 660 | 13,322 | 47,896 | 100 | 305 | 30 | 90 |
| Mixed Fish, caught and landed....... owt. | - | - | 279, 512 | 10,380 | 42 | 42 | 5,877 | 20,317 | - |  |
| (Notincluding any kinds mentioned elsewhere). <br> Marketed fresh....... cwt. | - | - | -7,312 | 10,380 | 42 | 42 | 5,877 | 29,317 | - | - |
| Clams and Qwahaugs, canghtand landed bbl. | 4,921 | 7,537 | 10,683 | 17,155 | 22,450 | 33,122 | 2,668 | 15,138 | 23,987 | 65, 271 |
| Marketed- |  |  |  |  | 6, 023 |  | 2,668 | 15, 138 |  | 14,586 |
| Canned............. cases | 2,507 | 12,392 | 4,088 | 22,794 | 17,012 | 85,901 |  |  | 21, 101 | 141, 21 |
| Total value marketed. | 2,50, | 14,352 | , | 36,435 | - | 97,687 | - | 15.138 | - | 155,857 |
| Crabs, caught and landed.............. cwt. | - | - | 80 | 160 | - | - | - | - | 4,852 | 27,475 |
|  |  |  |  |  |  |  |  |  |  |  |
| Used fresh........ cwt. | - | - | 80 | 240 | - | - | - | - | 4,459 | 26,036 |
| Canned.............cases Total value marketed. | - | - | - | 240 | - | - | - | - | 295 | -99,177 |
| Lobsters, caught andlanded.............. ewt. | 80,820 | 539,730 | 208,201 | 2,204,153 | 90,567 | 717,526 | 27,677 | 216,303 | - | - |
| Marketed- |  |  |  |  |  |  |  |  |  |  |
| In shell. . . . . . . . . . cwit. | 4,574 | 48,205 | 85, 885 | 1,645, 812 | 33,592 | 574,456 | 1,085 | 15,335 | - |  |
| Meat............. ewt. |  | 4,800 | 209 | 12,100 | 135 | 9,470 |  |  | - |  |
| Canned............ cases | 31, 935 | $\left.\begin{array}{r} 635,961 \\ 5,261 \end{array} \right\rvert\,$ | 63,422 2,089 | $1,367,957$ 20,215 | 31,983 624 | 618,286 4,784 | 11,769 | 251,592 | - |  |
| Tomalley........... cases Total value marketed. | 506 | $\begin{array}{r} 5,261 \\ 694,227 \end{array}$ | $\stackrel{2,089}{-}$ | 3,046,084 | 624 | 1,206, 996 | - | 267,336 | - |  |
| Abalone, carght and landed.............. bbl. Marketed canned..... cases | -1 | - | - |  | - | - | - | - | 466 <br> 350 | 1,864 3,500 |

[^9] 2-Used in the production of fish oil and meal.
13. Quantities and Values by Provinces of All Fish Caught and Marketed during the year 1930 -con.


[^10]13.-Quantities and Values by Provinces of All Fish Caught and Marketed during the year 1930-con.


[^11]13.-Quantities and Values by Provinces of all Fish Caught and Marketed during the year 1930-con.

| Kind of Fish | Inland Fisheries |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | New Brunswick ${ }^{3}$ |  | Quebec ${ }^{1}$ |  | Ontario |  |
|  | $\underset{\text { Quan- }}{\substack{\text { tity }}}$ | Value | ${ }_{\text {tity }}^{\text {Quan- }}$ | Value | $\underset{\text { tity }}{\text { Quan- }}$ | Value |
| Sturgeon, caught and landed. $\qquad$ ewt. Marketed - $\qquad$ <br> Caviar. $\qquad$ ib. <br> Total value marketed $\qquad$ | 151550 | $\$$300300 | 3,138 | \$ | 1,278 | \$ |
|  |  |  |  | 49,597 |  | 4,695 |
|  |  |  | 3,138 | 49,597 | 1,277 | 51,080 |
|  |  |  | - |  | 3,597 | 3,597 |
|  |  | 350 | - | 49,597 | - | 54,677 |
| Trout, caught and landed....................................... Marketed fresh. ........................................... . . . . . | - | - | - | - | 51,205 51,205 | 691,268 844,882 |
| Tullibee, caught and landed.................................... Marketed frcsh. ewt. | - | - | - | - | 10,406 10,406 | 61,395 $\mathbf{7 7 , 0 0 4}$ |
| Whitefish, caught and landed....................... cwi. | 15 | 160 | 1,989 | 19,882 | 55,433 | 720,629 |
| Total Value Inland Fisheries- |  |  |  |  |  |  |
| Caught and Landed....... | - | 34,129 | - | 526,200 | - | 2,692,667 |
| Marketed................... | - | 34,179 | - | 526,200 | - | 3,294, 629 |

[^12]13. Quantities and Values by Provinces of All Fish Caught and Marketed during the year 1930-concluded

| Kind of Fish | Inland Flisheries |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Manltoba |  | Saskatchewan |  | Alberta |  | Yukon |  |
|  | Quantity | Value | $\begin{aligned} & \text { Quan- } \\ & \text { tity } \end{aligned}$ | Value | $\begin{aligned} & \text { Quan- } \\ & \text { tity } \end{aligned}$ | Value | $\begin{aligned} & \text { Quan- } \\ & \text { tity } \end{aligned}$ | Value |
|  |  | \$ |  | \$ |  | \$ |  | § |
| Bass, caught and landed.............wwt. Marketed fresh.................... ewt. | 6 | $\begin{array}{r}26 \\ 39 \\ \hline\end{array}$ | - | - |  | - | - | - |
| Catfish, caught and landed....... cwt. Marketed fresh.................... ewt. | 339 339 | $\begin{aligned} & \mathbf{2 , 2 3 7} \\ & \mathbf{3}, 213 \end{aligned}$ | - | - | $\underline{-}$ | - | - | - |
| Goldeyes, caught and landed..... cwt. Marketed- | 5,745 | 36,607 | 57 |  | 7 | 69 | - | - |
| Used fresh.................. cwt. | 302 3,266 | - 94,400 | 57 | 670 | 7 | $\underline{69}$ | - | - |
| Total value marketed......... | - | 96,828 | - | 670 | - | 69 | - | - |
| Herring, caught and landed........ewt. Marketed fresh.................... . cwt. | - | - | 99 99 | 792 990 | - | - | - | - |
| Ling, caught and landed.......... cwt. Marketad fresh.................... cwt. | - | - | $\begin{gathered} \mathbf{6 5 2} \\ \mathbf{6 5 2} \end{gathered}$ | 391 | - | - | - | - |
| Mised fish, caught and landed .... cwt. Marketed fresh.............. cwt. | 38 38 | 335 438 | 1,355 | 1,283 1,650 | $\underset{2,278}{2,278}$ | $\mathbf{3 , 1 6 1}$ 3,161 | 237 237 | 4,760 5,925 |
| Mullets, caught and landed....... . cwt. Marketed fresh.................... . owt. | 9,069 9,069 | 9,586 14,010 | 3,321 3,321 | 4,243 6,857 | 654 <br> 654 | 2,111 2,111 | - | - |
| Perch, caught and landed......... cwt. Marketed fresh.................... cwt. | 1,351 1,351 | 13,975 | - | = | 658 658 | 4,758 <br> 6,875 | - | - |
| Pickerel or dore, caught and landed cwt. Marketed fresh. $\qquad$ | $\begin{gathered} 69,053 \\ 69,053 \end{gathered}$ | $\begin{aligned} & 440,002 \\ & 581,018 \end{aligned}$ | 3,387 3,387 | 8,181 15,258 | $\mathbf{5 , 9 5 8}$ 5,958 | 34,345 42,232 | - | - |
| Pike, caught and landed. .......... ewt. <br> Marketed fresh. <br> cwt. | $\begin{aligned} & 34,027 \\ & 34,027 \end{aligned}$ | $\begin{gathered} 83,595 \\ 115,736 \end{gathered}$ | 3,152 $\mathbf{3 , 1 5 2}$ | $\mathbf{4 , 6 5 8}$ <br> 981 | 5,010 5,010 | 18,550 20,571 | - | - |
| Salmon, caught and landed....... cwt. <br> Marketed fresh.................... cwt. | - | - | - | - | - | - | 549 549 | 5,470 8,225 |
| Saugers, caught and landed....... cwt. Marketed fresh..................... cwt. | $\begin{aligned} & 8,961 \\ & 8,961 \end{aligned}$ | $\begin{aligned} & 48,074 \\ & 62,482 \end{aligned}$ | - | - | - | - | -- | - |
| Sturgeon, caught and landed..... ewt. Marketed fresh..................... cwt. | $\left.\begin{aligned} & 21 \\ & 21 \end{aligned} \right\rvert\,$ | $\begin{aligned} & 525 \\ & 630 \end{aligned}$ | - | - | - | - | - | - |
| Trout, caught and landed......... cwt. | 1,450 | 11,008 | 1,827 | 6,805 | 14,918 | 50,114 | 270 | 5,400 |
| Marketed fresh.................. cwt. | 1,450 | 14,690 | 1,827 | 13,784 | 14,918 | 148,959 | 270 | 6,750 |
| Tullibee, caught and landed...... cwt. Marketed- | 47,499 | 306,278 | 1,471 | 2,75i | 2,665 | 0,304 | - | - |
| Used fresh. $\qquad$ ewt. Smoked. $\qquad$ cwt. | $\begin{array}{r} 47,474 \\ 15 \end{array}$ | 369,674 400 | 1,471 | 5,471 | 2,665 | 9,527 | - | - |
| Total value marketed. | - | 370,074 | - | 5,471 | - | 9,527 | - | - |
| Whitefish, caught and landed.... cwrt. | 61,382 | 423,935 | 31,522 | 95,094 | 19,062 | 143,294 | 344 | 6,880 |
| Marketed fresh.................. cwt. | 61,382 | 536,151 | 31,522 | 179,469 | 19,062 | 187,751 | 344 | 8,600 |
| Total Value Inland FisheriesCaught and landed. Marketed. | - | $\begin{aligned} & 1,377,173 \\ & 1,811,962 \end{aligned}$ | - | $\begin{aligned} & 124,801 \\ & 234,501 \end{aligned}$ | - | $\begin{array}{r} 266,106 \\ 421,258 \end{array}$ | - | $\begin{aligned} & 22,510 \\ & 29,510 \end{aligned}$ |

14. Total Values for Counties and Districts of Sea Fish Caught and Landed and Marketed, 1930

15. Proportion of Catch of Sea Fish taken Offshore (by steam-trawlers and vessels of 40 tons or over, fishing on offshore grounds), 1930

16. Proportion of Catch of Sea Fish taken Offshore (by steam-trawlers and vessels of 40 tons or over, fishing on offshore grounds), 1930-con.

17. Proportion of Catch of Sea Fish taken Offshore (by steam trawlers and vessels of 40 tons or over, fishing on offshore grounds), 1930-con.

18. Proportion of Catch of Sea Fish taken Offshore (by steam trawlers and vessels of 40 tons or over, fishing on offshore grounds), 1930-con.

19. Proportion of Catch of Sea Fish taken offshore (by steam trawlers and vessels of 40 tons and over, fishing on offshore grounds), 1930-con.

20. Proportion of Catch of Sea Fish taken Offshore (by steam trawlers and vessels of 40 tons and over, fishing on offshore grounds), 1930-concluded

| Mixed Fish |  |  | Whales |  |  | All other kinds of fish | Total ${ }^{1}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Quantity taken ofishore | Quantity taken inshore | Total quantity caught | Number taken offshore | Number taken inshore | Total number caught | Quantity taken inshore | Quantity taken offshore | Quantity taken inshore | Total quantity caught |  |
| crut. | ewt. | cwt. | no. | no. | no. | cwt. | cwt. | cwt. | cwt. |  |
| 79,512 | 5,919 | 85,431 | 320 | - | 320 | 1,171,826 | 2,102,396 | 8,216,219 | 10,318,615 | 1 |
| - | - | - | - | - | - | 111,821 | - | 256,710 | 256,710 | 2 |
| - | - | - | - | - | - | 32,514 | - | 66.421 89 89 | 66,421 89,296 | 3 |
| - | - | - | - | $-$ | - | - <br>  <br> 42,602 | - | 100,993 | 100,993 | 5 |
| 79,512 | - | 79,512 | - | - | - | 323,887 | 1,157,011 | 1,420,845 | 2,577,856 | 6 |
| - | - | - | - | - | - | 8,566 | 2, | 67,598 | 67,598 | 8 |
| - | - | - | - | - | - | 12,812 | 2,105 | 87,164 | 89,269 | 8 |
| - | - | - | - | - | - | + 8 8,038 | 16.892 | -86,781 | 103,673 | 10 |
| - | - | - | - | - | - | 21,965 | 10,802 | 23,723 | 23,723, | 11 |
| - | - | - | - | - | $\cdots$ | 3,113 | - | 3,560 | 3,560 | 12 |
| - | - | - | - | - | - | 24,418 | - | 28,881 | 28,881 | 13 |
| - | - | - | - | - | - | 14,664 | - | 28,537 | 28,537 | 14 |
| - | - | - | - | - | - | 36,771 | 1,106 | 154,387 | 155,493 | 15 |
| 79,512 | - | 79,512 | - | - | - | 26,058 | 451,676 | 113,282 | 554,958 | 16 |
| - | -- | - | - | - | - | 1,490 | 51, - | 1,660 | 1,660 | 17 |
| - | - | - | - | - | - | 11,856 | 562,187 | 65,777 | 627,964 | 18 |
| - | - | - | - | - | - | 10,407 | 67,478 | 45,416 | 112,894 | 19 |
| - | - | - | - | - | - | 28,285 | 25,620 | 199,671 | 225,291 | 20 |
| - | - | - | - | - | - | 42,264 | 29,947 | 93,140 | 128,087 | 21 |
| - | - | - | - | - | - | 37,993 | - | 237,606 | 237,605 | 22 |
| - | - | - | - | - | - | 11,326 | - | 44,027 | 44,027 | 23 |
| - | - | - | - | - | - | 4,826 | - | 13,5⿺3 | 13,013 | 24 |
| -------- | 42 | 42 | - | - | - | 525,846 | 12,186 | 1,233,427 | 1,245,613 | 25 |
|  | - | - | - | - | - | 276,325 | - | 568,758 | 568,758 | 26 |
|  | - | - | - | - | - | 63,479 | - | 88,901 | 83,904 | 27 |
|  | - | - | - | - | - - | 103 | - | 175 | 118175 | 28 |
|  | - | - | - | - | - | 26.716 | = | 118,379 | 118,379 | 29 |
|  | - | - | - | - | - | 55,032 | 577 | 131,159 | 131,736 | 30 |
|  | - | - | - | - | - | 60,914 | 11,609 | 69,666 | 81,275 | 31 |
|  | - | - | - | - | - | 39,116 |  | 242,966 | 242,966 | 32 |
|  | 42 | 42 | - | - | - | 4,161 | - | 13,420 | 13,420 | 33 |
| ------ | 5,877 | 5,878 | - | - | - | 45,042 | - | 714,052 | 714,052 | 34 |
|  | - | - | - | - | - | 3,165 | - | 62,448 | 62,448 | 35 |
|  | - | - | - | - | - | 5,147 | - | 268,543 | 268,543 | 36 |
|  | - | - | - | - | - | 30,509 | - | 274,885 | 274,885 | 37 |
|  | 17 | 17 | - | - | - | 4,559 | - | 88,248 | 88,248 | 38 |
|  |  |  | - | - | - | 1,440 | - | 4,404 | 4,404 | 39 |
|  | 5,860 | 5,860 | - | - | - | 222 | - | 15,524 | 15,524 | 40 |
| --- | - | - | 320 | - | 320 | - 165,230 | 933,199 | 4,391,185 | 5,324,384 | 41 |
|  | - | - | - | -- | - | 15,424 | - | 513,481 | 513,481 | 42 |
|  | - | - | 320 | - | 320 | 24,766 | 249,442 | 1,623,666 | 1,873,108 | 43 |
|  | - | - | - | - | - | 125,040 | 683,757 | 2,454,038 | 3,137,795 | 44 |

[^13]16. Summary by Provinces of Capital Equipment, 1930


1 For Ontario gill nets are shown in yards.
16. Summary by Provinces of Capital Equipment, 1930-con.

16. Summary by Provinces of Capital Equipment, 1930-con.

|  | In Fish Canning and Curing | Prince Edward Island |  |
| :---: | :---: | :---: | :---: |
|  |  | No. | Value |
|  |  |  | § |
|  | Lobster canneries. | 85 | 168,875 |
|  | Camon canneries.. | ${ }_{5}$ | 6,900 |
|  | Sardine and other fish canneries | - | - |
|  | Fish curing establishments..... Reduction plants.............. | 5 | 13,600 |
| 7 | Total. | 95 | 189,375 |

17. Summary by Provinces of Number of Employees, 1930

18. Summary by Provinces of Capital Equipment, 1930-concluded

19. Summary by Provinces of Number of Employees, 1930

| Quebec |  | Ontario | Manitoba | Saskatchewan | Alberta | British Columbia | Yukon |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sea | Inland |  |  |  |  |  |  |  |
| No. | No. | No. | No. | No. | No. | No. | No. |  |
| $\begin{aligned} & 9,736 \\ & 1,007 \end{aligned}$ | 1,490 | $\stackrel{4,074}{-}$ | 4,781 | 945 | 1,179 | $\begin{array}{r} 12,000 \\ 7,347 \end{array}$ | ${ }_{-}^{38}$ | 9 |
| 10,743 | 1,490 | 4,074 | 4,781 | 945 | 1,179 | 19,347 |  | 10 |

## Fishing Bounty

Under the authority of "An Act to encourage the Development of the Sea Fisheries and the Building of Fishing Vessels", the sum of $\$ 160,000$ is appropriated annually by the Governor in Couneil. It is distributed under the name of Fishing Bounty by the Department of Fisheries amongst fishermen and fishing vessel and boat owners on the Atlantic coast, under regulations made from time to time by the Governor in Council.

For the year 1930, payment was made on the following basis:-
To owners of vessels entitled to receive bounty- $\$ 1$ per registered ton; payment to the owner of any one vessel not to exceed $\$ 80$.

To vessel fishermen entitled to receive bounty- $\$ 7.20$ each.
To owners of boats measuring not less than 12 feet keel- $\$ 1$ per boat.
To boat fishermen entitled to receive bounty- $\$ 6.35$ each.
There were 10,308 bounty claims paid. In the preceding year there were 9,546 bounty claims paid.

The total amount paid in 1930 was $\$ 159,773.55$ allocated as follows:-
To 567 vessels and their crews. . . . . . . . . . . . . \$ . $39,447.60$
To 9,741 boats and their crews................ $\$ 120,325.95$

## Imports and Exports

Canada's exports of fish during the calendar year 1930 had a total value of $\$ 31,869,350$, compared with $\$ 37,546,393$ in 1929 and $\$ 38,096,245$ in 1928. The principal exports in 1930, in order of value, were: salmon, canned, $\$ 6,479,255$; codfish, dried, $\$ 3,774,333$; lobsters, canned, $\$ 3,234,892$; lobsters, fresh, $\$ 2,279,238$; herrings, sea, dry-salted, $\$ 1,567,974$; salmon, fresh and frozen, $\$ 1,514,429$; and whitefish, fresh and frozen, $\$ 1,215,118$. Canned salmon went to 81 different countries, canned lobsters to 27 , and dried codfish to 26 . Herrings, sea, drysalted, went chiefly to China and Japan, while salmon, fresh and frozen, found its main markets in the United Kingdom and the United States, although small shipments were made to other countries. The fish imported into Canada in 1930 was valued at $\$ 3,446,601$, compaerd with $\$ 4,233,906$ in 1929 and $\$ 4,068,074$ in 1928. Sardines and oysters are the principal items of import.

## Historical Review

The five tables following will afford a review of the fishing industry of Canada for the past several years. In the case of production, returns are given by provinces year by year back to 1870 . In the case of the number and value of vessels, boats, etc., the review extends to 1880 , and in the case of the number of employees to 1895.

## 18. Historical Review-(a) Total Value of the Fisheries in the Respective Provinces of

 Canada, from 1870 to 1930| Year | Prince <br> Edward <br> Island | Nova Scotia | $\begin{array}{\|c\|} \hline \text { New } \\ \text { Brunswick } \end{array}$ | Quebec | Ontario | $\begin{aligned} & \text { British } \\ & \text { Columbia } \end{aligned}$ | Manitoba, Saskatchewan, Alberta, and Yukon | $\begin{gathered} \text { Total } \\ \text { for } \\ \text { Canada } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | § | \$ | s | $\leqslant$ | $\leqslant$ | § | $s$ | \$ |
| 1870.. | Not known | $4,019,425$ | 1,131,433 | 1,161,551 | 264, 082 | Not known | Not known | 6,577,391 |
| 1877. | Not known | 5,101,030 | 1,185,033 | 1,093,612 | 193,524 | Not known | Not known | 7,573,199 |
| 1872 | Not known | 6, 016,835 | 1,905,459 | $1,320,189$ | 267,633 | Not known | Not known | 9,570,116 |
| 1873. | 207,595 | 6,577,085 | $\stackrel{2}{2}, 285,662$ | 1,391,564 | 293,091 | Not known | Not known | 10,754,997 |
| 1874. | 288,863 | 6,652,302 | 2,685,794 | 1,608,600 | 446,267 | Not known | Not known | 11,681,886 |
| 1875. | 298,927 | 5,573,851 | 2,427,654 | 1,596,759 | 453,194 | Not known | Not knowa | 10,350,385 |
| 1876. | 494,967 | 6, 029,050 | 1,953,389 | $\stackrel{2}{2}$,097,668 | 437,229 | 104,697 | Not known | 11,117,000 |
| 1877. | 763, 036 | 5,527,858 | 2,133,237 | $\stackrel{2}{2} 560,147$ | 438,223 | 583,433 | Not known | 12,005,931 |
| 1878. | $8.40,314$ | 6,131,600 | 2,305,790 | 2,664,055 | 348,122 | 925,767 | Not known | 13,215,678 |
| 1879. | 1,402;301 | 5,752,937 | 2,551,722 | 2,820,395 | 367, 133 | 631,766 | Not known | 13,529,256 |
| 1880. | 1,675,089 | 6,291,061 | 2,744,447 | 2,631,556 | 444,491 | 713,335 | Not knowa | 14,499,979 |
| 1881. | 1,955,290 | 6, 214,782 | 2,930,901 | 2,751,962 | 509,903 | 1,454,321 | Not known | 15,817,162 |
| 188 | 1,855,687 | 7,131,418 | 3,192,339 | 1,976,516 | 825;457 | 1,842,675 | Not known | 16,824,092 |
| 1883. | 1,272,468 | 7,689,374 | 3,185,674 | 2,138,997 | 1,037,033 | 1,644,646 | Not known | 16,958,192 |
| 1884. | 1,085,619 | 8,763,779 | 3,730,454 | 1,694,561 | 1,133,724 | 1,358,267 | Not known | 17,766,404 |
| 1885. | 1,293,430 | 8,283,922 | 4,005,431 | 1,719,460 | 1,312,692 | 1,078,038 | Not lnown | 17,722,973 |
| 1886 | 1,141,991 | 8,415,352 | 4 4,180,227 | 1,741,382 | 1,435,998 | 1,577,348 | 186,980 | 18,679,288 |
| 1887 | 1,037,426 | 8,379,782 | 3,559,507 | 1,773,567 | 1,531,850 | 1,974,887 | 129,084 | 18,386,103 |
| 1888. | 876,862 | 7,817,030 | 2,941,803 | 1,860,012 | 1,839,869 | 1,902,195 | 180,677 | 17,418,508 |
| 1889. | 886,430 | 6,346,722 | 3,067,039 | 1,876,19t | 1,963,123 | 3,348,007 | 167,679 | 17,655,254 |
| 1880. | 1,041,109 | 6,636,444 | 2,699,055 | 1,615,119 | 2,009,637 | 3,481,432 | 232,104 | 17,714,900 |
| 1891 | 1,238,733 | 7,011,300 | 3,571,050 | 2,008,678 | 1,805,389 | 3,008,755 | 332,969 | 18,977,874 |
| 1892. | 1,179,856 | 6,340,724 | 3,203,922 | 2,236,732 | 2,042,198 | 2,849,483 | 1,088,254 | 18,941,159 |
| 1893. | 1,133,368 | 6,407,279 | 3,746,121 | 2,218,905 | 1,694,930 | 4,443,963 | 1,012,093 | 20,386,659 |
| 1894. | 1,119,738 | 6,547,387 | 4,351,526 | 2,303,386 | 1,559,968 | 3,950,478 | 787,087 | 20,719,570 |
| 1893. | 976,836 | 6,213,131 | 4,403,158 | 1,867,920 | 1,584,473 | 4,401,354 | 752,466 | 20,199,338 |
| 1889 | 970,126 | 6,070,805 | 4,799, 233 | 2,025,754 | 1,605,674 | 4,183,999 | 745,543 | 20,407,424 |
| 1897 | 954,949 | $8,090,346$ | 3,931,135 | 1,737,011 | 1,289,822 | 6,138,865 | 638,416 | 22,783;544 |
| 1899. | 1,070,202 | 7,226,034 | 3,843,357 | 1,761,440 | 1,433,632 | 3,713,101 | 613,355 | 19,667,121 |
| 1899. | 1,013,645 | 7,347,004 | 4,119,891 | 1,953,134 | 1,590,447 | 5,214,074 | 622,911 | 21,891,708 |
| 1900. | 1,059,193 | 7, 809,15? | 3,769,742 | 1,989,279 | 1,333,294 | 4,878,820 | 718,159 | 21,557,639 |
| 1901. | 1,050,623 | 7,989,548 | 4,193,264 | 2,174,459 | 1,428,078 | 7,942,771 | 958,410 | 25,737,153 |
| 1902. | 887,024 | 7,351,753 | 3,912,514 | 2,059,175 | 1,265,708 | 5,284,824 | 1,198,437 | 21,959,433 |
| 1903. | 1,099,510 | 7,811,602 | 4,180,800 | 2,211,792 | 1,535,144 | 4,747,365 | 1,478,665 | 23,100,878 |
| 1904. | 1,077,546 | 7,287,099 | 4,671,08t | 1,751,397 | 1,793,229 | 5,219,107 | 1,716,977 | 23,516,439 |
| 1955. | 998,922 | 8,259,085 | 4,847,090 | 2,003,716 | 1,708,963 | 9,850,216 | 1,811,570 | 29,479,562 |
| 1500 | 1,168,939 | 7,799,160 | 4,905,225 | 2,175,035 | 1,734,855 | 7,003,347 | 1,492,923 | 26,279,485 |
| 1907. | 1,492,695 | 7,632,330 | 5,300,564 | 2,047,390 | 1,935,025 | 6,122,923 | 938,422 | 25,499,349 |
| 1908. | 1,378,624 | 8,009,838 | 4,754,298 | 1,881,817 | $\stackrel{2}{2} 100,078$ | 6,465, 038 | 861,392 | 25,451,085 |
| 1309 | 1,197,557 | 8,081,111 | 4,676,315 | 1,808,437 | 2,177,813 | 10,314,755 | 1,373,181 | 29,629,169 |
| 1910. | 1,153,708 | 10,119,243 | 4,131, 144 | 1,692,475 | 2,026,121 | 9,163,235 | 1,676,216 | 29,965,142 |
| 1911. | 1,196,396 | 9,357,550 | 4,886,157 | 1,868,136 | 2,205,436 | 13,677,125 | 1,467,072 | 34,667,872 |
| 1912. | 1,379, 305 | 7,384,055 | 4,264, 054 | 1,988,241 | 2,842,878 | 14,455,488 | 1,074,843 | 33,389,464 |
| 1913. | 1,280,447 | 8,297,626 | 4,308,707 | 1,850,427 | 2,674,G85 | 13,891,398 | 904,458 | 33,207,748 |
| 1914. | 1,261,666 | 7,730,191 | 4,940,083 | 1,924,430 | 2,755,291 | 11,515,086 | 1,137,884 | 31,264,631 |
| 1915. | 933,682 | 9,166,851 | 4,737,145 | 2,076,851 | 3,341,182 | 14,538,320 | 1,066,677 | 35,860,708 |
| 1916. | 1,344,179 | 10,092,902 | 5,656,859 | 2,991,624 | 2,658,993 | 14,637,346 | 1,826,475 | 39,208,378 |
| 1917. | 1,786,310 | 14,468,319 | 6,143,088 | 3,414,378 | 2,866,419 | 21,518,595 | 2,114, 335 | 52,312,044 |
| 1918. | 1,148,201 | 15,143,066 | 6,298,990 | 4,577,973 | 3,175,111 | 27,282,223 | 2,634,180 | 60,259,744 |
| 1919. | 1,536,844 | 15,171,929 | 4,979,574 | 4,258,731 | 3,410,750 | 25,301,607 | 1,849,044 | 56,508,479 |
| 1920. | 1,708,723 | 12,742,659 | 4,423,745 | 2,592,382 | 3,336,412 | 22,339,161 | 2,108,257 | 49,241,339 |
| 1921. | 924,529 | 9,778,623 | 3,690,726 | 1,815,284 | 3,065,012 | 13,953,670 | 1,704,061 | 34,931,935 |
| 1922. | 1,612,599 | 10,209,258 | 4,685,680 | 2,089,414 | 2,858,122 | 18,849,658 | 1,495,499 | 41,800,210 |
| 1923. | 1,754,980 | 8,448,385 | $4,548,535$ | 2,100,412 | 3,159,427 | 20,795,914 | 1,757,892 | 42,565,545 |
| 1924. | 1,201,72 | 8,777,251 | 5,383,809 | 2,283,314 | 3,557,587 | 21,257,567 | 2,072,935 | 44,534,235 |
| 1925. | 1,598,119 | 10,213,779 | 4,798,589 | 3,044,919 | 3,436,412 | 22,414,618 | $2,435,695$ | 47,943,131 |
| 1926. | 1,358,934 | 12,505,922 | 5,325,478 | 3,110,964 | 3,152,193 | 27,367,109 | 3,510,033 | 56,360,633 |
| 1927. | 1,367,807 | 10,783,631 | 4,406,673 | 2,736,450 | 3,670,229 | 22,890, 913 | 3,267,985 | 49,123,609 |
| 1928. | 1,196,681 | 11,681,995 | 5,001,641 | 2,996,614 | 4,030,753 | 26,562,727 | 3,580,562 | 55,050,973 |
| 1229. | 1,297,125 | 11,427,491 | 5,935,635 | 2,933,339 | 3,919,144 | 23,930,692 | 4,075,095 | 53,518,521 |
| 1930. | 1,141,272 | 10,411,202 | 4,853,575 | 2,502,998 | 3,291,629 | 23,103,302 | 2,497,231 | 47,804,216 |

18. Historical Review-(b) Number and Value of Vessels and Boats engaged in the Fisheries of Canada, together with the Value of Fishing Material used, for the Years 1880, 1885, 1890, 1900, and 1925 to 1930

| Year | Vessels |  | Boats |  | Value of Nets and Seines | Value of other - Fishing Material ${ }^{1}$ | Total Capital Invested |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Value | Number | Value |  |  |  |
| 1880 | 1,181 | $1,814,688$ | 25,266 | $\underset{716,352}{8}$ | $\begin{gathered} 8 \\ 985,978 \end{gathered}$ | $\frac{S}{419,564}$ | $\frac{\$}{3,938,582}$ |
| 1885. | 1,177 | 2,021,633 | 28,472 | 852,257 | 1,219,284 | 2,604,285 | $6,697,459$ |
| 1890. | 1,069 | 2,152,790 | 29,803 | 924,346 | 1,695,358 | 2,600,147 | 7,372,641 |
| 1895. | 1,121 | 2,318,290 | 34,268 | 1,014,057 | 1,713,190 | 4,208,311 | 9,253,848 |
| 1900. | 1,212 | 1,940,329 | 38,930 | 1,248,171 | 2,405,860 | 5,395,765 | 10,990,125 |
| 1905. | 1,38t | 2,813,834 | 41,463 | 1,373,337 | 2,310,508 | 6,383,218 | 12,880,897 |
| 1906. | 1,439 | 2,841,875 | 39,634 | 1,462,374 | 2,426,341 | 7,824,975 | 14,555,565 |
| 1907. | 1,390 | 2, 748,231 | 38,711 | 1,437,196 | 2,206,722 | 8,374,440 | 14,826,593 |
| 1908. | 1,441 | 3,571,871 | 39,965 | 1,696,856 | 2,283,127 | 7,957,500 | 15,509, 354 |
| 1909. | 1,750 | 3,303,121 | 41,170 | 1,855,629 | 2,572,820 | 9,626,362 | 17,357,932 |
| 1910 | 1,680 | 3,028,625 | 38,977 | 2,483,996 | 2,780,518 | 10,720,701 | 19,019,870 |
| 1911. | 1,648 | 3,502,928 | 36,761 | 2,695,650 | 2,453,191 | 12,281,135 | 20,932,904 |
| 1912. | 1,669 | 4,671,923 | 34,501 | 3,072,115 | 4,154,880 | 12,489,541 | 24,388,459 |
| 1913. | 1,992 | 4,445,259 | 37,686 | 3,834,178 | 3,423,110 | 15,761,186 | 27,464,033 |
| 1914. | 1,802 | 4,390,660 | 39,144 | 3,957,912 | 3,313,581 | 13,071,009 | 24,733,162 |
| 1915. | 1,984 | $4,594,50!$ | 38,536 | 4,345,954 | 3,544,087 | 13,371,030 | 25,855,575 |
| 1916. | 1,965 | 5,267,724 | 40,105 | 4,829,793 | 4,485,269 | 14,146,176 | 28,728,952 |
| 1917. | 1,533 | 6,268,946 | 42,689 | 5,770,464 | 5,347,497 | 29,756,218 | 47,143,125 |
| 1918 | 1,417 | 6,790,888 | 38,726 | 7,059,638 | 6,174,967 | 40,196,370 | 60,221,853 |
| 1919 | 1,373 | 7,768,160 | 36,434 | 7,470,095 | 6,312,245 | 33,026,520 | 54,577,026 |
| 1920. | 1,228 | 8,316,071 | 30,522 | 7,859,999 | 6,697,214 | 27,532,194 | 50,405,478 |
| 1921. | 1,145 | 6,326,803 | 31,747 | 7,379,606 | 6,112,142 | 25,850,926 | 45,669,477 |
| 1922 | 1,251 | 6,704,986 | 35,166 | 6,896,512 | 5,876,309 | 28,287,181 | 47, 764,988 |
| 1323. | 1,162 | 6,249,971 | 32,360 | 5,813,421 | 5,656,712 | 29,952,846 | $47,672,950$ |
| 1924. | 1,211 | 5,612,448 | 34,110 | 6,232,613 | 5,530,556 | 26,481,733 | 43,857,350 |
| 1925. | 1,399 | 6,702,074 | 34,835 | 6,809,445 | 6,203,876 | 27,157,235 | 40,872,630 |
| 1926. | 1,560 | 8,642,596 | 35,564 | 7,431,191 | 6,684,269 | 35,148,628 | 57,003,684 |
| 1927. | 1,727 | 10,473,032 | 36,703 | 7,713,204 | 7,350,636 | 30,769,589 | 55,300, 261 |
| 1928 | 1,577 | 9,652,435 | 35, 843 | 8,277,605 | 7,074,146 | 33,068,185 | 58,072,371 |
| 1929 | 1,470 | 10,020,484 | 38,285 | 0,267,222 | 8,005,926 | 35,284,812 | 62,579,44 |
| 1930. | 1,368 | 9,583,739 | 37,160 | 10,051,019 | 7,428,507 | 36,963,032 | 64,036,297 |

Comprises fish canning and curing establishments, small fish and smoke houses, ice-houses, fishing piers and wharwes
lobster and crab traps, weirs, trawls, and all other fishing material except "vessels" "boats," and "nets and seines."
18. Historical Review-(c) Number of Persons employed in the Fisheries Industry of Canada for the years 1895,1900 and 1905 to 1930

|  | Year | Number of Persons in Canneries and <br> Fish louses | Number of Men in Vesscls | Number of Men in Boats | Number of Мел Fishing, not in Boats ${ }^{1}$ | Total Number of Fishermen | Total Number of Persons in Fishing Industry |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1895. |  | 13,030 | 9,804 | 61,530 | - | 71,334 | 84,364 |
| 1900. |  | 18,205 | 9,205 | 71,859 |  | 81,054 | 99,269 |
| 1905. |  | 14,037 | 9,366 | 73,505 | - | 82,871 | 96,903 |
| 1906. |  | 12,317 | 8,458 | 67,646 |  | 76,101 | 89, 021 |
| 1907. |  | 11,442 | 8,089 | 63,105 | - | 71,254 | 82,696 |
| 1908. |  | 13,753 | 8,550 | 62,520 | - | 71,070 | 84,833 |
| 1909. |  | 21,694 | 7,031 | 60,732 | - | 68,663 | 90,337 |
| 1910. |  | 24,978 | 8,521 | 60,089 | - | 68,610 | 93,588 |
| 1911. |  | 25,206 | 9,056 | 56,870 | - | 65,926 |  |
| 1912. |  | 23,327 | 9,076 | 56,005 | - | 65,081 | 88,408 |
| 1913. |  | 26,893 | 10,525 | 61,251 | - | 71,776 | ${ }^{98}$, 669 |
| 1914. |  | 24,559 | 9,400 | 60,554 | - | 69,954 | 94,513 |
| 1915. |  | 27,320 | 9,541 | 65,321 | - | 74,862 | 102,182 |
| 1916. |  | 25,680 | 9,192 | 60,432 |  | 69,624 | 95,304 |
| 1917. |  | 22,732 | 8,946 | 62,700 | 744 | 72,390 | ${ }^{95}, 122$ |
| 1918. |  | 18,554 | 8,668 | 58,110 | 1,738 | 68,516 | 87,070 |
| 1919. |  | 18,356 | 8,908 | 56,280 | 2,616 | 67,804 | 86,160 |
| 1920. |  | 18,499 | 7,918 | 47,418 | 1,861 | 57,197 | 73, 696 |
| 1921. |  | 14,104 | 6,899 | 46,580 | 1,751 | 55,230 | 69,33: |
| 1922. |  | 16,577 | 7,503 | 48,480 | 1,897 | 57,880 | 74,4is |
| 1923. |  | 15,447 | 6,694 | 44,482 | 2,341 | 53,517 | 68, 680 |
| 1924. |  | 15,536 | 6,663 | 44,326 | 2,925 | 53,914 | 69, 450 |
| 1925. |  | 16,272 | 7,566 | 47,531 | 3,176 | 58,273 | It,545 |
| 1926. |  | 17,408 | 8,638 | 49,058 | 3,675 | 61,371 | 78,7 |
| 1927. |  | 16,697 | 8,851 | 48,800 | 5,764 | 63,415 | 88 |
| 1928. |  | 15,434 | 8,560 | 46,784 | 7,441 | 62,785 | 78,29 |
| 1929. |  | 16,367 | 7,979 | 48,247 | 7,857 | 64,083 | 89,599 |
| 1930. |  | 15,722 | 7,545 | 48,691 | 7,600 | 63,836 | 79,593 |

${ }^{1}$ Not separately classified previous to 1917.
18. (d) Total Capital Investment of the Fisheries Industry by Provinces, for the Years 1880, 1885, 1890, 1895 and 1900 to 1930

| Year | Prince Edward Island | Nova Scotia | New <br> Brunswick | Quebec | Ontario | British Columbia | Manitoba, chewan, Aberta and Yukon | Canada - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \$ | S | $\$$ | \$ | \$ | S | \$ | S |
| 1880. | 106,011 | 2,225,493 | 490,714 | 756,796 | 177,543 | 182,025 | Not known | 3,938,582 |
| 1885. | 493,143. | 3,010,000 | 1,075,879 | 930,358 | 378,274 | 809,805 | - | 6,697,459 |
| 1890. | 348,320 | 3,243,310 | 1,184,745 | 521,544 | 563,443 | 1,511,279 | * | 7,372,641 |
| 1895. | 479,639 | 3,139,968 | 1,710,347 | 804,703 | 831,505 | 2,085,435 | 202,251 | 9,253,848 |
| 1900. | 442,120 | 3,278,623 | 2,361,087 | 830.869 | 789, 042 | $2,987,104$ | 301,280 | 10,990,125 |
| 1901. | 425,589 | 3,319,334 | 2,233,825 | ,954,661 | 750,921 | 3,360,082 | 446,888 | 11,491,300 |
| 1902. | 395,648 | 3,485,480 | 1,943,654 | 1,014,168 | 816,392 | 3,160,683 | 489,925 | 11,305,959 |
| 1903. | 464,792 | 3,937,428 | 2,005,391 | 1,124,848 | 846,368 | 3,256,102 | 606,525 | 12,241,454 |
| 1901. | 444,868 | 4,016,661 | 2,113,377 | 1,243,085 | 931,097 | 2,935,416 | 672,438 | 12,356,942 |
| 1905. | 417,951 | 4,361,897 | 2,182,059 | 1,138,875 | 960,700 | 3,158,145 | 661,270 | 12,880,897 |
| 1905. | 460,694 | 4,529,301 | 2,171,083 | 1,207,515 | 942,910 | 4,591,560 | 652,502 | 14,555,565 |
| $190 \%$. | 488,905 | 4,469,041 | 2,332,455 | 1,134,315 | 1,099,403 | 4,767,853 | 534,610 | 14,826,592 |
| 1905. | 547.714 | 5,052,148 | 2,365,563 | 1,101,746 | 1,125,884 | $4,898,854$ | 417,445 | 15,509,354 |
| 1909. | 538,828 | 5,014, 909 | 2,346,467 | 1,097,767 | 1,147,075 | 6,823,852 | 359,034 | 17,357,932 |
| 1910. | 601,753 | 5,334,083 | 2,576,795 | 1,031,813 | 1,165,229 | 7,830,976 | 479,221 | 19,019,870 |
| 1911. | 641,731 | 5,645,276 | 2,894,795 | 1,215,532 | 1,170,365 | 8,903, 000 | 462,205 | 20,932,904 |
| 1912. | 851,070 | 6,531,590 | 3,508,899 | 1,440,114 | 1,808,404 | 9,941, 019 | 307,333 | 24,388,459 |
| 1913. | 948,667 | 7,110,210 | 3,600,547 | 1,445,871 | 1,506,581 | 12,489,613 | 362,544 | 27,464,033 |
| 1914. | 1,030,464 | $7,568,821$ | 3,765,020 | 1,392,039 | 1,752,339 | 8,829,740 | 394,739 | 24,733,162 |
| 1915 | 1,024,268 | 7,899,112 | 3,958,714 | 1,464,373 | 1,864,732 | 9.141,915 | 505,461 | 25,855,575 |
| 1916. | 1,178,148 | 8,661,643 | 4,487,601 | 1, 479,593 | 2,027,018 | 10,371,303 | 523,655 | 28,728,962 |
| 1917. | 1,770,949 | 11,702,311 | 5,733, 071 | 3,283,218 | 2,331,182 | 21,696,345 | 626,049 | 47,143,125 |
| 1918. | 1,529,184 | 13.084,412 | 6,960,32 | 4,469,164 | 2,694,102 | 30,478,437 | 1,005,237 | 60,221,863 |
| 1919. | 1,528,541 | 13,971,628 | 5,878,652 | 3,767,293 | 3,039,682 | 25,373,497 | 1,017,733 | 54,577,026 |
| 1920. | 1,309,179 | 13,347,270 | 4,931,856 | 3,246,442 | 3,269,971 | 23,290,359 | 1,010,401 | 50,405,478 |
| 1921. | 970,798 | 12,265,465 | 4,436,076 | 2,735,617 | 3,151,715 | 21,135,723 | 974,083 | 45,669,477 |
| 1922 | 1,161,325 | 12,860,960 | 4,614,008 | 2,142,572 | 3,352,410 | 22,763,363 | 870,350 | 47,764,988 |
| 1923. | 1,278,481 | 12,188,808 | 4,574,617 | $\frac{2}{2} 267,511$ | 2,807,368 | $23,577,988$ | -978,177 | 47,672,950 |
| 1924. | 1,211,858 | 10,990,472 | 5,357,891 | 2,328,671 | 2,995,362 | 19,905, 883 | 1,057,213 | 43,857,350 |
| 1925. | 1,237,972 | 11, 774,790 | 5,247,448 | 2,708,230 | 3,235,510 | 21,674,384 | 1,094,087 | 46,872,630 |
| 1926. | 1,166,620 | 12,094,428 | 5,369,112 | 2,766,536 | 3,337,737 | 31,862,753 | 1,309,498 | 57,905,684 |
| 1927. | 1,117,473 | 11,469,249 | 5,526,988 | 2,408,274 | 3,257,190 | 31,117,980 | 1,409,301 | 56,306,461 |
| 1928. | 940,944 | 11,079,262 | 5,655,548 | 2,434,693 | 3,432,528 | 32,926,325 | 1,603,071 | 58,072,371 |
| 1929. | 905,125 | 11,252,655 | 5,886,719 | 2,800,987 | 3,479,380 | 36,256,087 | 1,998,491 | 62,579,444 |
| 1830. | 930,037 | 11,244,740 | 5,927,643 | 2,886,847 | 3,423,012 | 37,661,577 | 1,952,441 | 64,026,297 |

18. (e) Total Number of Persons Employed in the Fisheries Industry of Canada, by Provinces, 1895 and 1900 to 1930


## GENERAL TABLES

I. FISH CAUGHT AND MARKETED, 1930 - QUANTITIES AND VALUES.
II. AGENCIES OF PRODUCTION, 1930 - CAPITAL EQUIPMENT EMPLOYEES, ETC.

## Part I. IN PRIMARY OPERATIONS.

Part II. IN FISH CANNING AND CURING ESTABLISHMENTS.
(a) General Summary of Statistics.
(b) Capital Invested.
(c) Employees, and Salaries and Wages.
(d) Number of Wage-earners by Months.
(e) Quantity and Value of Fuel Used.
(f) Power Equipment.
(g) Time in Operation and Hours Worked.
(h) Classification of Establishments According to Value of Product.
(i) Classification of Establishments According to Number of Employees.
(j) Classification of Wage-earners According to Hours of Work.
III. SPECIAL TABLES.
(1) Classification of Vessels and Boats used in the Sea Fisheries, According to the Principal Kinds of Fish Taken, 1930.
(2) Imports and Exports of Fish and Fish Products, calendar years, 1928, 1929 and 1930.
(3) The Salmon Pack of British Columbia, 1920-1930.
(4) The Lobster Pack of Canada, 1920-1930.
(5) Table for Conversion of Weights of Fish.
(6) Fishing Bounties, 1930.
I. Fish Caught and Marketed, 1930

|  | Fishing Districts | Cod |  |  |  |  |  |  | Haddock |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { Caugh } \\ & \text { and } \\ & \text { landed } \end{aligned}$ | Marketed |  |  |  |  |  | $\begin{aligned} & \text { Caught } \\ & \text { and } \\ & \text { landed } \end{aligned}$ | Marketed |  |
|  |  |  | Used fresh | Fresh fillets | Greensalted | Dried | $\begin{gathered} \text { Bone- } \\ \text { less } \end{gathered}$ | ${ }_{\text {Cod }}^{\text {Cod }}$ |  | $\begin{aligned} & \text { Used } \\ & \text { iresh } \end{aligned}$ | $\begin{array}{\|l\|l} \text { Green- } \\ \text { salted } \end{array}$ |
| Prince Edward Island <br> Totals for Province- <br> Quantity $\qquad$ <br> Value........................... <br> Kings County (all)Total quantity Total value. $\qquad$ <br> Queens County (all)Total quantity <br> Total value. $\qquad$ <br> Prince County- <br> East Prince. <br> West Prince. <br> Total quantity. <br> Total value |  | cwt. | cwt. | cwt. | ${ }^{\text {ew }}$ | cwt. | cwt. | gal. | ewt. | ewt. | cowt. |
|  |  | 66,255103,529 | $\begin{aligned} & 10,694 \\ & 40,910 \end{aligned}$ | 1199 | 26,582 | $\begin{array}{r} 431 \\ 2,510 \end{array}$ | $\begin{array}{r} 267 \\ 3,338 \end{array}$ | $\begin{aligned} & \mathbf{5 , 4 2 0} \\ & 1,626 \end{aligned}$ | $1,502$ | $1,454$ | 16 |
|  |  | 106,303 |  |  | ${ }_{6} 1$ |  |  |  |  |  |
|  |  | $\underset{\substack{16,651 \\ 28,494}}{ }$ | 109 327 | $\begin{aligned} & 11 \\ & 999 \end{aligned}$ | $\begin{gathered} 7,119 \\ 30,891 \\ 30, \end{gathered}$ | $\begin{array}{r} 400 \\ 2,200 \end{array}$ | $\begin{array}{r} 267 \\ 3,338 \end{array}$ | 350 105 | 882 1,038 | 834 1,668 | ${ }_{6}^{16}$ |
|  |  | 32,056 50,689 | $\begin{array}{r} 8,498 \\ 33,992 \end{array}$ | - | $\begin{aligned} & 11,779 \\ & 54,335 \end{aligned}$ | - | - | 3,000 900 | 630 1,835 | 620 3,100 | - |
|  |  |  | $\begin{array}{r} 330 \\ 1,757 \end{array}$ | - |  | 31 | - |  | - | - |  |
|  |  | $\begin{gathered} 17,548 \\ \hline \end{gathered}$ | 2,087 |  | $\begin{array}{r} 7,684 \\ 21,077 \end{array}$ | 310 310 |  | 2,070 |  |  | - |
| Fishing Districts |  |  | Salmon |  | Snelts |  | Caplin |  | Eels |  | Tom Cod |  |
|  |  | $\begin{gathered} \text { Cught } \\ \text { and } \\ \text { landed } \end{gathered}$ | $\xrightarrow[\text { Mar- }]{\text { keted }}$ | $\begin{gathered} \text { Caught } \\ \text { and } \\ \text { landed } \end{gathered}$ | $\begin{aligned} & \text { Mar- } \\ & \text { Keted } \\ & \hline \begin{array}{c} \text { Useell } \\ \text { fresh } \end{array} \end{aligned}$ | $\begin{gathered} \text { Caught } \\ \text { and } \\ \text { anded } \end{gathered}$ | $\begin{gathered} \begin{array}{c} \text { Mared } \\ \text { keted } \\ \text { fred } \\ \text { fresh } \end{array} \\ \hline \end{gathered}$ | $\begin{gathered} \text { Caught } \\ \text { anded } \\ \text { landed } \end{gathered}$ | $\underset{\text { Mar-d }}{\text { Mar }}$ | Caught and landed | Mar- <br> keted <br> Ksed <br> Usesh |
|  |  | Used fresh | Used freslı |  |  |  |  |  |  |  |  |
| Prince Edward |  |  | ewt. | owt. | cwt. | cwt. | bbl. | bbl. | cwt. | ewt. | cwt. | cwt. |
|  | Quantity | $\begin{array}{r} 106 \\ 2,120 \end{array}$ | 106 | 7,789 | 7,789 | 1,041 | 1,041 | 130 | 130 | 1,352 | 1,339 |
|  | lue .................s |  | 2,120 | 59,463 | 63,828 | 4,339 | 4,339. | 812 | 1,300 | 3,268 | 3,268 |
|  | Kings County (all)Total quantity................ | $\begin{array}{r} 106 \\ 2,120 \end{array}$ | $\begin{gathered} 106 \\ 2,120 \end{gathered}$ | 7, ${ }^{7133}$ | $\begin{array}{r} 703 \\ 7,133 \end{array}$ | $\begin{gathered} 621 \\ \mathbf{2}, 339 \end{gathered}$ | 621 2,339 |  |  |  |  |
|  | Queens County (all)Total quantity. Total value | - |  | $\begin{aligned} & 4,431 \\ & 31,088 \end{aligned}$ | $\begin{aligned} & 4,431 \\ & 35 ; 448 \end{aligned}$ | $\begin{aligned} & 210 \\ & 840 \end{aligned}$ | ${ }_{840}^{210}$ | ${ }_{742}^{120}$ | $\begin{array}{r} 120 \\ 1,200 \end{array}$ | 337 933 | ${ }_{933}^{337}$ |
|  | Prince County - <br> East Prince... <br> West Prince | - |  | $\begin{array}{r} 2,165 \\ 490 \end{array}$ | ${ }_{2}^{2,160}$ | 210 | 210 | 10 | 10 | $\begin{aligned} & 710 \\ & 305 \end{aligned}$ | 710 305 |
| ${ }^{9} 9$ | Total quantity .............. | - | - | $\begin{array}{r} 2,655 \\ 21,247 \end{array}$ | $\begin{gathered} 2,655 \\ 21,247 \end{gathered}$ | $\begin{array}{r} 210 \\ 1,160 \end{array}$ | $\begin{array}{r} 210 \\ 1,160 \end{array}$ | $\begin{gathered} 10 \\ 100 \end{gathered}$ | 10 | $\begin{aligned} & 1,015 \\ & 2.335 \end{aligned}$ | ${ }_{1}^{1,015}$ |

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930 - con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Gaught and Marketed, 1930 -con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

${ }^{1}$ Used in the production of fish oil and meal.
I. Fish Caught and Marketed, 1930-con.


[^14]I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Gaught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

| Herring |  |  |  |  |  |  | Mackerel |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Caught and landed | Marketed |  |  |  |  |  | $\begin{aligned} & \text { Caught } \\ & \text { and } \end{aligned}$ | Marketed |  |  |  |  |
|  | Used fresh | $\begin{aligned} & \text { Bone- } \\ & \text { Iess } \end{aligned}$ | Smoked | Pickled | Used as bait | Fertilizer |  | Used fresh | $\begin{aligned} & \text { Can- } \\ & \text { ned } \end{aligned}$ | Smoked | Pickled |  |
| cwit. | ewt. | cwt. | ewt. | bbl. | bbl. | bbl. | cwt. | cwt. | cases | cowt. | bbl. |  |
| 5,048 | 2,013 | - | - | 400 | 1,944 | - | 6,076 | 1,646 | - | - | 1,804 |  |
| 10.608 | - | - | - | 289 | 3,175 | - | 3,089 | 1,64 | - | - | 1,969 | 2 |
|  |  | - | - | 330 | 618 | - | 15,657 | - | - | - | 5,219 | 3 |
| 17,882 17,882 | 2,013 | - | - | 1,019 5,911 | 5,737 15,061 | - | 24,822 58,485 | 1,646 7,137 | - | - | 7,992 72,788 | $\frac{4}{5}$ |
| 2,380 | 200 | - | - | 493 | 350 | - | 800 | 160 | - | - | 213 | 6 |
| 2,400 | 230 | - - | $-$ | 457 | 400 | - | 750 | 100 | - | - | 217 | 7 |
| 3,282 | 1,088 | - | 268 | . 365 | 699 | - | 5,571 | 2,729 | - | - | 1.610 | 8 |
| 6,825 | 45 | - | - | 1,876 |  | - | 20,233 | 2,070 | - | - | 5.380 | 9 |
| 14,887 | 1,563 | - | 2 268 | 3,191 | 1,449 | - | 27,354 | 5,059 | - | - | 7,420 | 10 |
| 19,817 | 4,291 | - | 2,429 | 13,178 | 8,400 | - | 82,813 | 37,762 | - | - | 67,960 | 11 |
| 115 | 10 | - | 15 | 25 | - | - | - | - | - | - | - | 12 |
| 12,312 | 10. ${ }^{-}$ | - | $\overline{-}$ | 2,462 | 1,775 | - | 12,156 | 3,753 | - | - | 2,601 | 14 |
| 14,500 | 10,548 | - | 98 | 1,000 | 650 | - | 2,070 | 2,718 | - | 54 | 2,001 | 15 |
| 26,812 36,962 | 10,548 | - | 98 | 3,462 | 2,425 | - | 14,226 | 6,471 | - | 54 | 2,601 | 16 |
| 36,962 | 31,264 | - | 302 | 18,707 | 5,481 | - | 39,360 | 22,131 | - | 216 | 24,337 | 17 |
| 10.093 | 10,487 | 8 | 12 | 113 | 496 | - | 4,735 | 2,471 | - | 75 | 719 | 18 |
| 10,093 | 29,890, | 80 | 30 | 565 | 1,764 | - | 19,082 | 14,226 | - | 600 | 7.310 | 19 |
| 23,600 | 20,799 | - | 119 | 185 | 800 | - | 11 | 11 | - | - | - | 20 |
| 7,606 | 994 | - | - | 30 | 3,261 | - | - 562 | 500 | 40 | - | - | 21 |
| $\begin{aligned} & 31,206 \\ & 25,198 \end{aligned}$ | $\begin{aligned} & 21,793 \\ & 71,614 \end{aligned}$ | - | 119 1,021 | $\begin{array}{r} 215 \\ 1,290 \end{array}$ | 4,061 19,385 | - | $\begin{array}{r} 573 \\ 1,865 \end{array}$ | $\begin{array}{r} 511 \\ 3,555 \end{array}$ | 40 140 | - | - | 23 |
| 1,413 | 35 | - | - | 26 | 650 | - | 37 | 37 | - | - | - | 24 |
| 25,864 | 5,040 | - | 683 | 1,081 | 7,987 | - | 5,046 | 3,099 | - | 2 | 641 | 25 |
| 27,277 | 5,075 | - | 683 | 1,107 | 8.637 | - | 5,083 | 3,136 | - | $\stackrel{2}{2}$ | 641 | 26 |
| 20,462 | 15,037 | - | 1,523 | 5,196 | 39,167 | - | 12,068 | 13,032 | - | 30 | 5,304 | 27 |
| 1,205 | 5 | - | - | - | 600 | - | 120 | 120 | - | - | - | 28 |
| [2,496 | 1,524 | - | 1,121 | 131 | 4,169 | - | 20 | - | - | - | - | 29 |
| 13,701 | 1,529 | - | 1,121 | 131 | 4,769 | - | 140 | 120 | - | - | - | 30 |
| 11,305 | 3,189 | - | 7,547 | 1,048. | 11,124 | - | 512 | 600 | - | - | - | 31 |
| 6, 195 | 4.472 | - | 15 | 85 | 625 | 94 | 43 | 43 | - | $\cdots$ | - | 32 |
| 7,864 | 8,944 | - | 90 | 510 | 937 | 291 | 430 | 430 | - | - | - | 33 |
| 4.351 | 215 | - | 1,579 | 170 | 234 | - | 155 | 65 | - | - | 30 |  |
| 4,351 | 215 | - | 3,316 | 595 | 225 | - | 1,101 | 741 | - | - | 360 | 13 |

I. Fish Caught and Marketed, 1930-con.

|  |
| :--- |

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

"Used in the production of fish oil and menl.
$32310-6 \frac{1}{2}$
I. Fish Caught and Marketed, 1930-con.

I. Fish Gaught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

| Alewives |  |  |  |  |  | Bass |  | Perch |  | Salmon |  | Shad |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Caught and landed | Marketed |  |  |  |  | $\begin{gathered} \text { Caught } \\ \text { and } \\ \text { landed } \end{gathered}$ | Marketed | $\begin{gathered} \text { Caught } \\ \text { and } \\ \text { landed } \end{gathered}$ | Marketed | $\begin{aligned} & \text { Caught } \\ & \text { and } \\ & \text { landed } \end{aligned}$ | Marketed <br> Used fresh | $\begin{gathered} \text { Caught } \\ \text { and } \\ \text { landed } \end{gathered}$ | Marketed <br> Used fresh |  |
|  | Used fresh | Smoked | Salted | Used as bait | Fertjlizer |  | Used fresh |  | Used fresh |  |  |  |  |  |
| cwt. | cwt. | cwt. | bbl. | bbl. | bbl. | cwt. | cwt. | cwt. - | crvt. | cut. | cwt. | cwt. | cwt. |  |
| $\begin{aligned} & 47,247 \\ & 32,971 \end{aligned}$ | $\begin{aligned} & 4,451 \\ & 9,308 \end{aligned}$ | $\begin{aligned} & 1,000 \\ & 4,000 \end{aligned}$ | $\begin{aligned} & 11,535 \\ & 57,869 \end{aligned}$ | $\begin{aligned} & 275 \\ & 187 \end{aligned}$ | $\begin{array}{r} 1,875 \\ 937 \end{array}$ |  | $\begin{array}{r} 88 \\ 1,733 \end{array}$ | $\begin{aligned} & 3 \\ & 9 \end{aligned}$ | 3 | 33,326 <br> 479,710 | $\begin{array}{r} 34,108 \\ 641,734 \end{array}$ | $\begin{array}{r} 3,490 \\ 21,410 \end{array}$ | $\begin{array}{r} 3,490 \\ 28,117 \end{array}$ | 12 |
|  |  |  |  |  |  |  |  |  | 9 |  |  |  |  |  |
| - | - | - | - | - | - | - | - | - | - | - | 203 | - | - | 3 |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 |
| - | - | - | - | - | - | - | - | - | - | - | 4,064 | - | - | 8 |
| 29,925 22,443 | 4.106 8.723 | 1,000 4,000 | 8,739 44,895 | - | - | - | - | - | - | 5,925 79,098 | 5,722 65,038 | 1,770 13,275 | 1,770 16,507 | 10 |
| 5 20 | 20 | - | - | - | - | - | - | - | - | 32 ${ }^{2}$ | 32 | - | - | 12 |
| - | - | - | - | - | - | - | - | - | - | 114 | 114 | 161 | - | 14 |
| - | - | - | - | - | - | - | - | - | - | 114 1,862 | 114 1,862 | 161 2,918 | 161 2,918 | 17 |
| 100 | 100 | - | - | - | - | $-$ | - | - | - | - - | - | $-$ | - | 18 |
| 1,518 | - | - | 552 | - | - | 39 | 39 | 3 | 3 | 3,746 | 3,746 192 | 210 | 210 | 19 |
| 1,618 | 100 | - | 552 | - | - | 47 | 47 | 3 | 3 | 3,938 | 3,938 | 210 |  | 21 |
| 1,643 | 125 | - | 3,312 | - | - | 681 | 833 | 9 | 9 | 53,506 | 71,971 | 630 | 1,050 | 22 |
| - | - | - | - | - | - | 19 | 19 | - | - | 10,024 | 10, 024 | -- | - | 23 |
| 824 | 200 | - | 227 | - | - | 12 | 12. | - | - | 1,714 | 1,714 | 719 | 719 | 24 |
| 3,937 | 40 | - | 1,417 | - | - | 10 | 10. | - | - | 299 | 299 | 030 | 630 | 25 |
| 4,761 6,806 | 240 440 | - | 1,644 7,387 | - | - | 41 562 | 41 900 | - | - | 12,037 180,490 | 12,037 291,981 | 1,349 4,587 | 1,349 7,642 | 27 |
| 3,938 | - | - | 650 | 275 | 1,875 | - | - | - | - | 1,480 | 1,480 | - | - | 28 |
| - | - | - | - | - | - | - | - | - | - | 2,300 | 2,300 | - | - | 29 |
| - | - | - | - | - | - | - | - | - | - | 1,084 | 1,084 | - |  | 30 |
| - | - | - | - | - |  | - | - | - | $\stackrel{-}{-}$ | 2,557 | 2,557 | - | - |  |
| $\begin{aligned} & 3,938 \\ & \mathbf{1 , 9 6 9} \end{aligned}$ | - | - | $\begin{array}{r} 650 \\ 2,275 \end{array}$ | $\begin{array}{r\|r\|} 275 & 1,875 \\ 187 & 937 \\ \hline \end{array}$ |  | $-$ | - | - | -- | $\begin{array}{r} 7,421 \\ 102,498 \end{array}$ | $\begin{array}{r} 7,421 \\ 119,883 \end{array}$ | - | - | 33 |
| - | - | - | - | - | - | - | - | - | - | 3,889 | 4.671 | - | - | 35 |
| - | - | - | - | - |  | - | - |  |  | 62,224 | 86,903 | - |  |  |

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Gaught and Marketed, 1930-con.

${ }^{1}$ The values given for the counties are the marketed values.
I. Fish Caught and Marketed, 1930 -con.

| Eels | Mullets | Perch | Pickerel | Salmon | Shad | Suckers | Sturgeon | Caviar | Whitefish |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| cwt. | cwt. | cwt. | cwt. | cwt. | cwt. | cwt. | cwt. | Ib. | cwt. |  |
| 80 | 145 | 7 | 270 | 932 | 1,331 | 5 | 15 | 50 | 15 | 1 |
| 240 | 435 | 31 | 3,240 | 21,152 | 2,160 | 15 | 300 | - | 160 | 2 |
| 240 | 435 | 31 | 3,240 | 21,152 | 7,160 | 15 | 300 | 50 | 160 | 3 |
| - | - | - | - |  | 50 450 | - | - | - | 5 60 | - 5 |
| - | - | - | - | 120 3,000 | 3 | - | - | - | - | 6 7 |
| - | 15 45 | - | - | 255 5,610 | 16 96 | - | - | - | - | 8 |
| 10 30 | - | 5 25 | 80 960 | 71 1,775 | 19 152 | 5 <br> 15 | - | - |  |  |
| 45 | 110 | 1 | 115 | 9 | 1,032 | - | - | - | - | 12 |
| 25 | 20 | 1. | 75 |  | 212 | - | 15 | 50 | 10 |  |
| 75 | 60 | 3 | 900 | 10,362 | 1,272 | - | 30 | 50 | 100 | 15 |

Norz.-In addition to the quantities shown in the above table, there were taken by anglers in inland waters of New Brunswick 939 cwt. of fish, valued at $\$ 16,795$.
I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930 -con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con:

I. Fish Caught and Marketed, 1930-con.

|  | Fishing Districts | Bass | Carp | Cat6ish | Eels | Herring | Maski- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Quebec-Inland Fisheries ${ }^{1}$ |  | cwt. | cwt. | cwt | cwt | cwt | awt. |
|  |  | $\begin{array}{r} 617 \\ 10,230 \\ 147 \\ 1,470 \\ - \\ 7 \\ 7 \\ 76 \\ 7,78 \\ 1,185 \\ - \end{array}$ | $\begin{array}{r} 4,783 \\ 38,900 \\ \\ 108 \\ 324 \\ - \\ \hline \\ \hline 86 \\ 688 \\ 36 \\ 360 \end{array}$ | $\begin{array}{r} 4,243 \\ 41,640 \end{array}$ | $\begin{array}{r} 12,734 \\ 115,939 \end{array}$ | $\begin{array}{r} 5,441 \\ 30,281 \end{array}$ | ${ }^{147}$ |
|  |  | 3,975 |  |  |  |  |
|  |  |  |  | 2, 862 |  |  |
|  |  |  |  |  | 418 |  |
|  |  |  |  | , 710 | 5,016 |  |
|  |  |  |  | 7,455 | 875 |  |
|  |  | - |  | - | - |  |
|  |  |  |  |  | 4,818 |  |
|  |  |  |  |  |  |  |  |
|  |  | 2,781 | 1,372 |  | 50,679 | -5,411 |  |
|  |  |  |  |  |  |  |  |
|  |  | 150 | 256 | 1,746 | 210 |  |  |
|  |  | 30 600 | 31 310 | 38 460 |  |  |  |
|  |  |  | 14 | 134 |  |  |  |
|  |  |  |  | 1,3土0 | ${ }^{636}$ |  |  |
|  |  |  | 304 | 800 | 224 |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  | 330 | 364 | $\stackrel{7}{220}$ |  |  |
|  |  | = | 3,300 | 5,390 | 2,200 |  | 1,880 |
|  |  |  |  | 1,040 |  |  |  |
|  |  | - | 40 400 |  | ${ }_{990}^{99}$ |  |  |
|  |  | = | 97 | 27 |  |  |  |
|  |  |  |  |  |  |  | 300 |
|  |  | 36 | 70 | 1,408 | 410 |  |  |
|  |  |  |  |  |  |  |  |
|  |  | 248 | ${ }^{9,200}$ |  |  |  |  |
|  |  |  | 2,220 | 2,085 |  |  | 100 |
|  |  | 70 |  | 10 | 34,770 |  |  |
|  |  |  |  |  |  |  |  |
|  |  | = |  |  |  |  |  |
|  |  | - | 2,460 |  |  |  |  |
|  |  |  | ${ }_{44}^{4}$ |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | 2,550 | 3,340 | 2,330 | 3,640 |  | 525 |
|  |  |  | ${ }^{12}$ |  |  |  |  |
|  |  |  |  | ${ }_{392}^{250}$ | ${ }_{252}^{290}$ |  |  |
|  |  | 2,100 | 1,260 | 2,352 | 1,512 |  |  |
|  |  | $\stackrel{3}{4}$ |  |  |  |  |  |
|  |  |  | 108 | 330 | 838 |  |  |
|  |  |  | 1,080 | 3,300 | 9,218 |  |  |
|  |  |  | 1,088 | 190 | 2,548 |  |  |
|  |  | - |  |  |  | 30 |  |
|  |  | 57 | ${ }^{2,226}$ | $\overline{95}$ |  | $\stackrel{0}{0}$ |  |
|  |  | 1,560 | 1,050 | 2,925 | 1,420 | - |  |
|  |  |  |  |  |  |  |  |
|  |  |  | 3,585 | 4,756 | 744 |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  | 912 | 732 | 248 |  |  |
|  |  |  | 2,310 | 4,700 | 2,640 |  |  |
|  |  |  |  |  |  |  |  |
|  |  | 7,449 | 37, 528 | 41, 640 | 65,260 | 300 | 3,975 |

[^15]I. Fish Caught and Marketed, 1930-con.

| $\begin{aligned} & \text { Mixed } \\ & \text { Fish } \end{aligned}$ | Perch | Pickerel ${ }^{\text {or }}$ Dore | Pike | Salmon | Shad | Smelts | Sturgeon | Whitefish |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| cowt. | cwt. | cwt. | cwt. | cwt. | cwt. | cwt. | cwt. | cwt. |  |
| 8,216 | 3,022 | 3,565 | 2,101 | 349 | 692 | 7,177 | 3,138 | 1,989 | 1 |
| 51,515 | 26,380 | 49,150 | 18,115 | 4,849 | 9,413 | 56,334 | 49,597 | 19,882 | 2 |
| 162 | - | 87 | - | - | 123 | 261 | 589 | 212 | 3 |
| 810 363 | - | 870 | - | ${ }^{-} 2$ | 984 | 1,566 | 2,945 | 2,120 | 4 |
| 1,089 | - | - | - | 3,38 4,199 | - | ${ }_{336}^{112}$ | -- | - | 5 6 |
| +191 | - | - | - |  | ${ }^{9}$ | - | 700 | 28 | 7 |
| 1,807 | - | 51 | - | $\stackrel{125}{-}$ | 135 88 | - | 1,260 | 140 | 8 |
| 9,035 | - | 612 | - | - | 1,056 | - | 1,190 | 2,702 | 10 |
| 3,246 | - | - | - | 21 | 1, | 6,804 | 339 | - | 11 |
| 16,230 | - | - | - | 525 | - | 54,432 | 3,390 | - | 12 |
| 5,769 | - | 1388 | - | 349 | 220 | 7,177 | 1,168 | 433 | 13 |
| 29,647 | - | 1,482 | - | 4,849 | 2,175 | 56,334 | 8,785 | 4,962 | 14 |
| - | 235 | 8 | 78 | - | 6 | - | 6 | - | 15 |
| - | 3,290 | 96 | 468 | - | 48 | - | 72 | - | 16 |
| - | ${ }_{645}^{43}$ | ${ }_{1} 41$ | ${ }_{64}^{32}$ | - | - | - | ${ }^{65}$ | - | 17 |
| $\overline{8} 2$ | 645 84 | 1,025 13 | 640 85 | - | -2 | - | 1,625 ${ }^{\text {¢ }}$ | - | 19 |
| 656 | 840 | 221 | 850 | - | 40 | - | 162 | - | 20 |
| 32 | ${ }^{99}$ | 16 | 70 | - | - | - | 13 | - | 21 |
| 256 | 1,188 | 560 | 700 | - | - | - | 390 | - 419 | ${ }^{23}$ |
| 78 | - | \% 348 | ${ }_{1}^{191}$ | - | - | - | - | 4. 4190 | 23 |
| ${ }^{784} 64$ | ${ }_{225}$ | 3,480 180 | $\begin{array}{r}1,146 \\ 92 \\ \hline\end{array}$ | - | 60 | - | 209 | 4,190 | 24 |
| 6,480 | 1,800 | 3,600 | 920 | - | 1,020 | - | 4,180 | - | 26 |
|  | - | 17 | 29 | - | - | - | ${ }_{108}^{9}$ | - | ${ }^{27}$ |
| ${ }_{2}^{25}$ | - | 204 | $\stackrel{290}{-}$ | - | - | - | 108 | - | 28 |
| 110 | - | - | - | - | $\square$ | - | 8,850 | - | 30 |
| - | 1188 | - | 75 | - | - | - | - |  | ${ }_{32}^{31}$ |
| - | 1, ${ }_{63}$ | 19 | 29 | - | - | - | 110 |  | 33 |
| - | 945 | 418 | 290 | - | - | - | 1,540. | 200 | 34 |
| - | 524 |  | $\begin{array}{r}84 \\ 840 \\ \hline\end{array}$ | - | - | - | - | - | ${ }_{36}^{35}$ |
| - | 624 132 | 120 8 | $\begin{array}{r}840 \\ 35 \\ \hline\end{array}$ | - | - 3 | - | - | - | ${ }^{36}$ |
| - | 1,320 | 200 | 350 | - | 75 | - | - |  | 38 |
| 112 | - | 42 | $3{ }^{3}$ | - | 8 160 | - | [34. | 72 | ${ }^{39}$ |
| 56 | -- | 420 120 | $\begin{array}{r}30 \\ 150 \\ \hline\end{array}$ | - | 160 | - | $\underline{135}$ | 720 | ${ }_{41}^{40}$ |
| - | 1,800 | 960 | 750 | - | - | - | 1,350 | - | 42 |
| - | 346 | 79 | - | - | - | - | - | 1 68 | 43 |
| $\overline{3}$ | 2,768 | $\begin{array}{r}1,680 \\ \hline 18\end{array}$ | $\stackrel{7}{69}$ | - | - |  | $\overline{19}$ |  |  |
| 264 | - | 1,080 | 552 | - | - | - | 855 | 264 |  |
| 396 | 159 | -99 | 118 | - | 60 | - | - ${ }^{452}$ |  |  |
| 3,960 | 1,272 | 1,980 | 1,062 | - | 900 | - | 9,040 2 | 1,246 | 48 |
| - | 14 140 | 100 | 9 | - | -- | - | 40 | 126 | 50 |
| 360 | 197 | 49 | 140 | - | 280 | - | ${ }_{4}^{21}$ |  | 51 |
| 2,880 | 985 | 735 | 2,100 | - | 4,200 | - | 420 | 1,615 |  |
| -- | 6 60 | $\stackrel{2}{20}$ | 4 <br> 40 | - | - | - | - | - | 54 |
| 175 | 240 | 57 | 117 | - | - | - | - | - | 55 |
| 875 | 1,200 | 1,140 | 1,170 | - | - | - | ${ }_{45}$ | - | 57 |
| - | 43 645 | ${ }_{126}^{7}$ | 150 | - | - | - | 900 | - | 58 |
| 382 | 54 | 1,964 | 428 | - | - | - | ${ }_{2}^{130}$ | 3293 | 59 |
| 4,202 | 810 | 23, 568 | 3,434 | - | 53 | - | 2,470 89 | 3,223 | ${ }^{60}$ |
| - |  |  | 270 | - | 795 | - | 3,560 | 114 | 62 |
| 102 | 750 83 |  | ${ }_{54}$ | - | - | - | 65 | 1 | 63 |
| 816 | 1,660 | 1,420 | 540 | - | $\bigcirc$ | - | 1,170 | - | ${ }^{64}$ |
|  | 94 | 49 | 84 |  | - |  | ${ }_{276}^{27}$ | 1,526 | 66 |
| - | 658 | 490 | ${ }^{288}$ | - | - | - | 180 | 1, 24 | 66 |
| - | 360 1,800 | 165 3,300 | 135 1,080 | - | - | - | 3,600 | 336 | 68 |
|  |  |  |  | - | 472 | - | 1,970 | 1,556 | 69 |
| 21,868 | 26,380 | 47,668 | 18,115 | - | 7,238 | - | 40,812 | 14,920 |  |

I. Fish Caught and Marketed, 1930-con.

${ }^{1}$ For the districts the valies as marketed are given.
Note.-In addition to the quantities shown in the above table, there were taken in the province of Manitoba under settlers' permits $40,530 \mathrm{cwt}$. of fish, valued at $\$ 231,200$, and by anglers, $2,915 \mathrm{cwt}$., valued at $\$ 21,165$.
I. Fish Caught and Marketed, 1930-con.


## I. Fish Caught and Marketed, 1930-con.



1 For the districts the values as marketed are given.
I. Fish Caught and Marketed, 1930-con.

| Fishing Districts | Goldeyes | Herring | Ling | $\left\|\begin{array}{c} \text { Mixed } \\ \text { Fish } \end{array}\right\|$ | Mrullets | Pickerel | Pike | Trout | $\begin{gathered} \text { Tulli- } \\ \text { bee } \end{gathered}$ | Whitefish |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Saskatchewan-Winter Fishing-concluded. | cwt. | cwt. | cwt. | cwt. | cwt. | cwt. | cwt. | cwt. | cwt. | cwt. |
| Okemasis lake District. . . . . . . . . . . . . . . . . quantity | - | - | 39 | - | 67 | 25 | 58 | - | - | 158 |
| ( value \$ | - | - | 39 | - | 100 | 87 | 116 | - | 76 | 632 |
| Dog lake District.......................... . quantity |  |  | 24 |  | 589 | 12 | 31 |  | 76 | 200 800 |
| Swearing lake District...................... quantity v $^{\text {v }}$ | - |  | 12 | 17 | 589 | 42 3 | 62 16 | - | 190 19 | 800 |
| Swearing lake District......................... value F | - | - | - | 17 | 28 | 18 | 64 | - | 76 | 402 |
| Nisbet lake District........................ . quantity | - | - | - | - | - | 4 | 12 | 14 | - | 22 |
| ( value 8 | - | - | - | $\overline{1}$ | - | 20 | 36 | 98 | - | 176 |
| Candle lake District......................... quantity | - | - | - | 14 | 108 | 8 | 78 | - | - | 92 |
| , value $\$$ | - | - | - | 42 | 540 | 56 | 390 |  | - | 644 |
| Lac la Ronge District....................... quantity | - | - |  | 392 | 367 | 3350 | 280 | 1,384 | - | 3,656 |
| - value $\$$ | - | - |  | 392 | 550 | 2,100 | 840 | 10,208 |  | 22,847 |
| Pipestone lake District...................... quantity | - | - | - | 15 | 15 | 119 | 74 | 18 |  | 113 |
| ( value $\$$ | - | - | - | 15 | 30 | 595 | 222 | 90 | - | 565 |
| Churchill River East District.............. quantity $^{\text {a }}$ | - | - | - | 14 | 26 | 14 | 27 | - | - | 38 |
| (eaverlate value $\frac{s}{3}$ | - | - | - | . 28 | 56 | 70 | 108 | - | $\overline{-}$ | 228 |
| Beaver lake District....................... quantity | - | - | 45 | - | 123 | 128 | 153 | 221 | 25 | 2,288 |
| , value $\$$ | - | - | 45 | - | 246 | 896 | 765 | 1,547 | 100 | 16,016 |
| Suggi lake District.......... . . . . . . . . . . . . . . quantity | - | - | - | 38 | 47 | 36 | 36 | - | - | 198 |
| (1) value $\$$ | - | - | - | 38 | 94 | 180 | 144 | - | - | 990 |
| Quill lake District........ . . . . . . . . . . . . . . . . quantity | - | 99 | - | - | 250 | - | - | - | - | 2 |
| Long lake District........................ value $\frac{\text { quanty }}{}$ |  | 990 | 120 |  | 1,000 90 | 39 | 77 | - | 20 | 170 |
| Long lake District............................................ valuntity | - | - | 120 | - | 450 | 546 | 616 | - | 120 | 2,550 |
| Qu'Appelle lake District.....................quantity | - |  | - | 20 | - | 14 | 30 234 | - | 650 2,600 | 180 1.620 |
|  |  |  |  |  |  |  |  |  |  |  |
| Total quantity | - | 99 | 651 | 1,298 | 2,997 | 3,371 | 3,008 | 1,827 | 1,471 | 31,229 |
| Total value marketed............. . . . . . . | - | 990 | 391 | 1,314 | 5,543 | 15,093 | 8,748 | 13,784 | 5,471 | 176,600 |

Note.-In addition to the quantities shown in the above table, there were taken in tbe province of Saskatchewan, under domestic licence, 32,354 cwt. of fish valued at, $\$ 127,740$ and under anglers' permits, $\mathbf{1 5 , 9 6 9} \mathbf{c w t}$, valued at $\$ 71,808$.
I. Fish Caught and Marketed, 1930-con.


[^16]${ }^{2}$ The inclusion of the returns of lake Athabaska in the statistics of Alberta is due to the fact that the men engaged in fishing in this lake are residents of the province of Alberta.
I. Fish Caught and Marketed, 1930-con.

| Fishing Districts | Goldeyes | $\underset{\text { Fish }}{\substack{\text { Mixed }}}$ | Mullets | Perch | Pickerel | Pike | Trout | $\begin{aligned} & \text { Tulli- } \\ & \text { bee } \end{aligned}$ | Whitefish |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Alberta - Winter fishing-concluded | cowt. | cwt. | cowt. | cwt. | cwt. | ewt. | cwit. | cwt. | cwi. |
| Pinehurst lake District...........quantity | - | - | 17 | 1 | 34 | 56 | - | - | 201 |
| Primrose lake.................quantity ${ }_{\text {valuc }}$ | - | 649 | 26 | 10 | ${ }_{29}^{239}$ | 223 |  |  | ${ }^{1,813}$ |
| Primen value 8 | - | 649 | - | - | 1,362 | 1,054 | - | - | 19,347 |
| Lac la Biche...................quantity | - | 80 | - |  | 474 | , 365 |  | 1,234 | 70 |
| Iacla Biche District $\quad$ value ${ }^{\text {s }}$ | - | 80 |  | 30 | 2,370 | 1,094 | - | 4,935 | 556 |
| Lac la Biche District................. vuantity | - | - | 3 | 30 212 | 88 |  | - | 128 | ${ }_{54}^{6}$ |
| Ashmont District................quantity | - | - | - | 48 | $-$ | 15 | - | - |  |
| Wing value 8 | - | - | - | 384 | - | 20 | - | - | - |
| Winnifred lake.................. quantity | - | 104 | - | - | 64 | 195 | - | - | 891 |
| Winnifed late Distriet. | - | 38 |  |  | 379 | 838 |  |  | 8,547 |
| Winnifred lake Distriet: ........... quantity | - | ${ }_{2}^{3}$ | - | - | - | 37 | - | - | 144 1.380 |
| Pigeon lake..................... quantity | - | - | 7 | - | 2 | 3 | - | - | 1,480 |
| U value $s$, | - | - | 21 | - | 8 | 6 | - | - | 4, 216 |
| Legend lake District.................... valuentity | - | - |  |  |  |  | $\begin{array}{r}93 \\ 931 \\ \hline\end{array}$ | - | 255 |
| Total quantity. |  |  |  |  |  |  | 705 | 1,887 | 8,459 |
| Total vaiuc marketed..........s | - | 1,328 | 1,401 | 1,326 | 7,904 | 12,975 | 6,830 | 7,491 | 78,610 |


| - | $\underset{\text { Mish }}{\substack{\text { Mised }}}$ | Salmon | Trout | Whitefish |
| :---: | :---: | :---: | :---: | :---: |
|  | cwt. | cwt. | ewt. | cwt. |
| Totals for Territory- <br> Quautity. $\qquad$ <br> Value caught and ianded. $\qquad$ <br> Value marketed. $\qquad$ |  |  |  |  |
|  | 237 | 543 | 270 | 344 |
|  | 4,740 | 5,490 | 5,400 | 6,880 |
|  | 5,925 | 8,235 | 6, 750 | 8,600 |

[^17] domestic licence, 15,744 cwt. of fish, valued at $\$ 78,722$, and under anglers' permits, 22,120 cwt., valued at $\$ 110,598$.
I. Fish Caught and Marketed, 1930-con.

|  |
| :--- |

[^18]I. Fish Caught and Marketed, 1930-con.

I. Fish Gaught and Marketed, 1930-con.

${ }^{3}$ Comprises Fraser River and Howe Sound.
I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

${ }^{1}$ Comprises Fraser River and Howe Sound.
I. Fish Caught and Marketed, 1930-con.

I. Fish Caught and Marketed, 1930-con.

${ }^{1}$ Comprises Fraser River and Howe Sound.
I. Fish Caught and Marketed, 1930-con.

| Ling Cod |  | Red Cod |  | Grayfish |  |  | Octopus |  | Oulachon |  | Tom Cad |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Caught and landed | $\begin{aligned} & \text { Mar- } \\ & \text { keted } \end{aligned}$ | Caught and landed | Mar- <br> keted | Caught and landed | Marketed |  | Caught and landed | Marketed | $\left\lvert\, \begin{gathered} \text { Caught } \\ \text { and } \\ \text { landed } \end{gathered}\right.$ | Marketed | Caught and landed | Mar-keted |  |
|  | Used fresh |  | Used fresh |  | Oil | Meal |  | Used fresh |  | Used fresh |  | Used fresh |  |
| curt. | cwt. | cwt. | cwit. | cwt. | gal. | ton | cwi. | cwt. | cwt. | cwt. | cwt. | cwt. |  |
| 48,591 | 48,591 | 4,248 | 4,248 | 98680 | 114,558 | 899 | 355 | 355 | 890 | 899 | 30 | 30 |  |
| 302,071 | 333,564 | 21,455 | 24,577 | 30,372 | 22,220 | 45,165 | 2,355 | 2,569 | 2,762 | 4,214 | 98 | 90 |  |
| $\begin{array}{r} 27,532 \\ 187,723 \end{array}$ | 27,532 | 2,396 14,376 | 2,396 16,021 | - | - | - | 330 2,460 | . $\begin{array}{r}3,460\end{array}$ | 779 2,642 | - 779 3,934 | 30 90 | 90 |  |
| - | - | - | - | - | - | - | - | - | - | - | - | - |  |
| - | - | - | - | - | - | - | - | - | - | $-$ | - |  |  |
|  |  | 4 | - | = | = | = | - | ${ }^{3}$ | 12 | $\underline{-}$ | - | - |  |
| $2{ }^{2}$ | ${ }_{23}^{2}$ | 3 | 33 | - | - | - | - | - | - | - | - | - |  |
| - | - | - | - | - | - | - | - | - | - | - | - |  |  |
| - | - | - | - | - | - | - | - | - | - | - | - |  |  |
| 297 538 | 297 672 | $\begin{array}{r} 508 \\ 1,060 \end{array}$ | $\begin{array}{r} 508 \\ 1,221 \end{array}$ | - | - | - | 3 7 | 3 | 120 | $\stackrel{120}{280}$ | - | - |  |
|  | 88 | 22 | 22 | - | - | - | - | - | - | - | - |  |  |
| 4,985 | 4,985 | 30 | 30 | - | - | - | - | - | - | - | - |  |  |
| 4.241 | 4,241 | 529 | 529 |  | - | - | $\overline{2}$ | $\overline{2}$ | - | - | - |  |  |
| 4,420 | 4,420 | 585 | 585 | 35,360 | 32,758 | 330 | - | $-$ | - | - | - |  |  |
| 3,639 | 3,639 | 105 | 105 | 63,320 | 81,800 | - 569 | - | - |  | - | - |  |  |
| 2,038 |  | - | - |  |  | - | - | - | - | - | - |  |  |
| -708 | 2,708 | 42 | 42 | - | - | - | - | - | - | - | - |  | - |
| 203 | 203 | - | - | - | - | - | - | - | - | - | - | - | - |
| 259 108 | 259 108 | $\overline{14}$ | $\overline{14}$ |  |  |  | - |  | - | - | - |  |  |
| 20,762 | 20,762 | 1,344 | 1,344 | 98,680 | 114,558 |  |  |  |  | - | - | - |  |
| 113,810 | .145,169 | 6,019 | 7,335 | 30,372 | 22,229 | 45, 165 | 88 | 102 | - | - | - | - | - |

I. Fish Caught and Marketed, 1930-con.


[^19]I. Fish Caught and Marketed, 1930-con.


1. Fish Caught and Marketed, 1930-concluded

${ }^{1}$ Comprises Fraser River and Howe Sound.
Nore,-The following quantities were Ianded by United States vessels and are included with caught and landed and marketed fresh-District No. 1: halibut, 427 cwt .; District No. 2: halibut, $169,551 \mathrm{cwt}$.; salmon, $7,107 \mathrm{cwt}$.; black cod, 2,290 cwt.; octopus, 1 cwt.

Note.-The following is in addition to the quantities in the main table-estimated home consumption of all varieties, including salmon, trout, cod, oulachons, bottom fish, shell fish, etc.

District No. 1: by whites, Indians and orientals, $32,825 \mathrm{cw} t$.
Distrjet No. 2: by Indians, $22,326 \mathrm{cwt}$.

# II. Agencies of Production, 1930 

## Part I

In Primary Operations
II. Agencies of Production, 1930.-Part I. In Primary Operations

|  | Fishing Districts | Vessels |  |  |  | Boats |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Sailing and Gasolene |  |  |  | Sail and Row |  | Gasolene |  | Total Men |
|  |  | 40 tons and over | $\begin{gathered} 10-20 \\ \text { tons } \end{gathered}$ | Total Value | Total Men | No. | Value | No. | Value | No. |
| 123456 | Prince Edward Island | No. | No. | \$ | No. |  | \$ |  | \$ |  |
|  | Totals for Propince.................... | 1 | 5. | 8,900 | 29 |  | 10,313 | 1,186 | 296,865 | 2,238 |
|  | Kings County-Totals................. | - |  | 5,000 | 15 | 88 | 880 | 369 | 97,250 | 641 |
|  | Queens County-Totals................ | 1 | - | 2,500 | 8 | 310 | 2,480 | 209 | 44,935 | 569 |
|  | Eastern portion... | - | $\sim$ | - | - | 92 | 4,673 | 279 | 75,430 | 383 |
|  | Western portion.. | - | 2 | 1,400 | 6 | 180 | 2.280 | 329 | 79,250 | 634 |
|  | 6 Totals for County......... | - | 2 | 1,400 | 6 | 272 | 6,953 | 608 | 154,680 | 1,027 |
| Fishing Districts |  |  | Fishing Gear-con. |  |  |  |  |  |  |  |
|  |  |  | Tubs of Trawl |  | Hand Lines |  | Lobster Traps |  | Lobster Pounds |  |
|  |  |  | No. | Value | No. | Value | No. | Value | No. | Value |
| Frince Edward Island-con. |  |  | 728 | \$ | 1,478 | \$ | \$ |  | 1 | \$ |
| 1 | Totals for Province. |  |  | 15,260 |  | 2,751 | 267,222 | 267,222 |  | 1,200 |
| 23 | Kings County-Totals. |  | 154 | 3,080 | 318 | 665 | 94,450 | 94,450 | - | - |
|  | Queens County-Totals. |  | 70 | 2,100 | 468 | 702 | 52,710 | 52,710 | - | - |
| 4. | Eastern portion. |  | 4 | 80 | 212 | 424 | 53,947 | 53.947 | 1 | 1,200 |
| 5 | Western portion.. |  | 500 | 10,000 | 480 | 960 | 66,115 | 66,115 | - | - |
| 6 | Totals for County. |  | 504 | 10,080 | 692 | 1.384 | 120,062 | 120,062 | 1 | 1,200 |

II. Agencies of Production, 1930-Part I. In Primary Operations-con.


Fishing Gear-concluded

| Oyster Rakes |  | Quahaug Rakes |  | Fishing Piers and Wharves |  | Ice Houses |  | $\begin{aligned} & \text { Small Fish } \\ & \text { Smod Houses } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Value | No. | Value | No. | Value | No. | Value | No. | Value |
|  | \$ |  | \$ |  | \$ |  | \$ |  | $\$$ |
| 216 | 648 | 39 | 117 |  | 35,650 |  |  | 307 | 17,975 |
| - | - | - | - | 4 | 31,000 | - | - | 84 | 8,900 |
| 195 | 585 | 22 | 66 | 32 | 4,650 | 14 | 700 | 66 | 2,040 |
| 21 | 63 | 17 | 51 | - | - | 2 | 100 | 43 | 1,905 |
| - | - | - | - | - | - | - | - | 114 | 5,130 |
| 21 | 63 | 17 | 51 |  |  | 2 | 100 | 257 | 7,035 |

## II. Agencies of Production, 1930-Part I. In Primary Operations-con.


II. Agencies of Production, 1930-Part I. In Primary Operations-con.

| Vessels |  |  |  |  | Boats |  |  |  |  | Carrying Smacks |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sailing and Gasolene |  |  |  |  | Sail and Row |  | Gasolene |  | Total men |  |  |  |  |
| 40 tons and over | $\begin{gathered} 20-40 \\ \text { tons } \end{gathered}$ | $\begin{gathered} 10-20 \\ \text { tons } \end{gathered}$ | Total value | Total men | No. | Value | No. | Value |  | No. | Value | Men |  |  |
| no. | no. | no. | \$ | no. |  | 8 |  | \$ | по. |  | $\$$ | по. |  | по. |  |
| 81 | 25 | 239 | 1,847,594 | 3,741 | 4,505 | 109, 491 | 5,319 | 1,454,434 | 11,575 | 167 | 221,058 | 345 | 456 | 1 |
|  | - | 6 | 7,364 | 18 | 290 | $\begin{aligned} & \mathbf{0}, 800 \\ & 6,385 \end{aligned}$ | 173 200 | $\begin{aligned} & 42,899 \\ & 61,800 \end{aligned}$ | $\begin{aligned} & 450 \\ & 667 \end{aligned}$ | - | - | - | - | $\stackrel{2}{3}$ |
| - | - | 6 | 7,361 | 18 | 520 | 13,185 | 379 | 104, 699 | 1,117 | - | - | - | - | 4 |
|  | - | -10 | 11,000 | $\overline{31}$ | 22 <br> 10 | 530 715 | $\begin{array}{r}38 \\ 204 \\ \hline\end{array}$ | 11,400 43,295 | ${ }_{383}^{121}$ | $-3$ | 2,800 | $-6$ | - | 5 6 |
|  | 8 | 23 | 69,200 | 144 | 57 | 1,614 | 33 | 11,500 | 176 | 7 | 4,200 |  | - |  |
| - | 8 | 33 | 80,200 | 178 | 89 | 2,859 | - 275 | 66, 195 | 680 | 10 | 7,000 | 13 | -- $-\frac{8}{8}$ |  |
|  | - | 1 | 800 | 3 | 131 | 3,930 | 59 | 9,050 | 215 | 6 | 1,800 | 12 | - | 9 |
|  | 1. | 11 | 8,100 4,600 | 47 20 | $56$ | 1,520 4,300 | 80 99 | 16,000 18,900 | 233 260 | $\frac{1}{2}$ |  | $\stackrel{2}{4}$ | - | 10 |
| - | 1 | 17 | 13,500 | 70 | 307 | 9,750 | 238 | $\stackrel{43,950}{ }$ | 708 | 9 | 3,250 | 18 | - - 12 |  |
|  | - | 6 | 3,400 | 27 | 12 | 1,125 | 180 | 76,300 | 460 | 8 | 4,050 | 125 | - | 13 |
|  | - |  | 6 3,400 | 27 | 110 |  | 366 | 120,625 | 825 | 28 | 38,500 | 47 | 27 15 |  |
| - |  | 0 |  |  |  | 3,551 |  |  |  |  |  |  |  |  |
|  | - | - | - | - | 20 | 200 | 60 | 9,000 | 127 | 2 | 1,000 |  | 33 | 16 |
|  | - | - | - | - | 70 | 700 | 155 9 | 17,250 1,700 | 218 |  | 2,000 | 8 | 70 26 | 17 |
| - | - | - | - | - | 90 | 900 | 224 | 27,950 | 360 | 6 | 3,000 | 12 | 129 19 |  |
|  | - | - | - | - | 8 | 80 | 23 | 3,450 | 23 | - | - | - |  | 20 |
|  |  | - | - | - | 37 | 400 | 38 | 5,825 | 72 | - | . |  |  |  |
| - | - | - |  | - |  | 480 |  |  |  |  |  |  |  |  |
| - | - | 1 | 700 | 3 | 27 | $\begin{array}{r} 270 \\ 1,000 \end{array}$ | 127 | 19,05023,625 | 160 | 14 | 35,700 | $\cdots$ |  |  |
| - | - |  |  |  |  |  |  |  | 188 |  | 2,350 |  |  |  |
|  |  |  | 700- | 3 <br> - |  |  | 232 |  |  |  | 38,050 |  | $\because \bullet \quad 25$ |  |
|  |  |  |  |  |  | 3,600 |  | 35,000 |  | 10 | 5,000 | 20 |  |  |

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

Fishing Gear

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

Fishing Gear-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

Fishing Gear

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

Fishing Gear-conluded.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

11. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

Fishing Gear

II. Agencies of Production, 1930-Part I: In Primary Operations con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{11}{|c|}{Fishing Gear-concluded} \\
\hline \multicolumn{2}{|l|}{Scallop Drags .} \& \multicolumn{2}{|l|}{Quahaug Rakes} \& \multicolumn{2}{|l|}{Fishing Piers and Wharves} \& \multicolumn{2}{|l|}{\[
\begin{gathered}
\text { Freezers } \\
\text { Ind } \text { and }
\end{gathered}
\]} \& \multicolumn{3}{|l|}{\[
\begin{gathered}
\text { Small Fish } \\
\text { and } \\
\text { Smoke Houses }
\end{gathered}
\]} \\
\hline No. \& Value \& No. \& Value \& No. \& Value \& No. \& Value \& No. \& Value \& \\
\hline \[
\begin{aligned}
\& \cdot \\
\& 34 \\
\& - \\
\& - \\
\& - \\
\& 32
\end{aligned}
\] \& \begin{tabular}{l}
\$ \\
524 -
-
-
\(\mathbf{5 0 0}\)
\end{tabular} \&  \& \begin{tabular}{l}
\(\$\) \\
516 \\
- \\
195 \\
-
\end{tabular} \& \[
\begin{aligned}
\& \\
\& 404 \\
\& \\
\& : \quad 5 \\
\& . \\
\& 66 \\
\& 764 \\
\& 64 \\
\& \hline
\end{aligned}
\] \& \begin{tabular}{l}
\(\$\) \\
136,450 \\
950 \\
4,300
7,600
5,400
51,000
\end{tabular} \& . \({ }^{93} 1\) \& \begin{tabular}{l}
\(\$\) \\
131,000
\[
\begin{array}{r}
400 \\
2,000 \\
- \\
700
\end{array}
\]
\end{tabular} \& \[
\begin{array}{r}
1,133 \\
\cdot \\
3 \\
10 \\
53 \\
97 \\
500
\end{array}
\] \& \[
\begin{array}{r|}
\$ \\
\mathbf{4 5 3 , 8 6 0} \\
\\
\hline \\
3,450 \\
6,900 \\
7,208 \\
13,192 \\
368,900
\end{array}
\] \& \\
\hline  \& \[
\begin{array}{r}
500 \\
24 \\
- \\
- \\
-
\end{array}
\] \& \[
\begin{gathered}
130 \\
- \\
- \\
- \\
43
\end{gathered}
\] \& \[
\begin{gathered}
195 \\
- \\
- \\
-86
\end{gathered}
\] \& 329
60
-
-
-
- \& 69,250
27,000
-
-
- \& 5
3
-
-
3 \& \[
\begin{gathered}
3,100 \\
5,000 \\
- \\
- \\
3,000
\end{gathered}
\] \& 663
80
-
-
- \& 399,650
23,500
\(=\)
\(\square\) \& \\
\hline \begin{tabular}{l}
- \\
- \\
- \\
\hline
\end{tabular} \& -
-
-
- \& 43
47
-
- \& 86

235
-

- \& -
- 
- 

1

1 \& $$
\begin{array}{r}
- \\
- \\
21,300 \\
1,000
\end{array}
$$ \& 3

3
5

2 \& $$
\begin{array}{r}
3,000 \\
\\
2,000 \\
11,500 \\
7,000
\end{array}
$$ \& $\begin{array}{r} \\ \\ \cdots \\ \therefore \\ \\ \\ 2 \\ - \\ \hline\end{array}$ \& $\therefore$

3,0000

800 \& <br>
\hline  \& -
-

- \& | 47 |
| :---: |
| - |
| - | \& 235
- 
- \& - ${ }^{6}$ \& \[
$$
\begin{array}{r}
22,300 \\
4,000 \\
- \\
-
\end{array}
$$

\] \& $\begin{array}{r}10 \\ 8 \\ 8 \\ 8 \\ \hline\end{array}$ \& \[

$$
\begin{array}{r}
20,500 \\
\\
16,000 \\
22,000 \\
1,600
\end{array}
$$
\] \& 518 \& 3,800

$\cdots$
$=$

500 \& <br>

\hline  \& | - |
| :---: |
| - |
| - |
| - |
| - | \& -

- 
- 
- 
- \& -
- 
- 
- 
- 
- \& $$
\begin{gathered}
3 \\
\\
1 \\
5 \\
- \\
-
\end{gathered}
$$ \& \[

$$
\begin{array}{r}
4,000 \\
\\
400 \\
13,500 \\
- \\
-
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
23 \\
\\
4 \\
3 \\
16 \\
20 \\
1
\end{array}
$$

\] \& | 39,600 |
| :--- |
| 6,000 33,000 12000 1,000 1,000 | \& $\begin{array}{r}1 \\ 8 \\ 8 \\ 205 \\ 65 \\ \hline 35 \\ \hline\end{array}$ \& 500

$\cdots, \cdots$
1,500
20,500
1,950
1,750 \& <br>
\hline -- \& - \& - \& - \& 6

- \& 13,900
- \& 44
5 \& 52,800
10,000 \& 313
71 \& $\begin{array}{r}25.700 \\ 710 \\ \hline\end{array}$ \& <br>
\hline \multicolumn{3}{|c|}{Boats} \& \multirow{2}{*}{Tota men} \& \& \multicolumn{6}{|c|}{Fishing Gear} <br>
\hline \multicolumn{3}{|c|}{Gasolene} \& \& \& \multicolumn{2}{|l|}{Gill Nets} \& \multicolumn{4}{|c|}{Eel Traps} <br>
\hline No. \& \& Value \& \multicolumn{2}{|l|}{No.} \& No. \& Value \& \multicolumn{2}{|c|}{No.} \& \multicolumn{2}{|l|}{Value} <br>

\hline \& \[
$$
\begin{gathered}
2 \\
- \\
- \\
- \\
\hline 1 \\
1
\end{gathered}
$$

\] \& | 550 |
| :--- |
| - - - 300 250 | \& \& \[

$$
\begin{array}{r}
448 \\
20 \\
70 \\
13 \\
33 \\
330 \\
82
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
652 \\
25 \\
72 \\
140 \\
60 \\
1650 \\
190
\end{array}
$$

\] \& \$ \& | 625 |
| :---: |
| 75 |
| 200 |
| 000 |
| 600 |
| 80 | \& 80

- 
- 

20
40

20 \&  \& $$
\begin{aligned}
& 10 \\
& -1 \\
& 30 \\
& 30 \\
& 10
\end{aligned}
$$ <br>

\hline
\end{tabular}

Nots.-In addition to the above, there was equipment used by anglers in inland New Brunswick, as follows: rods and lines, 2,338 , value $\$ 17,305$; canoes, 254 , value $\$ 5,910$.
II. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930--Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

Fishing Gear-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

Fishing Gear-concluded

\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{2}{|l|}{Scallop Drags} \& \multicolumn{2}{|l|}{Fishing Piers and Wharves} \& \multicolumn{2}{|l|}{Ice Houses} \& \multicolumn{3}{|l|}{Small Fish and Smoke Houses} <br>
\hline No. \& Value \& No. \& Value \& No. \& Value \& No. \& Value \& <br>
\hline \multirow{4}{*}{12
-8} \& \multirow[t]{2}{*}{\$

2,613} \& \multirow[b]{2}{*}{243} \& \$ \& \multirow[b]{2}{*}{250} \& $\$$ \& \multirow[b]{2}{*}{1,984} \& \$ \& <br>
\hline \& \& \& 39,125 \& \& 75,680 \& \& 120,270 \& 1 <br>
\hline \& 1,000 \& - \& - \& $\overline{15}$ \& - - $_{60}$ \& 80
12 \& 1,600
360 \& $\frac{2}{3}$ <br>
\hline \& - \& - \& - \& 15 \& 1,750
1,500 \& 76

200 \& $$
\begin{aligned}
& 3,040 \\
& 8,000
\end{aligned}
$$ \& 4

5 <br>
\hline 5 \& 1,000 \& - \& - \& 31 \& 3,850 \& 368 \& 13,000 \& 6 <br>
\hline $-4$ \& 1-600 \& 4 \& 2,000 \& 10 \& 400 \& 10 \& 400 \& 7 <br>
\hline $-{ }_{-}^{4}$ \& 1,600 \& $\stackrel{12}{-}$ \& 1,200 \& 11 \& 3,300 \& 100
210 \& 4,000
10,500 \& 8 <br>
\hline - \& - \& - \& - \& - \& - \& 208 \& 6,240 \& <br>
\hline - \& - \& - 4 \& 2,000 \& $\overline{20}$ \& $\stackrel{-}{1,500}$ \& 80 \& 2,400 \& 11 <br>
\hline - \& - \& - \& \& 4 \& 1,000 \& 20 \& 2,000 \& 13 <br>
\hline 4 \& 1,600 \& 20 \& 5,200 \& 45 \& 6,200 \& 628 \& 25,540 \& 14 <br>
\hline - \& - \& 10 \& 5,300 \& 7 \& 1,500 \& 314 \& 14,130 \& 15 <br>
\hline \& - \& 13 \& 11,900 \& 8 \& 2,400 \& 38 \& 2,750 \& 19 <br>
\hline - \& - \& 23 \& 17,200 \& 15 \& 3,900 \& 352 \& 16,880 \& 17 <br>
\hline - \& - \& - \& $-$ \& 78 \& 15,600 \& - \& - \& 18 <br>
\hline - \& - \& $-1$ \& $\stackrel{-}{400}$ \& 27
6 \& 2,300
18,000 \& $\overline{75}$ \& 7,000 \& 19 <br>
\hline - \& - \& 3 \& 1,500 \& 5 \& 18,950 \& 100 \& 1,500 \& 21 <br>
\hline - \& - \& 24 \& 1,925 \& 22 \& 5,280 \& 107 \& 5,350 \& 22 <br>
\hline - \& - \& 78 \& 5,850 \& 1 \& . 500 \& 173 \& 25,950 \& 23 <br>
\hline 3 \& 15 \& 54 \& 4,050 \& 4 \& 7,500 \& 81 \& 12,150 \& 24 <br>
\hline - \& \& 40 \& 3,000 \& 2 \& 4,000 \& 85 \& 12,750 \& 25 <br>
\hline 3 \& 15 \& 200 \& 16,725 \& 145 \& 58,130 \& 621 \& 64,700 \& 26 <br>
\hline - \& - \& - \& - \& 12 \& 1,200 \& 15 \& 150 \& 27 <br>
\hline - \& - \& \& \& 2 \& 2,400 \& - \& - \& 28 <br>
\hline
\end{tabular}

II. Agencies of Production, 1930-Part I. In Primary Operations-con.


II. Agencies of Production, 1930-Part I. In Primary Operations-con.

| Fishing Gear |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Weirs |  | Lines |  | Freezers and Ice Houses |  | Small Fish and Smoke Housea |  |  |
| No. | Value | No. | Value | No. | Value | No. | Value |  |
|  | \$ |  | \$ |  | \$ |  | \$ |  |
| 1,169 | 122,269 | 1,116 | 9,516 | 288 | 19,938 | 93 | 4,158 | 1 |
| 66 | 61,250 | - | - | 38 | 1,465 | - | - | 2 |
| 68 | 5,510 | 60 | ${ }_{600}^{-}$ | 1 | 1,000 25 | -2 | 130 | 3 4 4 |
| 127 | 38,100 | 53 | $\begin{array}{r}10 \\ 532 \\ \hline\end{array}$ | 5 | 500 | $\overline{36}$ | 1,805 | 5 |
| 261 | 104,860 | 115 | 1,142 | 45 | 2,990 | 38 | 1,935 | 7 |
| - | - | 12 | 84 | 4 | 120 | - | - |  |
| 49 | $\stackrel{-}{245}$ | 20 100 | 120 3.000 | 2 | 100 | 25 | 125 | 10 |
| $-$ |  | - | - | - | - | - | - | 11 |
| 3 | 820 | - | - | 3 | 2,500 | - | - | 12 |
| -2 | $\overline{10}$ | 18 <br> 31 | 125 95 | 20. | 1,000 85 | - | - | ${ }_{14}^{13}$ |
| 45 | 260 | 78 | 156 | $\stackrel{1}{2}$ | ${ }_{325}^{85}$ | - | - | 15 |
| - | - | 36 | 246 | - | - | - | - | 16 |
| $\overline{10}$ | 500 | ${ }_{12}^{6}$ |  | 1 | 150 | -- | - | 17 |
| 83 | 830 | 21 | $\begin{array}{r}48 \\ 63 \\ \hline\end{array}$ | -6 | 150 | $\cdots$ | 125 | 118 |
| - | - | 225 | 2, ${ }_{2} 5^{-}$ | $\overline{30}$ | 1,200 | - | - | 20 |
| - | - | 2 | 2, | $-$ |  | - |  | 22 |
| 8 | 32 | 68 | 340 | - | - | - | - | 23 |
| 183 | 3,760 | 155 | 427 | 66 | 629 | 21 | 513 | 2 |
| -200 |  | 20 | 220 | 10 | -400 | - | - | 22 |
| 200 | 5,000 | 20 12 | 200 130 | 10 | 3,000 | - | - | 28 |
| - | - | 15 | ${ }_{35}$ | $-1$ | 2,000 | - |  | 28 |
| - | - | 18 | 200 | 6 | , 175 | 1 | 500 | 29 |
| 36 | 1,650 | 12 | 270 | 9 | 2,450 | 3 | 950 | 30 |
| - | - | 16 | 32 <br> 80 | 72 | 864 | - | 10 | 31 |
| 17 | 150 | - |  | - | - | - |  | 33 |
| 272 | 4,352 | 98 | 245 | 9 | 1,800 | - |  | 34 |
| 908 | 17,409 | 1,001 | 8,404 | 243 | 16,948 | 55 | 2,223 | 35 |

Fishing Gear-Concluded

| Seines |  | Pound Nets |  | Hoop Niets |  | Dip and Roll Nets |  | Lines |  | Spears |  | Piers and Wharvea |  | Freezers and Ice Houses |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Yards | Value | No. | Value | No. | Value | No. | Value | No. | Value | No. | Value | No. | Value | No. | Value |  |
| no. | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | $\$$ |  | $\$$ |  | \$ |  |
| 28,857 | 22,747 | 1,181 | 622,225 | 849 | 28,347 | 30 | 1,033 | 502 | 5,470 | 93 | 680 | 350 | 110,685 | . 487 | 285,795 | 1 |
| - | - | 40 | 12,400 | 54 | 2,495 | - | - | - | - | - | - | 95 | 14,990 | 130 | 35,460 | 2 |
| - | - | 60 | 26,300 | - |  | - | - | - | - | - | - | 32 | 10,250 | 21 | 10,475 | 3 |
|  | - | 115 | 54,200 | - | - | , | - | - | - | - | - | 28 | 21,300 | 27 | 15,915 | 4 |
| 1,200 | 935 | 96 | 91,150 | 47 | 1,005 | 1. | 3 | 229 | 4,062 | 7 | 36 | 61 | 20,190 | 46 | 26,080 | 5 |
| , | - | 122 | 75,000 | - |  | - | - | - | - | -- | - | 16 | 5,125 | 48 | 25,410 | 6 |
| 6,485 | 4,911 | 153 | 16,675 | - | - | - | - | 84 | 552 | - | - | 13 | 2,950 | 24 | 10,050 | 7 |
| 13,436 | 9,360 | 560 | 337,650 | 27 | 492 | 3 | 13 | 30 | 100 | - | - | 62 | 29,200 | 100 | 135, 000 | 8 |
| 795 | 660 | - | - | 541 | 18,520 | 3 | 700 | 99 | 455 | - | - | 25 | 4,445 | 47 | 13.650 | 9 |
| 6,941 | 6,881 | 35 | 8,850 | 180 | 5,835 | 63 | 317 | 60 | 301 | 86 | 644 | 18 | 2,235 | 44 | 13,155 |  |

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

| Men fishing without boats | Fishing Gear |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Gill Nets |  | Hoop Nets |  | Dip Nets |  | Lines |  | PiersandWharves |  | $\begin{aligned} & \text { Freezers } \\ & \text { and } \\ & \text { Tce Houses } \end{aligned}$ |  | Small FishandSmoke Houses |  |  |
| No. | No. | Value | No. | Value | No. | Value | No. | Value | No. | Value | No. | Value | No. | Value |  |
|  |  | $\$$ |  | \$ |  | \$ |  | 5 |  | \$ |  | $\$$ |  | $\$$ |  |
| 3,213 | 67,642 | 589, 601 | 12 | 160 | 65 | 230 | 50 | 200 | 57 | 83,040 | 93 | 150,037 | 89 | 41,100 | 1 |
| 1,230 | 27.792 | 273.467 | 10 | 120 | 30 | 90 | 50 | 200 | 47 | 45,640 | 81 | 130,037 | 29 | 11,800 | 2 |
| 433 | 12,616 | 118, 838 | - |  | - |  | - | - | 10 | 37,400 | 9 | 17,000 | 14 | 12,000 | 3 |
| 301 | 3,654 | 36,540 | - |  | - | - | - | - | - | - | 3 | 3,000 | 7 | 4,700 | $\frac{4}{5}$ |
| 908 | 18.016 | 126,112 | - | 40 | $\overline{35}$ | 140 | - | - | - | - | - | - | 24 | 9,000 | 6 |
| 54 | 540 | 3,240 | - | - | - | - | - | - | - | - | - | - | 5 | 1,100 | 7 |
| 12 | 216 | 1,296 | - | - | - | - | - | - | - | - | - | - | 1 | 1,000 | 8 |
| 251 | 4,518 | 27,108 | - | - | - | - | - | - | $-$ | - | - | - | 9 | 1,500 | 9 |
| 24 | 240 | 2,400 | - | - | - | - | - | - | - | - | - | - | - | - | 10 |
| 894 | 6,350 | 81,128 | 26 | 260 | - | - | - | - | 6 | 585 | 14 | 2,200 | 7 | 500 | 11 |
| 143 | 858 | 10,296 | - | - | - | - | - | - | - | - | - | - | - | - | 12 |
| 32 | 192 | 2,304 | - | - | - | - | - | -- | - | - | - | - | - | - | 13 |
| 42 | 426 | 5,112 | - | - | - | - | - | - | 4 | 400 | 5 | 1,000 | 3 | 300 | 14 |
| 20 | 120 | 1,440 | - | - | - | - | - | - | - | - | 2 | 200 | - | - | 15 |
| 14 | 84 | 840 | - | - | - | - | - | - | - | - | 2 | - | - | - | 16 |
| 17 | 102 | 1,224 | - | - | - | - | - | - | - | - | - | - | - | - | 17 |
| 12 | 72 | 864 | - | - | - | - | - | - | - | - | - | - | - | - | 18 |
| 17 | 126 | 1,260 | - | - | - | - | - | - | - | - | - | - | - | - | 19 |
| 22 | 132 | 1,320 | - | - | - | - | - | - | - | - | - | - | - | - | 20 |
| 3 | 18 | 180 | - | - | - | - | - | - | - | - | - | - | - | - | 21 |
| 12 | 72 | 720 | - | - | - | - | - | - | - | - | - | - | - | - | 22 |
| 15 | 102 | 1,530 | - | - | - | - | - | - | - | - | - | - | - | - | 23 |
| 38 | 348 | 4.870 | - | - | - | $\cdots$ | - | - | - | - | - | - | - | - | 24 |
| 38 | 430 | 5,160 | - | - | - | - | - | - | - | - | - | - | - | - | 25 |
| 19 | 190 | 2,850 | - | - | - | - | - | - | - | - | - | - | - | - | 26 |
| 30 | 300 | 4,500 | - | - | - | - | - | - | - | - | - | - | - | - | 27 |
| 14 | 84 | 1,260 | - | - | - | - | - | - | - | - | - | - | - | - | 28 |
| 2 | 16 | 192 | - | - | - | - | - | - | - | - | - | - | - | - | 29 |
| 13 | 78 | 1,170 | - | - | - | - | - | - | - | - | - | - | - | - | 30 |
| 9 | 90 | 1,350 | - | - | - | - | - | - | - | $\cdots$ | - | - | - | - |  |
| 57 | 570 | 8,550 | - | - | - | - | - | - | - | - | 4 | 250 | 4 | 200 | 32 |
| 6 | 52 | 780 | - | - | - | - | - | - | - | - | - | - | - | - | 33 |
| 12 | 48 | 576 | - | - | - | - | - | - | - | - | - | - | - | - |  |
| 10 | 87 | 944 | - | - | - | - | - | - | 2 | 125 | 3 | 750 | - | - |  |
| 13 | 99 | 1,188 | - | - | - | - | - | - | - | - | - | - | - | - |  |
| 3 | 30 | 300 | - | - | - | - | - | - | - | - | - | - | - | - |  |
| 1 | 6 | 60 | - | - | - | - | - | - | - | - | - | - | - | - |  |
| 12 | 40 | 400 | - | - | - | - | - | - | - | - | - | - | - | - | 39 |
| 53 | 450 | 8,100 | - | - | - | - | - | - | - | - | - | - | - | - | 4 |
| 7 | 70 | - 980 | - | - | - | - | - | - | - | - | - | - | - | - |  |
| 3 | 30 | 300 | - | - | - | - | - | - | - | - | - | - | - | - | 42 |
| 29 | 290 | 2,900 | - | - | - | - | - | - | - | - | - | - | - | - | 4 |
| 7 | 42 | 504 | - | - | - | - | $\cdots$ | - | - | - | - | $\square$ | - | - | 4 |
| 12 | 72 | . 864 | - | - | - | - | - | - | - | - | - | - | - | - | 4 |
| 63 | 190 | 1,900 | - | - | - | - | - | - | - | - | - | - | - | - | 4 |
| 69 | 414 | 4,140 | $\overline{-}$ | - | - | - | -- | - | - | - | - | $\overline{-}$ | - | - |  |
| 25 | 20 | 200 |  | 260 | - |  |  |  |  |  |  |  |  |  |  |

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.


[^20]II. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

${ }^{3}$ The province totals show the actual aggregate of the agencies of production in use. Figures for fishing districts show the agencies of production in each and as such agencies in some cases were engaged in several districts, the total number shown in this table exceeds the provincial aggregate.
II. Agencies of Production, 1930-Part I. In Primary Operations-con.

II. Agencies of Production, 1930-Part I. In Primary Operations-con.

${ }^{1}$ The province totals show the actual aggregate of the agencies of production in use. Figures for fishing districts shows the agencies of production employed in each, and as such agencies in some cases were engaged in several districts, the total number shown in this table exceeds the provincial aggregate.
II.-Agencies of Production, 1930.-Part I. In Primary Operations-concluded

Fishing Gear-concluded


## II. Agencies of Production, 1930-Part 2. In Fish Canning and Curing (a) General Summary of Statistics


II. Agencies of Production, 1930-Part 2. In Fish Canning and Curing
(a) General Summary of Statistics

| $\begin{aligned} & \text { Fuel and } \\ & \text { Electricity } \\ & \text { Used } \end{aligned}$ | Value of Materials Used |  |  |  |  | Value of Products |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fish | Containers | Salt | Other Materials | Total | Fish $\underset{\text { Fresh }}{\text { Marketed }}$ | Fish, Canned, Cured or otherwise Prepared | Total |  |
| 5 | 5 | \$ | \$ | S | \$ | \$ | \$ | S |  |
| 449,179 | 15,939,137 | 4,569,026 | 348,201 | 225,125 | 21,081,489 | 7,639,557 | 25,333,751 | 32,973,308 | 1 |
| 53,582 | 2,950,799 | 340,837 | 19,639 | 4,406 | 3,315,681 | 1,296,099 | 3,123,109 | 4,419,208 | 2 |
| 161,500 | 5,920,500 | 3,271,068 | 30,245 | 72,695 1 | 9,294,508 | 224,734 | 14,925,220 | 15,149, 954 | 3 4 4 |
| 24,068 | 91,508 <br> 192,688 | 353,377 | 11,574 | 44,536 | -602, 175 | 49,075 | 1,131,241 | 1,180,316 | 5 |
| 91,464 | 6,152,721 | 512,498 | 283, 997 | 90, 111 | 7,039, 327 | 6,069,120 | 4, 198,301 | 10, 267,421 | 7 |
| 110, 808 | 630, 922 | 35,024 | 1,720 | 11,888 | 679,554 |  | 1,701,833 | 1,701,833 | 7 |
| 13,461 | 541,614 | 82,801 | 7,842 | 222 | 632,482 | 103,805 | 227,780 | 831,585 | 8 |
| 12,680 | 497,259 | 76,961 | 2,676 | 222 | 577,113 | 103,805 | 658,690 | 762,495 | 10 |
| 699 82 | 4,496 39,864 | 4,119 <br> 1,724 | 5,162 ${ }^{4}$ | - | 8,619 46,750 | - | 12,350 $\mathbf{3 6 , 7 4 0}$ | 12,350 | 11 |
| 5,484 | 178,593 | 31,657 | 2,119 | - | 212,369 | 28,000 | 267,641 | 295,641 | 12 |
| 278 37 | 1,437 26,689 | 2,220 1,724 | 3,750 | - | 3,657 32,163 | - | 5,750 39,315 | 5,750 39,315 | 13 |
| 2,288 | 118,669 | 15,432 | 1;493 | - | 135,596 | 7,620 | 161,211 | 168,831 | 15 |
| 5,374 | 216,226 | 31,771 | 478 | 222 | 248,697 | 68,185 | 253,863 | 322,048 | 16 |
| 98,179 | 4,317,192 | 505,862 | 76,959 | 48,615 | 5,148,628 | 3,823,377 | 3,779,282 | 7,602,659 | 17 |
| 24,115 | 1,551,717 | 166,521 | 12,127 | 2,625 | 1,732,990 | 735,360 | 1,562,349 | 2,297,709 | 18 |
| 460 3,040 | 8,887 84,040 | 3,937 19,935 | 340 1,359 | 1,858 | 13,164 107,192 | 49,075 | 28,601 91 | $\begin{array}{r} 28,601 \\ 140,193 \end{array}$ | 19 |
| 45,691 | 2,827,857 | 308,021 | 63,133 | 44,056 | 3,243,067 | 3,038,942 | 1, 876,628 | 4,915,5688 | 21 |
| 24,873 | - 44,691 | 7,448 |  | 76 | 52,215 |  | 220,588 | 220,588 | 22 |
| 1,124 | 51,449 | 6,812 | 135 | - | 58,396 | 16,542 | 73,358 | 89,900 | 23 |
| 1,925 | 74,586 | 12,450 | - | 70 | 87,106 | 14,507 | 115,349 | 129,856 |  |
| 1,094 | 213,951 | 16,881 | 3,538 | 2,010 | 236,380 | 220,212 | 93,393 | 313,605 |  |
| $\begin{array}{r} 1,249 \\ 76 \end{array}$ | $\begin{aligned} & 54,115 \\ & 74,921 \end{aligned}$ | $\begin{aligned} & 8,436 \\ & 3,708 \end{aligned}$ | $\begin{array}{r} 930 \\ \mathbf{5}, 239 \end{array}$ | - | $\begin{aligned} & 63,481 \\ & 83,868 \end{aligned}$ | 54,6-55 | $\begin{aligned} & 93,592 \\ & 53,362 \end{aligned}$ | $\begin{array}{r} 93,592 \\ 108,017 \end{array}$ |  |
| 2,336 15,426 | 124,225 188,208 | $\begin{aligned} & 15,943 \\ & 38,445 \end{aligned}$ | 3,529 6,514 | $\begin{array}{r} 309 \\ 8,152 \end{array}$ | $\begin{aligned} & 144,006 \\ & 241,359 \end{aligned}$ | $\begin{array}{r} 27,438 \\ 177,639 \end{array}$ | $\begin{aligned} & 170,139 \\ & 251,086 \end{aligned}$ | $\begin{array}{r} 197,577 \\ 428,725 \end{array}$ |  |
| 2,880 | 88,579 | 18,295 | 252 | - | 107,126 | 2,620 | 149,033 | 151,653 | 30 |
| 273 | 4,364 | 1,003 | - | - | 5,367 | - | 8,601 | 8,601 | 31 |
| 2,546 | 159, 178 | 22,493 | 390 | 55 | 182,116 | 53,558 | 189,622 | 243,180 | 32 |
| 1,813 | 92,452 | 12,795 | 368 | - | 105,615 | 30,025 | 124,736 | 154,761 |  |
| 5.957 | 260, 969 | 25,750 | 3,671 | 953 | 291,343 | 130,299 | 258,451 | 388,750 |  |
| 6,048 | 128,851 | 6,899 | 3,506 | 692 | 139,948 | 116,674 | 87,411 | 204,085 |  |

## II. Agencies of Production, 1930-Part 2. In Fish Canning and Curing (a) General Summary of Statistics-con.



[^21]II. Agencies of Production, 1930-Part 2.-In Fish Canning and Curing
(a) General Summary of Statistics-con.

|  | Value of Materials Used |  |  |  |  | Value of Products |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fuel and Electricity Used | Fish | Containers | Salt | Other <br> Materials | Total | Fish Marketed Fresh | Fish, Canned, Cured or otherwise Prepared | Total |  |
| \$ | 5 | $\$$ | \$ | \$ | 5 | $\$$ | \$ | $\delta$ |  |
| 1,376 | 99, 373 | 12,522 | 558 | 276 | 112,729 | 45,345 | 116,236 | 162,181 | 1 |
| 25,797 | 995,826 | 132,950 | 2,934 | 18,049 | 1,149,759 | 1,403,173 | 485,121 | 1,888,294 | 2 |
| 4,760 | 221,057 | 25,425 | 2,240 | 47 | 248,769 | 120,056 | 247,649 | - 367,705 | 3 |
| 2,740 | 6,622 210,775 | 862 13,990 | 4, 335 | 560 | 7,819 229,884 | 560 350,662 | 10,808 94,619 | 11,368 445,281 | 4 |
| 1,631 | 354,914 | 11,157 | 1,841 | 65 | 367,977 | 300,975 | 122,846 | 423,821 | 6 |
| 8,828 | 337,426 | 37,465 | 15,895 | 3,291 | 394,077 | 260,747 | 355,139 | 615,886 | 7 |
| 2,305 | 107,504 | 13,437 | 26 | - | 120,967 | 38,631 | 125, 329 | 163,960 | 8 |
| 1073, | 228,205 | 11,079 | 5,886 | 1,833 | 247,003 | 124,495 | 178,402 | 302,897 | 9 |
| 1,982 | 141,303 | 27,306 | 2,016 | 2,708 | 173,333 | 100,991 | 114,930 | 215,921 | 10 |
| 4,791 | 281,640 | 29,051 | 11.730 | 9,385 | 331,806 | 223,542 | 243,194 | 466,736 | 11 |
| 85 | 16,699 | 668 | 867 | 160 | 18,394 | 9,431 | 16,876 | 26,307 | 12 |
| 43,527 | 1,100,761 | 450,828 | 35,490 | 55,775 | 1,642,854 | $\mathbf{6 3 6 , 1 5 6}$ | 2,051,858 | 2,688,014 | 13 |
| 12,219 | 703, 255 | 71,910 | 4,487 | - 1,459 | 781,111 | 424,457 | 649,084 | 1,073,541 | 14 |
| 2,910 | 31,876 | 18,758 | 685 | 1,489 | 52,808 | 529 | -12,592 | 93,121 | 15 |
| 21,028 | 106, 898 | 332,760 | 10,215 | 42, 666 | 492,539 | - - | 1,036, 623 | I, 036,023 | 16 |
| 4,155 | 250,194 | 27,400 | 20,103 | 1,421, | 299,118 | 211,170 | -222,053 | 133,223 | 17 |
| 3,215 | 8,538 | 27, | - | 8,740 | 17,278 | - | 51,506 | 51,506 | 18 |
| 2,379 | 25,926 | 13,780 | -666 | 1,187 | 41,559 | 529 | 73,736 | $\therefore 74,265$ | 19 |
| 21,028 | 106,898 | 332,760 | 10,215 | 42,666 | 492,539 | - | 1,036,623 | 1,036,623 | 20 |
| 1,919 | 127,627 | 7,270 | 11,662 | 1,000 | 147,550 | 87,160 | 138,043 | 225,203 | 21 |
| 3,706 | 121,570 | 15,143 | 7,063 | 9,107 | 152,883 | 124,010 | 101, 726 | 225,736 | 22 |
| 2,207 | 304, 783 | 23.515 | 1,340 | 54 | 334,638 | 284,105 | 177,305 | 461,410 | 23 |
| 3,550 | 207, 497 | 21,638 | 1,249 | 540 | 230,924 | 123,186 | 209,390 | 332,576 | 25 |
| 1,946 | 70.012 | - 11,674 | 826 | 801 | 83,313 | 1,050 | 108,562 | 109,612 | 26 |
| 5.037 | 121,913 | 20,061 | 1,091 | 420 | 143,485 | 16,116 | 172,683 | 188,799 |  |

II. Agencies of Production, 1930-Part 2. In Fish Canning and Guring (a) General Summary of Statistics-con.

II. Agencies of Production, 1930-Part 2. In Fish Canning and Curing
(a) General Summary of Statistics-concluded

(b) Capital Invested

| Province and County or District | Establishments | Land, Buildings and Machinery | Materials, Products, Fuel and Miscellaneous Supplies on band | Cash . . and Operating Accounts | Total Capital Invested |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Canada-Totals. | ${ }^{n 0}{ }_{699}$ | $17,618,967$ | $\stackrel{\mathbf{S}}{9,058,433}$ | $\frac{\$}{4,150,207}$ | $3$ |
| Lobster canneries. | 333 | 896,650 | 171,392 | 189, 143 | 1,257,185 |
| Salmon canneries. | 68 | 9,610,720 | 6,793,533 | 1,522,849 | 17,927,102 |
| Clam canneries.. | 23 | 95,866 | 81,599 | 27,504 | 204,969 |
| Sardine and otber fish canne | 10 | 1,020,019 | 210,092 | 175,810 | 1,405, 921 |
| Fisb curing establishments. | 234 | 4,084,119 | 1,462,587 | 2,015,988 | 7,562,694 |
| Reduction plants.. | 31 | 1,911,593 | 339,230 | 218,913 | 2,469,736 |
| Prince Edward Island-Totals. | 95 | 186,975 | 900 | 1,500 | 189,3\% |
| Lobster canneries. | 85 | 166, 875 | 500 | 1,500 | 168,875 |
| Clam canneries. | 5 | 6,500 | 400 | - | 6,900 |
| Fish curing establishments. | 5 | 13,600 |  | - | 13,600 |
| Lobster canneries. |  |  |  |  |  |
| Clam canneries... | $\stackrel{3}{3}$ | 3,400 1,100 | - | - | 73,400 1,100 |
| Fisb curing establishments | 4 | 11,100 | - | - | 11,100 |
| Queens County- |  |  |  |  |  |
| - Lobster canneries. | 19 |  |  |  |  |
| Clam cannery ........... | 1 1 | 33,100 | 400 | - | 33,500 |
| Prince County - |  |  |  |  |  |
| Lobster canneries.. | 37) |  |  |  |  |
| Clam cannery. | 1) | 68,275 | 500 | 1,500 | 70,275 |
| Nova Scotia-Totals. | 228 | 2,278,022 | 1,000,503 | 622,736 | 3,901,261 |
| Lobster canneries. | 106 | 404,398 | 94,131 | 134,836 | 633,365 |
| Salmon cannery.. | $1)$ |  |  |  |  |
| Clam canneries. | 6 | 11,032 | 3,449 | 780 | 15,261 |
| Otber fisb canneries. | 6 | 121,226 | 58,352 | 20,481 | 200,059 |
| Fisb curing establisbment | 101 | 1,606,354 | 827,441 | 382,187 | 2,815,982 |
| Reduction plants..... <br> Ricbmond County- | 8 | 135,012 | 17,130 | 84,452 | 236,594 |
| Lobster canneries. |  |  |  |  |  |
| Fisb curing establisbments. | $2)$ | 16,900 | 940 | 652 | 18,492 |
| Cape Breton County- |  |  |  |  |  |
| Lobster canneries.... | 8 | 30,150 | 2,135 | 2,200 | 34,485 |
| Fish curing establishments. | 7 |  |  |  |  |
| Reduction plant. . | 1) | 52,903 | 18,790 | 25,844 | 97,537 |
| Victoria County- <br> Lobster canneries. |  |  |  |  |  |
| Fish curing establishments. | 10 | 24,600 | 1,750 | 1,300 | 27,650 29,482 |
| Inverness County- |  |  |  |  |  |
| Lobster canneries. | $15\}$ |  |  |  |  |
| Salmon cannery. | 1) | 57.800 | 1,800 | 15,800 | 75,400. |
| Cumberland County- | 6 | 427,118 | 190, 956 | 44,664 | 662,738 |
| Lobster canneries.: | 14) |  |  |  |  |
| Fish curing esta blishments. | 2 ) | 39,600 | - | - | 39,600 |
| Colchester County- |  |  |  |  |  |
| Lobster cannery... <br> Clam canneries.... | $\frac{1}{2}$ ) | 3,000 | 1,500 |  | 4,800 |
| Pictou County- |  |  |  |  |  |
| Lobster canneries.. | 6 | 42,825 | 990 | 9,600 | 53,415 |
| Antigonish County- <br> Lobster canneries. | 9 |  | 404 |  |  |
| Guysborough County- | 9 | 30.053 | 404 | 3,210 | 33,667 |
| Lobster canneries.. | 10 |  |  |  |  |
| Otber fish cannery | 1. | 178,645 | 68,194 | 94,441 | 341,280 |
| Fish curing establishments. | 6 |  |  |  |  |
| Reduction plant.... | 1) | 92,595 | 30,546 | 11,688 | 134,829 |
| Halifax County- |  |  |  |  |  |
| Lobster canneries. | ${ }_{1}^{8}$ 1 | 17,891 |  |  |  |
| Fisb curing establishments. | 3 | 17,891 | 2,167 | 2,096 | 22,104 |
| Reduction plant.... | 1) | 191,719 | 229,837 | 158,729 | 580,285 |
| Lumenburg County- <br> Lobster canneries. |  |  |  |  |  |
| Fisb curing establishments. | 3 2 | 143,113 | 51,053 | 57,832 | 251,998 |
| Queens County- |  |  |  |  |  |
| Lobster cannery... |  |  |  |  |  |
| Clam canneries. | $2)$ | 3, 00 | 350 | 150 | 3,500 |
| Figb curing establisbments. | 6 | 218, 235 | 71,690 | 54,533 | 344,458 |
| Lobster canneries......... |  |  |  |  |  |
| Otber fish canneries.. | $2)$ | 35,650 | 16,183 | 3,640 | 55,473 |
| Fisb curing establishment | 25 |  |  |  |  |
| Reduction plant.... | 1) | 360,217 | 92,670 | 45,384 | 498,271 |
| Yarmouth County- |  |  |  |  |  |
| Lobster canneries.. | 7) |  |  |  |  |
| Fish curing establishmen | 14 |  | 9,664 | 10,26 | 57, 290 |
| Reduction plant... | $1)$ | 49,360 | 38,840 | 35,050 | 123,250 |

## II. Agencies of Production, 1930-Part 2. In Fish Canning and Curing <br> (b) Capital Invested-concluded

|  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  |  |

${ }^{1}$ The statistics for Gloucester County include 2 lobster canneries in Restigouche County.
II. Agencies of Production, 1930-Part 2. In Fish Canning and Curing (c) Employees and Salaries and Wages

II. Agencies of Production, 1930-Part 2. In Fish Canning and Curing (c) Employees and Salaries and Wages-concluded


## II. Agencies of Production, 1930-Part-2. In Fish Canning and Curing (d) Number of Wage-earners by Months


II. Agencies of Production, 1930--Part 2. In Fish Canning and Curing
(d) Number of Wage-earners by Months-
(d) Number of Wage-earners by Months-concluded

| May |  | June |  | ' July |  | August |  | September |  | October |  | November |  | December |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Male | Female | Male | $\mathrm{Fe}-$ male | Male | Fe male | Male | Female | Male | $\begin{aligned} & \mathrm{Fe}- \\ & \text { male } \end{aligned}$ | Male | Female | Male | Female | Male | Female |  |
| nо. | nо. | no. | no. | no. | no. | no. | no. | no. | no. | no. | no. | n0.' | no. | no. | no. |  |
| 5,806 | 3,370 | 6,182 | 3,228 | 4,731 | 917 | 4,484 | 850 | 3,909 | 682 | 3,142 | 519 | 2,022 | 152 | 1,962 | 101 | 1 |
| 2,383 | 2,964 | 2,181 | 2,787 | 519 | 447 | 323 | 349 | 332 | 355 | 318 | 285 | 108 | 15 | 61 | - | 2 |
| 1,284 | 136 | 1,455 | 170 | 1,584 | 219 | 1,629 | 278 | 1,179 | 130 | 576 | 76 | 281 | 9 | 121 | 3 | 3 |
| 54 200 | 122 30 | $\begin{array}{r}66 \\ 223 \\ \hline\end{array}$ | 134 39 | 134 | 53 <br> 35 | 38 | 51 | 268 | 29 | 21 | 8 | 14 | 4 | 12 | 4 | 4 |
| 1,564 | 113 | 1,857 | 87 | 1,902 | 150 | 1,716 | r33 | 1.724 ${ }^{124}$ | 20 | ${ }_{1}^{127}$ | 19 | ${ }_{2} 116$ | 19 | 42 | 17 | 5 |
| 321 | 5 | 100 | 11 | 1, 497 | 13 | - 588 | + 20 | 1, 505 | 16 | 1, 169 | 123 | 2,001 102 | 101 | 1,642 84 | 74 3 | 6 7 |
| 519 | 597 | 510 | 570 | 33 | - | 58 | 49 | 56 | 49 | 54 | 4 | 7 | - | 2 | - | 8 |
| 507 | 592 | 488 | 565 | 14 | - | 37 | 49 | 37 | 49 | 30 | 44 | - | - | - | - | 9 |
| 8 4 |  | 10 12 | 5 | $-19$ | - | 2 19 | - | $-19$ | - | -24 | - | - | - | - 2 | - | $10^{\circ}$ |
| 2,338 | 1,316 | 2,345 | 1,222 | 1,45s | 264 | 1,193 | 145 | 1,173 | 132 | 1,091 | 123 | 1,241 | 95 | 1,150 | 63 | 1 |
| 1,304 | 1,219 | 1,138 | 1,094 | 301 | 171 | 153 | 48 | 134 | 44 | 147 | 45 | 102 | 15 | 59 | - | 13 |
| 15 | 38 | 16 | 40 | 4 | 4 | 3 | 4 | - | - | 1 | - | 1 | - | 1 |  | 14 |
| 40 | 29 | 68 | 39 | 41 | 35 | 49 | 33 | 30 | 20 | 33 | 19 | 26 | 19 | 16 | 17 | 15 |
| 954 | 30 | 1,096 | 48 | 1,079 | 53 | 957 | 59 | 978 | 67 | 882 | 58 | 1,086 | 60 | 1,049 |  | 16 |
| 25 | - | 27 | 1 | 29 | 1 | 31 | 1 | 33 | 1 | 28 | 1 | 26 | 1 | 25 |  | 17 |
| -636 | 931 | 630 | 898 | 338 | 94 | 386 | 284 | 358 | 302 | 312 | 217 | 125 | 2 | 51 | - | 18 |
| 357 | 857 | 332 | 827 | 38 | 28 | 133 | 252 | 159 | 262 | 138 | 196 | 2 | - | 2 | - | 19 |
| 24 | 64 | 35 | 66 | 33 | 53 | 28 | 30 | 21 | 22 | 15 | 3 | 3 | - | - | - | 20 |
| 154 | - | 155 | - | 154 | - - | 131 | - | 94 | $-$ | 94 | - | 90 | - | 26 | - | 21 |
| 93 8 | $\stackrel{10}{-}$ | 102 6 | 5 | 105 | 13 | 86 8 | 12 | 76 8 | 18 | 58 7 | 18 | 23 7 | 2 | 18 5 | - | 22 |
| 526 | 356 | 666 | 324 | 637 | 317 | 406 | 31 | 251 | 18 | 139 | 1 | 73 | - | 12 | $\cdots-$ | 24 |
| 215 | 296 | 223 | 301 | 166 | 248 | - | - | 2 | - | 3 | - | 4 | - | - | - | 25 |
| - | - | 6 | 1 | 6 | 1 | - | - | - | - | - | - | - | - | - | - | 26 |
| 311 | 60 | 437 | 22 | 465 | 68 | 406 | 31 | 249 | 18 | 136 | 1 | 69 | - | 12 | - | 27 |
| 1,78\% | 170 | 2,031 | 214 | 2,269 | 242 | 2,431 | 331 | 2,069 | 181 | 1,546 | 134 | 1,176 | 55 | 747 | 38 | 828 |
| 1,284 | 136 | 1,449 | 169 | 1,575 | 214 | 1,626 | 274 | 1,179 | 130 | 576 | 76 | 281 | 9 | 121 | 3 | 329 |
| 13 | 16 | 5 | 23 | - | - | 8 | 21 | 5 | 7 | 5 | 5 | 10 | 4 | 11 |  | 430 |
| 214 | 13 | 221 | 12 | 245 | 16 | 258 | 17 | 431 | 29 | 831 | 46 | 816 | 39 | 561 | 29 | 31 |
| 276 | 5 | 356 | 10 | 449 | 12 | 539 | 19 | 454 | 15 | 134 | 7 | 69 | 3 | 54 |  | 232 |

II. Agencies of Production, 1930-Part 2. In Fish Canning and Curing (e) Quantity and Value of Fuel Used

|  | Province | Establishments | Bituminous Coal |  | Anthracite Coal |  | Lignite Coal |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Quantity | Value | Quantity | Value | Quantity | Value |
|  | . . | no. | ton | \$ | ton | \$ | ton | \$ |
| 1 | Canada-Tetals........................... | 659 | 23,787 | 189,86 | 692 | 8,358 | 145 | 800 |
| 2 | Lobster canneries ........................ | 333 68 | ${ }^{2} \mathbf{2} \cdot 6978$ | 29.570 78.104 | 46 | 465 | 114 | 237 513 |
| ${ }_{4}^{4}$ | Clamon canneries... | ${ }_{23}$ | - 272 | 2,712 | 17 | 245 | 4 | 513 |
| 5 | Sardine and other fish canneries. | 10 | 2,513 | 17,372 | - |  | - | - |
| 6 | Fish curing establishments............... | 234. | 5,802 | 25,187 | 34 | 543 | 5 | 50 |
| 7 | Reduction plants........................ | 31 | 4,825 | 38,919 | 595 | 7,105 |  | - |
| 8 | Prince Edward Island-Totals.......... | 95 | 645 | 6,873 | 12 | 180 | - | - |
| 9 | Lobster canneries. . . . . . . . . . . . . . . . | 85 | 645 | 6,873 | $\overline{12}$ | - | - | - |
| 11 | Fish curing establishments................ | 5 |  | . - |  |  | - | - |
| 12 | Nora Scotia-Totals. | 228 | 9,565 | 54,559 | 624 | 7,542 | 26 | 237 |
| 13 | Lobster canneries........................ | 106 | 1,768 | 16,603 | 41 | 410 | 26 | 237 |
| 14 | Salmon cannery. |  | 38 | 260 | 5 | 65 | - | - |
| 15 | Other fish canneries. | 6 | 289 | 2,647 |  |  | - |  |
| 16 | Fish curing establishments................ | 101 | 5,623 | 23,236 | 18 | 347 | - | - |
| 17 | Reduction plants......................... | 8 | 1,847 | 11,813 | 560 | 6,720 | - | - |
| 18 | New Brunswlck-Totals. . . . . . . . . . . . . | 162 | 3,092 | 22,951 | 19 | 238 | - | - |
| 19 | Lobster canneries. | 88 | 288 | $\stackrel{2,737}{ }$ | 5 | 55 | - | - |
| 20 | Clam canneries......................... | 10 | 239 |  |  | - |  | - |
| 22 | Fish curing establishments. | 48 | 2, ${ }^{2}$ | 14.40 | 9 | 118 | - | - |
| 23 | Reduction plants........... | 3 | 338 | 2,970 | 5 | 65 | - | - |
| 24 | Quebec-Totals.. | 86 | 352 | 4,458 | - | - | - | - |
| 25 | Lobster canneries. | 44 | 296 | 3,357 | - | - | - | - |
| 26 | Salmon canneries | 7 |  |  | - | - | - |  |
| 27 | Fish curing establishments. <br> Reduction plant. | 34.1) | 96 | 1,101 | - | - | - | - |
| 28 | British Columbia-Totals................. | 128 | 10,093 | 101,023 | 37 | 398 | 119 | 563 |
| 29 | Salmon canneries.. | 60 | 7,373 | 76,077 | . - | - | 114 | 513 |
| 30 | Clam canneries.............................. | $\left.\begin{array}{l}2 \\ 1\end{array}\right\}$ |  |  |  |  |  |  |
| 31 | Fish curing establishments. . . . . . . . . . . . . . | 46 | 150 | 1,650 | 7 | 78 | 5 | 50 |
| 32 | Reduction plants...... | 19 | 2,570 | 23,296 | 30 | 320 | - | - |

II. Agencies of Production, 1930 -Part 2. In Fish Canning and Curing
(e) Quantity and Value of Fuel Used-concluded


# II. Agencies of Production, 1930-Part 2. In Fish Canning and Curing <br> (f) Power Equipment 


II. Agencies of Production, 1930-Part 2. In Fish Canning and Curing (g) Time in Operation and Hours Worked

II. Agencies of Production, 1930-Part 2. In Fish Canning and Curing
(f) Power Equipment-concluded

II. Agencies of Production, 1930-Part 2. In Fish Canning and Curing
(g) Time in Operation and Hours Worked-concluded

| Province | Total Number of Establishments | Number of Establishments operating during the year |  |  |  |  | Number of Establishments in which hours per day normally worked were |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Less than 60 days | From 60 to 119 days | From <br> 120 to <br> 179days | $\begin{aligned} & \text { From } \\ & 180 \text { to } \\ & 239 \text { days } \end{aligned}$ | $\left\lvert\, \begin{gathered} 240 \text { days } \\ \text { and } \\ \text { over } \end{gathered}\right.$ | 8 hours per day or less | \% ${ }_{\text {c }}$ | c 10 | $\begin{aligned} & \text { Over } \\ & 10 \\ & \text { hours } \end{aligned}$ |
|  |  | no. | $n \mathrm{n}$. | no. |  | no. | no. |  | no. | no. |
| New Brunswick-Totals, ........... | 162 | 83 | 42 | 25 | 4 | 8 | 81 | 11 | 68 | 1 |
| Lobster canneries. | 98 | 76 | 20 | 1 | 1 |  | 43 | 5 | 49 | 1 |
| Clam canneries.. | 10 | 2 | 5 | 1 | 2 |  | 6 | 2 | 2 |  |
| Sardine canneries. | 3 | - | $-$ | 2 | - | 1 | 2 |  | 1 | - |
| Fish curing establishments........ | 48 | 5 | 17 | 19 | 1 | 6 | 30 | 3 | 15 | - |
| Reduction plants........... . . . . . . . . | 3 | - | - | 2 |  | 1 |  | 1 | 2 | - |
| Quebec-Totals..................... | 86 | 42 | 22 | 15 | 7 | - | 38 | - | 47 | 1 |
| Lobster canneries. | 44 | 33 | 11 | - | - | - | 30 | - | 14 | - |
| Salmon canneries................... . | 7 | 7 | - | - |  | - | 6 | - | 1 | - |
| Fish curing establishments........ | 34 1$\}$ |  |  |  | 7 |  | 2 |  |  |  |
| Reduction plant..................... | 1) | 2 | 11 | 15 | 7 | - | 2 | - | 32 | 1 |
| British Columbia-Totals........... | 128 | 29 | 47 | 26 | 11 | 15 | 55 | 50 | 10 | 13 |
| Salmon canneries. | 60 | 14 | 19 | 18 | 5 | 4 | 12 | 42 | - | 6 |
| Clam canneries... | $\left.{ }_{1}^{2}\right\}$ |  |  | 1 |  | 1 | 2 | - |  |  |
| Other fish cannery................. | 1) | $\overline{12}$ | 19 | 1 | - 2 | 1 | $3{ }^{2}$ | - 5 | 1 |  |
| Fish curing establishments......... | 46 | 12 | 19 | 4 <br> 3 | 4 | 1 | 5 | 3 | 7 | 3 |
| Reduetion plants........ | 19 | 3 | 8 | 3 | 4 | 11 | 5 | 3 | 7 |  |

II. Agencies of Production, 1930-Part 2. In Fish Canning and Curing (h) Classification of Establishments According to Value of Production

| Province | $\begin{gathered} \text { Total } \\ \text { Number } \\ \text { of } \\ \text { Establish- } \\ \text { ments } \end{gathered}$ | Establishments having a production valued at |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Under §5,000 | §5,000 to under $\$ 10,000$ | $\begin{gathered} \$ 10,000 \\ \text { to under } \\ \$ 20,000 \end{gathered}$ | $\$ 20,000$ to under $\$ 50,000$ | $\begin{aligned} & \$ 50,000 \\ & \text { and } \\ & \text { over } \end{aligned}$ |
|  |  | no. | no. | no. | no. | no. |
| Canada-Totals. | 699 | 240 | 114 | 128 | 86 | 131 |
| Lobster canneries. | 333 | 123 | 67 | 84 | 42 | 17 |
| Salmon canneries.. | 68 | ${ }_{12}^{8}$ | 5 | 3 | - | 60 |
| Sardine and other fish canneries | ${ }_{10}^{23}$ | $\begin{array}{r}12 \\ 2 \\ \hline\end{array}$ | $\stackrel{5}{2}$ | ${ }_{2}^{3}$ | $\stackrel{1}{3}$ | $\stackrel{2}{1}$ |
| Fish curing establishments..... | 234 | 88 | 37 | 36 | 33 | 40 |
| Reduction plants........... | 31 | 7 | 3 | 3 | 7 | 11 |
| Prince Edward Island-Totals. | 95 | 35 | 32 | , | 7 | - |
| Lobster canneries. . | 85 | 30 4 4 | 29 | 2 | 6 | - |
| Fish curing establishments... | 5 | 1 | 2 | 1 | 1 | - |
| Nowa Scotia-Totals. | 228 | 63 | 37 | 51 | 46 | 31 |
| Lobster canneries. . | 106 | 8 | 21. | 37 | 31 | 9. |
| Salmon cannery.. | 1) |  |  |  |  |  |
| Clam canneries..... | 6 | - | 1 | $\stackrel{1}{2}$ | $-$ | - |
| Fish curing establishments. | 101 | 45 | 13 | 10 | 12 | 21 |
| Reduction plants........... | 8 | 5 | 1 | 1 | $-$ | 1 |
| New Brunswlek-Totals. | 162 | 95 | 25 | 24 | 10 | 8 |
| Lobster canneries. | 98 | 57 | 13 | 18 | 5 | 5 |
| Clam canneries... | 10 | 4 | 3 | 2 | 1 | - |
| Sardine canneries. | 3 | 1 | 1 | - | - | 1 |
| Fish curing establishments. | 48 | 32 | 8 | 3 | 3 | 2 |
| Reduction plants................. | 3 | 1 | - | 1. | 1 | - |
| Quebec-Totals. | 86 | 42 | 15 | 23 | 6 | 1. |
| Lobster canneries. | 44 | 28 | 4 | 9 | 3 | - |
| Salmon canneries | 7 | 7 | - | - | - | - |
| Fish curing eatablishments Reduction plant. | $\left.\begin{array}{r}34 \\ 1\end{array}\right\}$ | 7 | 11 | 13 | 3 | 1 |
| British Columbia-Totals.. | 128 | 5 | 5 | 10 | 20 | 88 |
| Salmon canneries.. | 60 |  | - | - |  | 60. |
| Clam canneries... |  |  |  | , |  |  |
| Other fish cannery ........ | 1) | ${ }_{3}^{1}$ | - | -9 | - | 16. |
| Reduction plants........... | 19 | 1 | 1 | 1 | 14 6 | 10 |

II. Agencies of Production, 1930-Part 2. In Fish Canning and Curing
(i) Classification of Establishments According to Number of Employees

| Province |  | Establishments |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Employing fewer than five persons | Employing five persons and over | $\begin{gathered} \text { Having } \\ \text { no } \\ \text { employees } \end{gathered}$ |
|  |  | no. | no. | no. |
| Canada-Totals. | 699 | $1 \pm 3$ | 503 | ${ }^{3} 3$ |
| Lobster canneries.. | 333 | 37 | 275 | 21 |
| Salmon canneries.. | 68 | 1 | 62 | 5 |
| Clam canneries................ | 23 10 | $\stackrel{6}{6}$ | 15 | 2 |
| - Fish curing establisbments... | 234 | 88 | 122 | 24 |
| Reduction plants........... | 31 | 9 | 22 | - |
| Prince Edward Island-Totals. | 95 | 21 | 74 | - |
| Lobster canneries. | 85 | 14 | 71 | - |
|  | 5 | 3 | 2 |  |
| Fish curing establishments. | 5 | 4 | 1 |  |
| Nova Scotia-Totals... | 228 | 53 | 159 | 16 |
| Lobster canneries. | 106 | 2 | 104 | - |
| Salmon cannery... | ${ }_{6}^{1}$ | 1 | 4 | 2 |
| Other fish canneries. | 6 | 1 | 5 |  |
| Fish curing establishments. | 101 | 42 | 45 | 14 |
| Reduction plants....... | 8 | 7 | 1 |  |
| New Brunswick-Totals., | 162 | 46 | 102 | 14 |
| Lobster canneries. | 98 | 12 | 81 | 5 |
| Clam canneries.... | 10 | $\stackrel{2}{1}$ | 8 |  |
| Sardine canneries....... | 3 | 1 | 11 | $\frac{1}{8}$ |
| Fish curing establishments. | $\stackrel{48}{4}$ | $\stackrel{29}{2}$ | 11 1 | 8 |
| Quebec-Totals...... | 86 | 17 | 48 | 21 |
| Lobster canneries.. | 44 | 9 | 19 | 16 |
| Salmon canneries....... | 7 | 1 | 1 |  |
| British Columbia-Totals. | 128 | 1 | 120 | 2 |
| Salmon canneries. | 60 | - | 60 | - |
| Clam canneries... | $\left.{ }_{1}^{2}\right\}$ |  | 3 |  |
| Other fish cannery Fish curing establishments. | 46 | $\cdots$ | 38 | 2 |
| Reduction plants......... | 19 |  | 19 | - |

II. Agencies of Production, 1930-Part 2. In Fish Canning and Curing
(j) Classification of Wage-earners According to Hours of Work


# SPECIAL TABLES OF IMPORTS AND EXPORTS, BOUNTIES, ETC. 

III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930

III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930-con.


Vessels Fishing for

III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930-con.

III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930-con.

III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930 -con.


1II. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930-con.

III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930 -con.

III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930-con.


## III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930-con.


III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930 -con.

III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930-con.

III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930-con.

Boats Fishing for

| Oysters |  |  | Lobsters |  |  | Sardines |  |  | Salmon |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Value | Men | No. | Value | Men | No. | Value | Men | No. | Value | Men |
|  | \$ | no. |  | \$ | no. |  | \$ | no. |  | \$ | no. |
| - | - | - |  | 1,000 | 8 | 142 | 7,950 | 145 | - | - | - |
| - | - | - | 52 | 11,750 | 80 | 195 | 11,450 | 195 | - | - | - |
| - | - | - | 29 | 1,450 1,050 | 40 | 446 <br> 164 <br> 1 | 110,050 8,250 | 210 98 | - | - | - |
| - | - | - | 140 | 52,000 | 225 | 200 | 80,000 | 500 | - | - | - |
| - | - | - | 55 | 14,000 | 85 | 80 | 13,700 | 65 | 124 | 43,400 | 240 |
| - | - | - | 1 | 155 | 1. | - | - | - | - | - | - |
| $\overline{18}$ | 198 | $\overline{25}$ | 251 | 50, 200 | 332 | - | - | - | $-9$ | 595 | 11 |
| 365 | 5,375 | 365 | 285 | 51,225 | 450 | - | - | - |  | -- | - |
| 79 46 | 16,200 9,200 | 79 70 | 125 | 37,500 12,000 | 250 250 | - | - | - | 26 | 7,800 | 55 |
| 100 | 3,000 | 100 | 120 | 20,000 | 240 | - | - | - | 45 | 27,000 | 130 |
| - | - | - | 50 | 8,000 | 90 | - | - | - | 8 | 2,500 | 20 |
| - | - | - | 60 | 15,500 | 120 | - | - | - | $\overline{32}$ | $\overline{320}$ | $\stackrel{4}{6}$ |
| - | - | -- | 65 60 | 16,250 18,000 | 112 | - | - | - | 55 | 825 | 65 |
| - | - | - | 300 | 45,000 | 576 | - | - | - | 6 | 6,000 | 24 |
| - | - | - | 8 | 2,400 | 12 | - |  | - | 110 | 2,200 | 110 |

III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930-con.


[^22]
## III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930-con

Boats fishing for

III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930-con.

III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930-con.

III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930-concluded.

III. (1) Classification of Vessels and Boats used in the Sea Fisheries, according to Principal Kinds of Fish Taken, 1930-concluded.


## III. (2) Imports and Exports of Fish and Fishery Products

Statement showing the Quantities and Values of Fish and Fishery Products Imported into Canada for Consumption during the calendar years 1928, 1929 and 1930
(Compiled by the External Trade Branch)

| Classification | 1928 |  | 1929 |  | 1930 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity | Value | Quantity | Value | Quantity | Value |
| Fish and Fishery Products-FishCod, haddack and pollock |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Dried.........................................lb. | 4,920,998 | 261,446 | 3,911,828 | 200,531 | 4,727,052 | 193,335 |
| Fresh.......................................... ${ }^{\text {ib }}$ Smok. | 1,049,090 | 38,609 ${ }^{2}$ | 1,025,028 | 46,690 | 868, 376 | 34, 947 |
| Wet salted or pickled................................... | 3,465,419 | 131, 478 | 3,710,455 | 145,492 | 2,783,919 | 15, 83.63 |
| Hali but, fresh......................................lb | 1,524,497 | 153,809 | 1,427,820 | 163, 925 | 1,100,765 | 118,354 |
| Herrings, canned................................. l b. | 1,031,047 | 114, 019 | 806,955 | 83,186 | 465.809 | 4,710 |
| Herrings, iresh.,....................................ib. | -143,407 | 2,734 | 380,788 | 10.052 | 392, 996 | 10, 552 |
| Herrings, pickled or salted...........................lb | 5, 848,949 | 294, 693 | 5,625,876 | 261.589 | 5, 805,638 | 267.537 |
| Herrings, smoked...............................lb | 579,237 | 58, 441 | 496,468 | 47,064 | 234,808 | 27,799 |
| Live fish and fish eggs for propagating purposes....ib. | 129, 191 | 54, 162 | 283,423 | 20,300 | 199,553 | 17.6is |
| Lobsters, fresh...........................................fb. | 28,225 | 5,306 | 60,227 | 10.678 5.720 | 14,269 |  |
| Mackerel, fresh..................................bb. | 91,624 | 8,825 | 70,080 | 6,541 | 100.320. | 8,018 |
| Mackerel, pickled...............................b. | -691.036 | +6,847 | 1,405 | 155 | 2, 200 | 36 |
| Oysters, canned, in cans not over one pint.........can | 291,036 | 46,847 | 311,281 | 45,556 | 162.084 | 21,157 |
| one quart.....................................can | 1,596 | 989 | 2,424 | 1, 531 | 3,637 | 1, 881 |
| Oysters, canned, in cans exceeding one quart..... qt. | 3,471 | 3,049 | 4,167 | 3,422 | 3,827 | 2,992 |
| Oysters, in the shell ..........................bbl. | 2,227 | 21,210 | 2,296 | 21,852 | 1,844 | 17,323 |
| Oysters, shelled in bulk.........................gal. | 136,797 | 350.572 | 153,744 | 390, 544 | 128,222 | 329,332 |
| Oysters, prepared ar preserved, n.o.p.............lb. | 20,289 | 15,800 | 20,150 | 14.265 | 16,003 | 7,880 |
| Oysters, seed and breeding, imporetd for the purpose of heing planted in Canadian waters. |  | 4,644 |  | 4,962 |  | 3,539 |
| Salmon, canned, prepared or preserved, n.o.p.....lb. | 411,672 | 69,252 | 573,631 | 111,437 | 90,033 | 17,567 |
| Salmon, fresh....................................bb. | 789,247 | 110, 121 | 729.801 | 93,364 | 1,024,507 | 14t,93? |
| Salmon, pickled or salted........................ ${ }^{\text {b }}$ b. | 236,704 | 16, 667 | 192,923 | 16,609 | -326,269 | 25.921 |
| Salmon, smoked..............................lb. | 23,223 | 6,433 | 17,090 | 6.204 | 15,491 | 5,758 |
| Sardines, anchovies, sprats, and otber fish, packed in boxes weighing- |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Over 12 but not over 20 ounces each............ box | 50,206 | 14,758 | 219,140 | 30.866 | 370.142 | 4, 118 |
| Over 8 but not over 12 ounces................. box | 55,833 | 10,357 | 124,192 | 16,359 | 177,266 | 22,971 |
| S ounces or less............................... bor | 7,993,514 | 642,915 | 9,194, 841 | 733,094 | 5,642,895 | 449,297 |
| Squid, fresh........................................ |  | 63,707 |  | 37,271 |  | 26,367 |
| Other fish- |  |  |  |  |  |  |
| Dried...........................................lb. | 314,143 | 82,900 | 352,948 | 81.387 | 304,954 | 64.319 |
| Fresh........................................lb. | 1,207,885 | 126,393 | 1,477,290 | 163,133 | 1,706,342 | 168,023 |
| Pickled or salted................................lb. | 1,119,825 | 74,607 | 1,683,163 | 98,137 | 1,019,884 | 61,841 |
| Preserved in oil, n.o.p |  | 67.623 |  | 87, 864 |  | 76,047 |
| Preserved or prepared, n.o.p |  | 425,154 | - ${ }^{-}$ | 495,704 |  | 399,755 |
| Smoked or boncless.............................lb. | 84,780 | 13,626 | 104,840 | 13, 859 | 69,897 | 9, 14 |
| Fishery Products- |  |  |  |  |  |  |
| Ambergris...................................ewt, | 11. | 107 |  | ${ }^{7} 73$ | $-$ | 66 |
| Fish offal or refuse.........................ewt. | 11,699 | 4.693 | 15,485 | 15, 143 | 19,720 | 11,503 |
|  |  |  |  |  |  |  |
| Cod liver oil..............................gal. | 212,185 | 223,448 | 206,476 | 178,414 | 220,806 | 191,719 |
| Seal oil....................................gal. | 38.948 | 23,786 | 60.902 | 37,346 | 123,500 | 52, 582 |
| Whale and spermaceti oil....................gal. | 52,750 | 33,212 | 11,569 | 9.576 | 5,068 | 4,740 |
| Other fish oil............................gal. | 48,382 | 36,032 | 22,646 | 18,097 | 22, 205 | 15,411 |
| Pearl, mother of, unmanufactured................. |  | 40,756 | - | 16.567 | : | 19,485 |
| Shells- |  |  |  |  |  |  |
| Tortoise and other shells, unmanufactured. Shells, | - | 21,191 | - | 10,548 | - | 33,443 |
| Shells, n.o.p. crushed or ground | - | 124,316 | - | 125,347 | - | 114. 184 |
| Sponges of marine production. | - | 100,565 | - | 93,544 | - | 84,743 |
| Turtles......................................... | - | 4,514 | -2- | 5,693 | - | 5,335 |
| Whalebone, unmanufactured. <br> Whalebone, unmanufactured.......................lb. Other articles, the produce of the fisheries, n.o.p... | 2,025 | $\begin{gathered} 450 \\ 116,469 \end{gathered}$ | 3,228 | 6684 126.100 | 2,098 | 1.109 102.223 |
| Total Fish and Fish Products. | - | 4,068,074 | - | 4,233,906 | - | 3,446,601 |

III. (2) Imports and Exports of Fish and Fishery Products-con.

Statement showing the Quantities and Values of Fish and Fishery Products of Canadian Origin Exported from Canada during the calendar years, 1928, 1929 and 1930
(Compiled by the External Trade Branch)

| Classification | 1928 |  | 1929 |  | 1930 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity | Value | Quantity | Value | Quantity | Value |
| Fish and Fishery Products-Fish- |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Atewives, salted..............................cwt. | 29.224 | 81.684 | 30,706 | 94, 875 | 33,830 | 101,524 |
| Bait fish........................................ton | 2,126 | 45,857 | 1,714 | 59,907 | 1,484 | 45,697 |
| Chams, fresh....................................ewt. .cwt. | 13,030 <br> 13,317 | 182,662 23,858 | 12,992 | 204,753 24,067 | -19,024 | 137,317 26,561 |
| Codfish, boneleas, eanned or preserved, n.o.p....ewt. | 22,277 | 230,502 | 30,909 | 315,975 | 20,767 | 205,749 |
| Codfish, dried................................ewt. | 594, 38.1 | 4,953,119 | - 514,998 | 4,748,472 | 448,399 | 3,774, 333 |
| Codfish, fresh and frozen.....................ewt. ${ }^{\text {Codfish, }}$ | 14,936 | 107, 878 | 12,113 | -107, 253 | 21, 278 | - 225, 206 |
| Codish, green-salted (pickled) .....................ewt. | 81,933 | 380,016 <br> 284,297 | 75,409 | 369,830 <br> 168 <br> 123 | 113,424 | 497,432 |
| Eels, fresh and irozen...............................e.ewt. | 15,971 | 210,289 | 10,173 | 136,987 | 10,954 | 148,909 133,657 |
| Haddlock, canned. . . . . . . . . . . . . . . . . . . . . . . . . . . . ewt. | 447 | 6,333 | ${ }^{207}$ | 2,837 | $1{ }_{203}$ | 133,657 2,468 |
| Haddock, dried.................................cwt. | 28,378 | 180,764 | 26, 023 | 180,672 | 23, 672 | 151,011 |
| Haldock, fresh and frozen........................ewt. | 6,056 | 44,417 | 4,649 | 26,095 | 13,961 | 163, 703 |
| Hactlork, smoked..............................ewt. | 12,858 | 114, 626 | 15.476 | 160,005 | 13,928 | 157, 364 |
| Halibut, fresh and frozen.......................ewt. | 43,685 | 508, 293 | 48,514 | 667,543 | 35,517 | 464,870 |
|  | 20,003 | 362,661 | 17,113 | 195,054 | 22,974 | 249,117 |
|  | 1, 169,805 ${ }^{27}$ | 2,023,664 | 1.090, 267 | 1,948, 920 | 925, $27{ }^{2}$ |  |
| Merrinqs, sea, fresh and frozen.....................ewt. | -365,407 | - 272,077 | - 291,446 | 1, 234,979 | 162,721 | - 139,463 |
| Herrings, sen, pickled.........................ent. | 61,853 | 170,251 | 46,351 | 177,906 | 52,678 | 191,653 |
| Herrings, sea, smoked..........................ewt. | 73,416 | -292,390 | 80,819 | 328,905 | 69,054 | 252,938 |
| Lobsters, carned.............................cwt. | 48,115 | 3, 107, 292 | 50,385 | 3,113,631 | 54,785 | 3,234,892 |
| Lobsters, fresh..................................cwt. | 50,501 | 1,514,719 | 80,195 | 2, 266,008 | 96,330 | 2,279,238 |
| Matkerel, fresh and frozen......................cwt. | 19,697 | 148,153 | 18,076 | 124, 111 | 13,590 | 75, 241 |
| Mackerel, piekled...............................ewt. | 66.167 | 384,278 | 73,033 | 462, 424 | 86,454 | 502,115 |
| Oysters, fresh................................cwt. | 3,336 | 24, 866 | 6.393 | 60,088 | 4,710 | 40,953 |
| Pilchards, canned, ..............................cwt. | 24,178 | 221,557 | 18,361 | 173,621 | 10, 931 | 107,049 |
| Pollock, hake and cusk, boneless, canned or pre- |  |  |  |  |  |  |
| Pollock, hake and cusk, dried...................cwt. | 43,738 | 264,826 | 61,223 | 382,269 | 52,682 | 328,786 |
| Pollock, hake and cusk, fresh and frozen........cwt. | 1,084 | 4,075 | 967 | 4,314 | 910 | 2,662 |
| Pollock, hake and cusk, green-salted. ............ewt. | 30,080 | 61,298 | 24,325 | 50,498 | 15,482 | 35,405 |
| Pollock, hake and cusk, smoked................cwt. | 225 | 2,925 | 100 | 1.000 |  | 1,721 |
| Salmon, eanncd..............................cwt. | 643.399 | 3,227,442 | 605,033 | 8, 865, 889 | 457.279 | 6,479,255 |
| Sahmon, dry salted (chum) .....................ewt. | 209, 060 | 756, 957 | 89,963 | 315,341 | 144,729 | 395,371 |
| Salmon, frest and frozen. . . . . . . . . . . . . . . . . . . cwt. | 83, 603 | 1,085,711 | 69,407 | $1,119.617$ | 94, 328 | 1,514,429 |
| Salmon, pickled.............................cwt. | 23,974 | 535,903 | 22,817 | 536,691 | 22,040 | 426,316 |
| Salmon, smokerl ...............................cwt. | 794 | 10.356 | 957 | 11,817 | 174 | 3,668 |
| Salmon trout or lake trout, fresh and frozen.... ewt. | 46,955 | 554,562 | 44,984 | 523;319 | 36, 484 | 402,086 |
| Sardines (little fish in oil) ....................... ewt. ewt. | 55,036 | 536,833 | 57,556 | 578, 015 | 42,360 | 412,786 |
| Shell Gish, other, fresh.......................cwt. | 5,635 | 1, 93, 940 | -3,593 | -56,394 | -3,366 | 59,918 |
| Stuclts, fresh and frozen........................ cwt. | 81,161 | 1,165,640 | ${ }^{67.583}$ | 989,916 | 53,292 | 816,121 |
| Sturgeon, fresh and frozen......................ecwt. | 2,295 | 101,663 | 1,871 | 65,522 | 1,142 | 41.507 |
| Swordfish, frech and frozen......................cwt. | 7,310 | 121,440 2,898 | 5,981 | 78,093 9,085 | 10,350 | 162,552 4,010 |
| Toncues and sounds ..........................cwt. | 380, 99662 | 2,898 620,055 | 887 87,859 | 9,085 723,022 |  | 514,842 |
| Tullibee, fresh and frozen...........................wt. Whale meat, canned or preserved, no.p............wt. | 99,662 | 620,055 | 87,859 | $\begin{array}{r}723,022 \\ 2.08 \\ \hline\end{array}$ | $\begin{array}{r}63,570 \\ 417 \\ \hline\end{array}$ | 514,842 1.903 |
| Whitefish, fresh and frozen $\square$ | 109,540 | 1,401.762 | 114,927 | 1.518, 658 | 100,709 | 1,215,118 |
|  | 309, 825 | 2,563,776 | 317,365 | 2,748,526 | 283,971 | 2,286,320 |
|  |  |  | 1,035 | 4,324 | 62 | 522 |
| Other sea fish, fresh and frozen...............cwt. | 6,043 | 47,585 | 6,547 | 55,086 | 7,064 | 68,107 |
| Other sea fish, salted, dried smoked or pickled. .cwt. | 4,249 | 16, 833 | 5,311 | 37,105 | 7,625 | 46,011 |
| Other sea fish, canned or preserved, n.o.p.....ewt. | 106 | 1,877 | 120 | 1,634 | 60 | 1,105 |
|  |  |  |  |  |  |  |
| Fish offal or refuse............................. .ewt. | 33,499 | 81,497 | 29,395 | 64,772 | 18,590 | 36,596 |
| Oils-0d liver oil.................................ggal. | 266, 348 | 216,709 | 169,457 | 129,911 | 172.423 |  |
| Seal oil | $\begin{array}{ll} 1,070 \\ 1,553 \end{array}$ | ${ }^{210} 728$ | 37, 603 | 19,920 | 3,596 | 11,761 |
|  | $\begin{aligned} & 381,979 \\ & 3 \end{aligned}$ | $\begin{array}{r} 160,091 \\ 359094 \end{array}$ | 2, 541,585 | 220,089 $1,098,669$ |  | 112,675 |
| Other fish oil.............................................. | $\begin{array}{r} 3,434,013 \\ 8,517 \end{array}$ | $\left.\begin{array}{r} 1,359,991 \\ 70,487 \end{array} \right\rvert\,$ | $2,934,461$ 24,146 | $\left\|\begin{array}{r} 1,098,669 \\ 108,532 \end{array}\right\|$ | 2,591,177 6,924 | 555,247 24,993 |
| Seal skins, undressed ................................................... | 8,517 | $\begin{array}{r} 70,487 \\ 273,255 \end{array}$ | 24,146 | $\begin{array}{r} 108,532 \\ 45,9405 \end{array}$ | 6, 824 | 24,993 31,753 |
| Total Fish and Fishery Products. | - | 38,095,245 |  | 37,546,393 |  | 31,869,350 | calendar year, 1930.

(Compiled by the External Trado Branch)

| Countries to which Exported |  | Bait fish | Clams |  | Codfish |  |  |  |  | Eels, iresh and frozen | Haddock |  |  |  | Halibut fresh and frozen |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Alewives salted |  | Canned | Fresh | Boneless, canned or preserved n.o.p. | Dried | Fresh and frozen | Greensalted (pickied) | Smoked |  | Canned | Dried | Fresh and frozen | Smoked |  |
| United Kingdom. | cwt. |  | ewt. 3 | cwt. | cwt. | cirt. | cwt. | ewt. | cwt. | owt. | ewt. | civt. ${ }_{4}$ | cwt. | civt. | cwt. |
| Irish Free State. | - | - | ${ }^{3}$ | - | - |  | -- |  | - | - |  | $\stackrel{4}{4}^{4}$ |  |  | - |
| Africa, British East. | - | - | - | - | - | - | - | - | - | - | 5 | - | - | - | - |
| Airica, British South. . | - | - | - | - | - | - | - | - | - | - |  | - | - | - | - |
| Afrien, British West- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Gnmbia............. | - | - | - | - | - | - | - | - | - | - | - |  | - | - | - |
| Gold Coast. | - | - | - | $\square$ | - |  | -- | - | - | - | - |  | - |  | - |
| Nigeria...... | - | - | - | - | - | - | -- | -- | - | $-$ | - | - | - | - | - |
| Other........ | - | - | - |  | - | - | - | - | - | - | - | - | - | - | - |
| Bermuda.... | 3 | - | 0 | - | 273 | 3,640 | 35 | 4 | 27 | $\cdots$ | 14 | - | 0 | 332 | - |
| 13ritish East Indies- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| British Indir. | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Coylon.............. | - | - | - | - | - | - | - | $\overline{-}$ | - | - | - | - | $\overline{-}$ | - | - |
| Straits Sottloments. | 520 | - | - | - | $\cdots$ | - 70 | - | - | - | . - | - | 219 | - |  | - |
| British Guiana.... | 520 | - | - | - | - | 2,701 | - | - | - | - | - | 210 | - | 30 | - |
| British Hondurns.... | - | - | - | - | - | 328 | - | - | - | - | - | - | - | - | - |
| 3ritish West Indios- |  |  |  |  |  | 7,646 | 42 |  | 2 |  |  |  |  |  |  |
| Barbadoes....... | 30.4 16,609 | - | - | - | - | 3,640 | 42 | - | $-$ | - | - | 558 | - | 21 | - |
| Trinidad and Tobago. | -170 | - | - | - | 10 | 33,421 | 07 | - | 03 | - | 3 | 651 | 2 | - | - |
| Other.................. | 773 | - | - | - | 1 | 3,695 | - | - | - | - | - | 55 | - | 4 | - |
| Gibraltar... | - | - | - | - | . - | - | - | - | - | - | - | - | - | - | $\stackrel{\square}{0}$ |
| Hong King. . . | - | - | - | - | - - | - | - | - | 7 | - | - | - | - | 20 | 30 |
| Iraq (Mesopotamia). | - | - | -- | - | - | - | - | - | - | - | - | - | - | - | - |
| Malta.................. | - | - | - | - | - |  | - | ${ }_{8,753}^{-}$ | - | - | - | - | - | - |  |
| Newfoundland. . | 4 | - | 9 | 7 | - | 4,700 | - | 8,753 | - | - | - | - | - | 65 | 10 |
| Oceania- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Australia. | - | - | 45 | - | $\square$ | 10 | 51 | - | 55 | -- | - | - | - |  | 97 |
| Fiji............ | - | - | $-$ | - | - | - | - | - | 11 | - | - | - | - |  |  |
| Now Zealand. | - | - | - | - | - | - | - | - | - | - | - | - | - |  | - |
| Othor......... | - |  | - | - | - | - | - | - | - | - | - | - | - |  | - |
| Palestine. | - |  | - | - | - | - | - | - | - |  | - | $\stackrel{-}{-}$ | - |  |  |
| Argentina. | - | - | $\pm$ | - | - | - - | - | - | - | - | - | - | - |  |  |
| Austrin.... | - | - | - | - | - | -- | -- | - | - | $\stackrel{-}{150}$ | - | - | - | - | - |
| Belgium........ | - | - | - | - | - | -- | - | - | - | $\stackrel{150}{-}$ | - | - | - | - | - |
| Bolivia......... | - | - | - | - | - |  | - | - | - | - | - | -- | - | - | - |
| Brazil... | - | - | - | - | - | 33,430 | - | - | - | - | - | - | - | - | - |
| Chilo.. | - | - | $2 \cdot 4$ | - | - |  | - | - | - | - | - | - | -- | $\overline{3}$ | - |
| China. | - | - | 1 | - | - | $\square$ | - | - | - | - | - | - | - - | 33 | - |
| Colombia. | - | - | $-$ | - | - | 2,063 | - | - | - | - | - |  | - | - | - |


| Czocho-Slovakia. | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Denmark., |  | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ecuador. | - | - | - | - | - | - | - | - | - | - | - | - | - | $\rightarrow$ | - |
| Ezypt. | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Finland. | - | - | - | - | - | - | - | - | - | - | - | - | - | - | $\cdots$ |
| France. | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| French Africa...... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fronch East Indies | - | - | - | - | - | - | - | - | - | -- | - | - | - | - | - |
| Fronch Guiana. | - | - | - | - | - | -- | - | - | - | - | - | - | - | - | - |
| French Oeennin.... | - | - | - | - | - | 2.05 | - | - | - | - | - | -- | - | - | - |
| St. Pierre and Miqueion. | 4 | - | 24 | 4 | - | 2.00 | 2 | - | - | - | - | - | - | 25 | - |
| Germany.................. | - | - | - | - | - | - | - | - | - | 3,010 | - | - | - | - | - |
| Greece. | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Guatemala. | - - | - | -- | - | - | 40 | $-$ | - | - | - | - | - | - | - | - |
| Hayti...... | 2.150 | - | - | - | $\square$ | 3,438 | 260 | - | - | - | - | 1.870 | - | - | - |
| Italy... | - | - | - | - | - | 50,062 | - | - | - | -- | - | 1, 670 | - | $\overline{3}$ | - |
| Japan.. | - | - | - | - | - | - | - | $\underline{-}$ | $-^{1}$ | - | - | - | -- | 36 | - |
| Liberin. | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Mexico. | - | - | - | - | - | - | - | - | - |  | - | - | - | - | - |
| Moroceo. | - | - | - | - | - | - | - | - | - | $-$ | - | - | - | - | - |
| Nethorlands. | - | - | - | - | - | - | - | - | - | 100 | - | - | 3 | - | - |
| Dutch East Indics. | - | - | - | - | - | 8 | - | - | - | - | - |  | -- | - | - |
| Dutch Guiana. ${ }^{\text {de.. }}$ | 2,471 | - | - | - | - | 18 | - | - | - | - | - | 2,235 | -- | - | - |
| Dutch West Indies. | S | - | - | - | - | 365 | - | - | - | - | - | - | - | - | - |
| Norway... | -- | - | - | - | - | -- | - | - | - | - | - | - | - | - |  |
| Pramam. | 5 | $\square$ | - | - | - | 6,360 | - | - | - | - | - | - | - | - | - |
| Peru.. | - | - | - | - | - | - $\square^{-18}$ | - | - | - | - | - | - | - | - | - |
| Portugal. | - | - | - | - | - | 5,818 | - | - | - | - | - | - | - | - | - |
| Azores and Madeira. | - | - | $\cdots$ | - | - | - | - | - | - | - | - | - | - | - | - |
| Portugeuse Africs. | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Portuguese Asic. | - | - | $\square$ | $\square$ | - | - | - | - | $\underline{-}$ | - | - | - | - | - | - |
| Roumania, | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| San Domingo | 30 | - | - | - | - | 215 | - | - | - | - | - | 8,162 | - | - | - |
| Siarn........ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Spain.. | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Canary Islands | - | - | - | -- | - | - | - | - | - | - | - | - | - | - | - |
| Spanish Afriea. Sweden | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sweden..... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Syria.... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Turkey ...... | 10. -18 |  | 8.012 | 10,831 | 20, - $^{8}$ | 03,203 |  |  |  | 7,604 | 181 | 5,393 | 13, $\stackrel{-18}{ }$ | 13, $\sim_{-}$ | 35,268 |
| United States.. | 10, 616 | 1,266 | 8,012 | 10,831 | 20,484 | 03,203 | 20,807 | 104,667 | 11,282 | 7,604 | 181 | 5,393 | 13, ${ }^{-}$ | 13,385 | 35,268 |
| Alaska................. ${ }^{\text {American }}$ Virgin İma | - $\overrightarrow{16}$ | $\stackrel{218}{-}$ | - | $\stackrel{-}{-}$ | - | 322 | - | - | - | - | - | ${ }_{4}^{4}$ | - | - | - |
| Hawaii................. |  | - | - | - | - | - | -14 | - | - | - | - | - | - | 18 | 103 |
| Philippine Islands. | $\overline{84}$ | - | - | - | - | 85, - $^{-}$ | $\underline{14}$ | - | - | - | - | 1, $\overline{802}$ | - | - | 10 |
| Uruguay...... | - | -- | - | - | - | $\stackrel{-}{25}$ | - | - | - | - | - | - | - | - | -- |
| Total Exports. | 33,830 | 1,484 | 9,024 | 16,842 | 20,767 | 448,399 | 21,278 | 113.424 | 11,450 | 10,054 | 203 | 23,672 | 13,061 | 13,028 | 35,517 |
| To British Empire | 18,440 | - | 63 | 7 | 283 | 87,563 | 105 | 8,757 | 185 | - | 22 | 1,527 | 10 | 480 | 139 |
| To Foreign Countrios. | 15,381 | 1,484 | 8,001 | 16,835 | 20,484 | 360,836 | 21,083 | 104,667 | 11,285 | 10,954 | 181 | 22,145 | 13,051 | 13,448 | 35,378 |

(Compiled by the External Trade Branch)

| Countries to which Exported | Herrings,Iake,froshandfrozen | Herrings, Sea |  |  |  |  | Lobsters |  | Mackerel |  | Shell Fish |  | $\begin{gathered} \text { Pilchards } \\ \text { canned } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Camed | Dry salted | Fresh and frozen | Pickled | Smoked | Cunned | Fresh | Fresh and frozen | Pickled | Oysters, fresh | Other, fresh |  |
| United Kingdom. |  | cwt. | cwt. |  |  | cowt. ${ }_{12}$ | cwt. <br> 24,881 |  |  | ewt. | owt. |  | cwt. |
| Irish Free Stato..... |  | - | - | - |  |  |  | - | - | - | $\cdots$ | - | - |
| Africa, British East... | - | - | - | - | - |  | - | - | - | $=$ | - | - | 270 |
| Africh, British South... |  | - |  | - |  |  |  | - | - | - | - | - | 270 |
| Gambia............ | - | - | - | - | - | - | - | - | - | - | - |  | - |
| Gold Const.. | - | - | - | - | - | - | - | - | - | - | - | - | 86 |
| Nigeria....... | - | - | - | - | - | - | - | - | - | - |  | - | 96 |
| Other...... | - | - | - | - |  |  |  | - | - | - |  | - |  |
| Bermuda... | - | 2 | - | 6 | 11 | 127 | 22 | - | - | 454 | 9 | - | 70 |
| British East Indies- |  | - |  |  |  |  |  |  |  |  |  |  |  |
| British India......... | - | - | - | - | - | - | - | - | - | = | - | - | - |
| Straits Settlemonts. | - | - | - | - | - |  | - | - | - | - |  |  | 2 |
| British Guiama... | - | - | - | - | 950 | 1,182 | 7 | - | - | 5,346 | 2 | - | 113 |
| British Honduras..... |  | - | - | - |  |  | - | - |  | 111 |  | - | - |
|  | - | - | - | 6 | 1,037 | 2,284 | 2 | - | - | 244 | - | - | 620 |
| Jamaica.. | - | - | - | - | 25,80. | 1,527 | - | - | - | 63,00. | 2 | - | 13 |
| Trinidad and Tobago |  | - | - | - |  | 35.146 | 4 | - | - |  | $-$ | - |  |
| Gibraltar.... |  | - | - | - | 4,774 | 2,905 | - | - |  | 1,332 |  | - | 3 |
| Hong Kong........ | - | - | 212,026 | 251 | - | 102 | 2 | - | - | - | 17 | - | $\overline{25}$ |
| Irag (Mesopotamia). | - | - |  | - | - | - |  | - | - | - | - | - | - |
| Malta. ${ }^{\text {Nowfoundiand. }}$. | - | -- | - | $\overline{37}$ | -4 | -8 | 34 | -3 | - | 5 | $\overline{58}$ | - | - |
| Ocoania- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Australia. | - | - | - | 23 | - | - | 12 | - | - | - | - | - | 4,867 |
| Fiji......... | - | - |  | . - | - | 11 |  | - | - |  |  |  |  |
| Now Zoaland. | - | - | - | - | - | $\square$ | $\stackrel{21}{-}$ | - | - | - |  | - | 2,028 |
| Palestine....... | - | - | - | - | - | - | - |  | - | - | - | - | 2 |
| Argentino.. |  | - | - | - | - | - | 9 | - | - | - | - | - | $\square$ |
| Austrin.... |  | - | - | - | - | - |  | - | - | - | - | - | 10 |
| Bolgium. ${ }_{\text {Bolgian }}$ Congo | - | - | - | - | - | - |  | - | - | - | - | - | - |
| Boliva........... | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chrazil.. | - | - |  | - | - | - | - | - | - | - | - | - | 144 |
| China. | - | - | 451,800 | 2,045 | - | 88 | -- | - | - | - | - | - |  |
| Colombia.. | - | - | - | - | $\overline{36}$ | 52 | - | - | - | 245 | - | - | - |
| Costa Rica. | - | - | $\overline{-}$ | $\square$ | 36 | 52 <br> 426 | - | - | - | ${ }^{245}$ | - | - | - |
| Czocho-Slovakia | - | - | - | - | - | - | 98. | - | - | - | - | - | 12 |



Statement showing Quantities of the Principal Fish and Fishery Products of Canadian Origin Exported from Canada during the calendar year, 1930-con.

| Countries to which Exported | Pollock, hake and cusk |  |  |  |  | Salmon |  |  |  |  | Salmon trout or lake trout, fresh and frozen | Sardines (little fish in oil) | Smelts, fresh and frozen | Sturgeon, fresh and frozen | Swordfish, fresh and frozen |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Boneless, cmned or pre served, n.o.p. | Dried | Fresh and frozen | Green salted | Smoked | Canned | Drysaltod (chum) | Fresh and frozen | Pickled | Smoked |  |  |  |  |  |  |
| United Kingdom | cwt. | cwt. ${ }_{4}$ | cwt. 12 | ewt. | ewt. | cwt. | cwt. | $\xrightarrow[\substack{\text { cwt. } \\ 31,120}]{ }$ | $\mathrm{cwt}_{349}$ | cwt. | ${ }^{\text {cwt. }} 111$ | cwt. | cwt. | owt. | cwt. | cwt. |
| Irish Free State.. |  |  |  |  |  |  |  |  |  |  |  |  | - |  | - |  |
| Aírica, British East | - | - | - | - |  |  | - |  |  | - | 0 | 54 | - |  | - | - |
| Airica, British South... | - | - | - | - | - | 12,569 | - | - |  |  | - | 3,875 | - |  | - | - |
| Afrien, British West- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Gambia | - | - | - | - | - | 12 | - | - | - | - | - | $\overline{-}$ | - | - | - | - |
| Gold Const. | - | - | - | - | - | 2,592 | - | - | - | - | - | 98 | - | - | - | - |
| Nigeria ..... | - | - | - | - | - | $\begin{array}{r}3,632 \\ \hline 603\end{array}$ | - | - | - | -- | - | 80 | - | - | - | - |
| Sierra Leon | - | - | - | - | - | + 603 | - | - | $-$ | -- | - | 114 | - | - | - | - |
| Bermuda.... | - | 18. | -1 | - | - | 1.110 460 | - | 5 | 30 | - | - | 114 310 | $\cdots$ | - | - | - |
| British East Indios- |  |  |  |  |  |  |  |  |  |  |  |  |  | - | - | - |
| British India....... | - | - | - | - | $\cdots$ | 4,140 | $\cdots$ | - | - | - | - | 190 | - | - | - | - |
| Ceylon. | - | - | - | - | - | 043 | - | - | - | - | - | 8 | - | - | - | - |
| Straits Settloments. | - | $\cdots$ | - | - | - | 1,351 | $\cdots$ | ${ }^{6}$ | $-$ | - | - | ${ }^{600}$ |  | - | - | $\cdots$ |
| British Guiana.. | - | 2,048 | - | - | - | 745 | - | 10 | 113 | - | - | 1,889 | - | - | - | - |
| British Hondurns.. | - | - | - | - | - | 267 | - |  | - | - | - | 178 | - | - | - | - |
| British West Indies- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Barbados.......... | - | . 402 | - | - | - | 1,458 | - | 17 | 170 | - | - | 1,108 | - | - | - | - |
| Jamaica. | - | 5,482 | - | - | - | 2,124 | - | 2 | 157 | - | - | 8,088 | - | - | - | - |
| Trinidad and Tobago. | - - | 4.175 | - | - | - | 3,250 | - | 12 | 425 | - | - | 3,151 | - | - | - | - |
| Othor.............. |  | 8.153 | - | - | - | 340 | - | - | 27 | - | - | 1,338 | - | - | - | - |
| Gibraltar.. | - | - | - | - | - | 48 |  | $\overline{-}$ | - | $\square$ | - | - | $\overline{-10}$ | - | $\cdots$ | - |
| Hong Kong . . . . . | - | - | - | - | - | 273 | 10,021 | 34 | - | 16 | - | - | 10 | - | - | - |
| Iraq (Mesopotamia) | - | - | - | - | - | 96 | - | - | - | - | - | $-$ | - | - | - | - |
| Malta......... | - | - | - | - | - | 1,552 | 13 | $\overline{-}$ | $\overline{-}$ | - | - | 33 | - | - | - | - |
| Nowfoundland. | - | - | - | - | - | 16 | 34 | $8:$ | 468 | - | - | 038 | - |  | - | - |
| Occania- | - | - | - | - | - | 05.850 | 10 | 233 | 113 | 121 | - | 5.766 | - | - | - | - |
|  | $\cdots$ | - | - | - | - | 2,668 | - | 7 | 1 |  | - | 364 | - | - | - | - |
| New Zealand | - | - | - | - | - | 21,044 | - | 60 | - | 2 | - | 2,082 | - | - | - | - |
| Other.,..... | - | - | - | - | - | ${ }^{21} 727$ | - | - | - | - | - | ${ }^{6}$ | - | - | - | - |
| Palostine. | - | - | - | - | - | 546 | - | - | - | - | - | 470 | - | - | - | - |
| Argentina.. | 7 | - | - | - | - | 1.211 | - | 179 | 20 | - | - | - | - | - | - | - |
| Austria...... | - | $\cdots$ | - | - | - |  | - | $-$ | - | - | - | 464 | - | - | - | - |
| Belgium......... | - | 11 | - | - | - | 21,878 | - | 707 | 2 | - | - | 1400 | $\sim$ | - | - | - |
| Belpian Congo | - | - | - | - | - | 102 <br> 132 | $\underline{-}$ | - | - | - | - | 1,020 | - | - | $\cdots$ | - |
| Bolivin.......... | - | 12. $0^{-18}$ | - | - | - |  | - | - | - |  |  | -- | - | - | - | - |
| Brazil.. | - | 12, ${ }^{\text {2 }}$ | -- | - | - | 16.455 | - | - | - | - | - | $\stackrel{-100}{100}$ | - | - | - | - |
| Chilo..... | - | - | - | - | - | 16,455 350 | 7, ${ }^{-}$ | $\overline{7}$ | - | $\stackrel{-}{16}$ | - | 100 495 | - | - | - | - |
| China...... | - | - | - | -- | - | 350 1,020 | 7,280 | 77 | - | 16 | $=$ | ${ }^{495}$ | - | - | - | - |
| Colombia.. | - | - | - | - | - | 1,020 83 | $\stackrel{-}{-}$ | - | -- | - | - | $-$ | - | - | - | - |
| Cuba....... |  | 790 | - | - | - | - | - | - | - | - | - | 510 | - | - | - | - |



| Countries to which Exported | Tullibeo, fresh and frozen | Whalo meat canned or preserved n.o.p. | White fish fresh ind rozon | Othor freshwater fish |  | Other sod fish |  |  | $\underset{\substack{\text { Fish } \\ \text { meal } \\ \text { (a) }}}{ }$ | Fish offal orrofuse | $\begin{gathered} \text { Cod } \\ \text { Hivor } \\ \text { oil } \end{gathered}$ | $\begin{gathered} \text { Fish } \\ \text { oil } \\ \text { othor } \end{gathered}$ | $\underset{\substack{\text { Seal } \\ \text { oil }}}{ }$ | Whale oil | Sonl skins, dressed |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\begin{aligned} & \text { Fresh } \\ & \text { find } \\ & \text { frozon } \end{aligned}$ | Saltod, dried, or piokled | Fresh and frezen | $\|$Salted, <br> dried, <br> smoked <br> or piklided | Cunned or preserved, n.o.p. <br> n.0.p. |  |  |  |  |  |  |  |
| United Kingdom. |  | ${ }^{\text {cwt. }}$ - | $\mathrm{cwst}^{\text {c }}$ |  |  |  | cwt. . |  | ${ }^{\text {cwivt. }} 274$ | ewt. |  | $\xrightarrow{\text { gal. }}$ |  |  | no. ${ }_{4}, 570$ |
| Irish Freo Stato... |  | - |  | - |  | - |  |  | - | - | - | -- | - | - | - |
| Africh, British-East.... | -- |  |  | - | - | - |  | - | - | - | - | - | - | - | - |
| Arrica, British West-. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Gambin............ | - | - | - | - | - | - |  | - | - | - | - | - | - | - | - |
| Gold Const......... | - |  | - | - | - | - |  | - | - | - | - | - | - | $=$ | - |
| Siorra Leono... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Other........... | - | - | - | - | - | 6 | 4 | -8 | - | - | $\overline{10}$ | - | - | $\square$ | - |
| British Last Indies- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| British India....... | - |  | - | - | - | - | - | - | - | - | - | - | - | - | - |
| $\xrightarrow{\text { Coylon }}$ Straits Sotilements | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| British Guiank... | - | $\sim$ | - | - | - | - | 220 | - | - | - | 125 | - | - | - | - |
| British Hondurns.... | - | - | - | - | - | - | 2 | - | - | - | - |  | - | - | - |
| Barhados.......... | - | - | - | - | - | 1 | 291 | - | - | - | 7 | - | - | - | - |
| Jamaica .......... | - | - | - | - | - | - | ${ }_{82}^{87}$ | - | - | - | $\stackrel{70}{ }$ | - | - |  | - |
| Trinidad and Tobago Other............. | - | - | - | - | - | - | 1,045 | ${ }_{1}$ | - | - | - | - | - | - | - |
| Gihrultar...... | - | - | - | - | - | , |  | - | - | - | - | - | - | - | - |
| Irang Kong........ | - | - | - | - | - | ${ }^{3}$ | $-^{2}$ | - | - | - | - | - | - | - |  |
| Maltah........... | - | - | - | - | $=$ | - | - | 8 | 10 | - | - | - | , | - |  |
| Nowfoundland. | - | - | - | - | - | $1 ;$ | 4 | 8 | 10 | 16 | 3,6+2 |  | 44 | 160 | 73 |
| Oceania- ${ }_{\text {Australia. }}$ |  |  | $-$ |  | - |  | 260 |  | - | - | - | - | - | - | - |
| Fiji.......... | - | - | - | - | - | 2 | $-$ | - - | - | - | $\cdots$ | - | - | - | - |
| Now Zealind. | - | - | - | - | - | - | - |  | - | - | - | - | - | - | - |
| Prlostino..... | - | - | - | -- | - | - | - | - | - | - | - | - | - | - | - |
| ${ }_{\text {Argentina. }}^{\text {Austria. }}$ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bolgium... | - | - | - | - | - | - | - |  | - | - | - | - | - | - | - |
| Belgian Congo | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Brazil....... | - | - | - |  | - | - | 1,423 | - | - | - | - | - | - | - | - |
| Chilo... | - | - | - | - | - | - |  | - | - | - | - | - | - | - | - |
| China, | - | - | - | - | - | - | ${ }_{-}^{1}$ | - | - | - | - | - | - | - | - |
| Costa Rica | - | - | - | - | - | - | - | - - | - | - | - | - | - | - |  |


III. (3) Statement showing the Salmon-pack ${ }^{1}$ of the Province of British Columbia, by Districts and Species, from 1920 to 1930 , inclusive. (From reports of B.C. Salmon Canners' Association)

| Species | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1826 | 1927 | 1928 | 1929 | 1930 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | cases | cases | cases | cases | cases | cases | cases | cases | cases | cases | cases |

FRASER RIVER

| So | 44,598 | 35,900 | 48,744 | 29,423 | 36,200 | 31,523 | 83,598 | 57,056 | 26,530 | 60,363 | 107,901 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Spring | 19,691 | 11,360 | 10,561 | 3,854 | 2,982 | 5,695 | 9,710 | 5, | ${ }^{397}$ | 947 | 5,420 |
| Springe, 3 |  |  | 2,433 | 684 | 592 | 2,294 | 3,073 | 2,893 | 776 | 2,358 | 5,946 |
| Springs, white | 3,392 | 5,949 | 3,867 | 3,615 | 4,056 | 27,701 | 20,169 | 10,528 | 3,909 | 6,699 | 9,761 |
| Bluehacks and | 4,522 | 1,331 | 817 | 15 | 1,822 | 5,152 | 13,776 | 10,658 | 795 | 12,01 | 27,879 |
| Cohoes | 22,934 | 29,978 | 23,587 | 20,173 | 21,401 | 36,717 | 21,783 | 24,079 | 27,061 | 40,520 | 25,585 |
| Pinks | 12,839 | 8,178 | 29,578 | 63,645 | 31,968 | 99,800 | 32,256 | 102,536 | 3,881 | 158,208 | 30,754 |
| C | 23,884 | 11,223 | 17,895 | 103,248 | 109,495 | 66,111 | 88,495 | 67,259 | 193,106 | 144,159 | 68,946 |
| Total | 132,860 | 103,919 | 137,482 | 221,637 | 203,516 | 272,993 | 272,860 | 280,041 | 255,455 | 425,267 | 282,192 |

SKEENA RIVER


RIVERS INLET


SMITH'S INLET:


NAAS RIVER

| Sockeyes | 16,740 | 9,361 | 31,277 | 17,821 | 33,500 | 18,045 | 15,929 | 12,026 | 5,540 | 16,077 | 26,405 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Springs, red. | 3,686 | 1,431 | 1,466 | 2,522 | 2,142 | 3,067 | 4,616 | 3,158 | 937 | 78 | 1,093 |
| Springs, standa |  |  | 341 | 457 | 208 | 298 | 751 | 387 | 602 | 121 | 147 |
| Springs, white. | 1,271 | - 657 | 255 | 335 | 375 | 392 | 597 | 279 | 307 | 163 | 51 |
| Steelheads. | ${ }^{560}$ | ${ }_{8}{ }^{413}$ | ${ }_{3} 235$ | ${ }^{595}$ | 1,035 | 245 | 4 375 | 96 3.960 | 10, ${ }^{36}$ | 1302 | - 81 |
| Pinks.. | 43,751 | 29,488 | 75,687 | 44,165 | 72,496 | 35,530 | 50,815 | 16,609 | 83, 183 | 10,342 | 79,976 |
| Chums. | 12,145 | 2,176 | 11,277 | 25,791 | 26,612 | 22,50:1 | 15,392 | 3,307 | 3,538 | 1,212 | 3,978 |
| Total. | 81,153 | 51,765 | 124,071 | 99,580 | 142,939 | 89,008 | 92,749 | 39,828 | 104,873 | 20,185 | 113,460 |

[^23]III. (3) Statement showing the Salmon-pack ${ }^{1}$ of the Province of British Columbia, by Districts and Species, from 1920 to 1930, inclusive. (From reports of B.C. Salmon Canners' Association)-concluded

| Species | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | cases | cases | cases | cases | cases | cases | cases | cases | cases | cases | cases |

QUEEN CHARLOTTE ISLANDS

| Sockeyes. | - | - | - | - | 88 | 38 | 708 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Springs, red. | - | - | - | - | - | 283 | 708 | 1,980 | $\stackrel{38}{62}$ | - | 10 |
| Springs, standard........ | - | - | - | - | - | - | 560 | 1,81 | 344 | - | 107 |
| Springs, white........... | - | - | - | - | - | - | - | 5 | 30 | - | - |
| Cohoes. | - | - | - | 433 | 2,268 | 2,157 | 3,716 | 4,845 | 7,619 | 2,243 | 7,091 |
| Pinks.. | - | - | - | 332 | 151,676 | 2,640 | 200,512 | 275 | 167,217 | 880 | 224,902 |
| Chums. | - | - | - | 27,728 | 41,779 | 76,016 | 168,319 | 102,374 | 72,447 | 13,801 | 39,010 |
| Total. | - | - | - | 23, 493 | 195,811 | 81,134 | 373,815 | 109, 889 | 247,757 | 16,924 | 271,144 |

vancouver island

| Sockeye | 10,788 | 10,667 | 18,235 | 14,238 | 19,161 | 18,619 | 27, | 29,172 | 7,017 | 0 | 18 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Springs, red | 25,680 | 2,690 | 716 | 95 | 187 | 4,144 | 3,952 | 3,449 | 1,087 | 40 | 1,732 |
| Springs, standar |  |  | 58 | 40 | - | 1,105 | 609 | 1,619 | 641 | 89.3 | 1,097 |
| Springs, white. | 3,531 | 540 | 112 | 3 | 96 | 415 | 661 | 1,701 | 541 | 712 | 602 |
| Bluebacks and st | 435 | 3,151 | 5,495 | 7,097 | 2,510 | 4,832 | 5,383 | 10,194 | 5,249 | 10,284 | 14,177 |
| Cohoe | 20,555 | 11,120 | 18,575 | 21,342 | 30,593 | 59,747 | 51,551 | 58,834 | 23,345 | 36,338 | 30,206 |
| Pinks | 14,391 | 10,660 | 36,943 | 30,149 | 63,102 | 51,384 | 86,113 | 52,561 | 41,885 | 74,001 | 89.941 |
| Chums | 12,591 | 34,431 | 108,478 | 120,520 | 165,161 | 127,520 | 174,383 | 220,270 | 303,474 | 162,246 | 177,856 |
| Total. | 87,971 | 73,259 | 188,612 | 193, 484 | 280,810 | 267,766 | 349,813 | 377,800 | 393,239 | 298,334 | 345,729 |

## OUTLYING DISTRICTS

| Sockeye | 67,156 | 20,665 | 39,991 | 29,084 | 44,057 | 70,737 | 52,628 | 33,330 | 30,983 | 35,331 | 39,188 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Springs, re | 8,101 | 2,281 | 1,124 | 1,975 | 2,829 | 1,091 | 899 | 1,946 | 639 |  | 724 |
| Springs, standa |  |  | 3,421 | 543 | 933 | 2,683 | 1,465 | 2,350 | 579 | 311 | 651 |
| Springs, white. | 7,532 | 2,714 | 443 | 193 | 483 | 945 | 726 | 1,115 | 866 | 709 | 346 |
| Bluebacksand steelheads | 3,721 | 2,790 | 409 | 732 | 497 | 1,520 | 1,002 | 965 | 603 | 563 | 1,204 |
| Cohoes | 33,807 | 18,203 | 31,331 | 28,709 | 26,031 | 38,112 | 43,467 | 39,598 | 50,606 | 54,695 | 54,327 |
| Pinks | 247,149 | 14,818 | 113,824 | 146,611 | 141,878 | 118,107 | 179,731 | 35,474 | 270,914 | 135,878 | 376,084 |
| Chums | 30,946 | 21,412 | 80,485 | 120,999 | 195,357 | 229,240 | 180,363 | 147,251 | 269,336 | 97,462 | 104,771 |
| Tot | 398,412 | 82,883 | 271,028 | 328,816 | 412,065 | 462,435 | 460,281 | 267,029 | 624, 526 | 344,949 | 577,295 |

TOTAL SALMON-PACK ${ }^{1}$ BY SPECIES

| Sockeyes. | 351,405 | 163,914 | 299,614 | 334,647 | 369,603 | 392,518 | 337,012 | 308,052 | 203,542 | 281,277 | 477,678 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Springs, red | 95,983 | 36,725 | 21,163 | 17,539 | 17,659 | 30,371 | 32,635 | 27,758 | 6,920 | 2,955 | 16,059 |
| Springs, standar |  |  | 11,913 | 4,858 | 3,355 | 8,938 | 12, 014 | 13,521 | 5,123 | 5,397 | 9,398 |
| Springs, white. | 22,318 | 13,027 | 6,520 | 4,745 | 6,442 | 32,745 | 24,530 | 15,239 | 6,848 | -9,413 | 11,069 |
| Bluebacks and steelheads | 10,456 | 8,280 | 8,088 | 8,857 | 6,078 | 12,462 | 21,301 | 22,512 | 6,927 | 23,748 173,237 | 43,610 150,168 |
| Cohoes. | 101,972 | 117,288 | 102,845 | 112,044 | 115,722 | 188,874 | 162,449 | 162,732 | 150,657 | 173,237 | 150,168 |
| Pinks | 520,856 | 192,906 | 581,979 | 440,932 | 657,538 | 446,165 | 773,012 | 247,626 | 792,372 863,230 | 477,853 424,890 | 1,111,937 |
| Chums, | 84,626 | 71,408 | 258,204 | 418,055 | 568,916 | 607,208 | 702,237 | 563,194 | 863,230 | 424,890 | 401,900 |
| Total. | 1,187,616 | 603,543 | 1,290,326 | 1,341,675 | 1.745,313 | 1,719,282 | 2,065,190 | 1,360,634 | 2,035,629 | 1,398,770 | 2,221,819 |

TOTAL SALMON-PACK BY DISTRICTS

| F | 132,860 | 103,919 | 137,482 | 224,637 | 208,516 | 272,993 | 272,860 | 280,041 | 255,455 | 425,267 | 282,192 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Skeena Rive | 334,392 | 234,765 | 482,305 | 338,863 | 390,858 | 348,859 | 407,524 | 187, 716 | 298,709 | 220,245 | 450,377 |
| Rivers Inlet | 152,838 | 56,957 | 86,828 | 127,774 | 114,314 | 197,087 | 108,148 | 98,331 | 81,527 | 70,653 | 124,640 |
| Smith's Inle |  |  |  |  |  |  |  |  | 29,539 | 13,213 | 56,982 |
| Naas R | 81,153 | 51,765 | 124,071 | 99,580 | 142,039 | 89,008 | 92,749 | 39,828 | 104,877 | 29,185 | 113,460 |
| Queen Charlote İslands. |  |  |  | 28,493 | 195,811 280 | 81,134 | 373,815 <br> 349 | 109,889 377,800 | 247,757 393,239 | 16,924 298,384 | $\begin{aligned} & 271,144 \\ & 345 \end{aligned}$ |
| Yaneouver Island. | 87,971 | 73,259 | 188,612 | 193,484 | 280,810 | 267,766 469,435 | 449,813 | 267,029 | 624,526 | 324,949 | 345,29 577,295 |
| Outlying Districts | 398,412 | 82,883 | 271,028 | 328,846 | 412,065 | 462,435 | 460,281 |  |  | - | 57, 29 |
| Total | 1,187,616 | 603,548 | 1,290,326 | 341,677 | 1,745,313 | 1,719,282 | 2,065,190 | 360,634 | 35,629 | 98,770 | 2,2\%1,819 |

[^24]
## III. (4) The Lobster Pack ${ }^{1}$ of Canada, by Provinces, 1918 to 1930



## ${ }^{1}$ Standard cases of 48 pounds.

## III. (5) Table for Conversion of Weights of Fish

(Fresh fish in this table in the case of cod, haddock, hake and cusk and pollock means fish with the head on and the entrais removed. Ln the case of albacore, it means fish with the head, tail and insides removed. In all other cases, fresh fish means fish as it comes from the wator.)

## COD, HADDOCK, HAKE \& CUSK OR POLLOCK

300 lb . of fresh produce one cwt. of fresh fillots.
160 lb . of fresh produce one case of canned.
200 lb . of fresh produce one cwt. of green salted.
$300 \mathrm{1b}$. of fresh produre one cwt. of smoked fillets.
200 lb . of fresh produce one cwt. of smoked.
300 lb . of fresh produce one cwt. ( 100 lb .) of driad.
$400 \mathrm{1b}$. of fresh produce one cwt. of boneless.
HERRING
70 lb . of fresh produce one case of canned.
200 ab. of fresh produce one cwt, of smoked.
300 lb . of fresh produce one barrel of pickled.
200 Ib . of fresh produce one barrel of bait, (fresh or salted)
200 lb . of fresh produce one barrel of fertilizer.
125 lb . of fresh produce one cwt. of dry salted.
MACKEREL OR SHAD
70 Ib . of fresh produce one case of canned.
300 lb . of fresh p:oduce one barrel of pickled.
400 lb . of fresh produce one barrel of salt mackerel fillets.

## ALEWIVES

200 lb . of fresh produce one cwt. of smoked.
275 ib . of fresh produce one barrel of pickled.
CLAMS
One barrel of fresh produces one case of canned. ( 48 tins of 6 oz . of clam meat each).

> SCALLOPS

One barrel of fresh produces two gallons sheiled.

## SARDINES

One barrel of fresh produces $4 \frac{1}{2}$ cases canned.
(One case of 25 lbs . equals 100 tins : lb . each).

## SALMON

84 lb . of fresh produce one $48-\mathrm{lb}$. case canned.
170 lb . of fresh produce one cwt. of smoked.
125 lb . of fresh produca one cwt. of dry salted.
150 lb . of fresh produce one cwt. of mild cured.
150 lb . of fresh produce one cwt. of piekled.
ALBACORE
100 lb . of fresh produce onie case canned.
LOBSTERS
200 lb . of fresh produce ona cass of canned. ( 48 tins of 12 oz . lobster meat each). 500 lb . of fresh produce one hundred lb. of lobster meit.

PILCHARDS
70 lb . fresh produce one case of canned.
200 lb . fresh produce one barrel of bait.
III. (6) Detailed Statement of Fishing Bounties Paid to Vessels and Boats for the Year 1930

| Province and County | $\begin{aligned} & \text { No. } \\ & \text { of } \\ & \text { Yessels } \end{aligned}$ | Tonnage | Average <br> Tonnage | $\begin{aligned} & \text { No. } \\ & \text { of } \\ & \text { Men } \end{aligned}$ | $\underset{\text { Paid }}{\text { Amount }}$ | $\begin{gathered} \text { No. } \\ \text { of } \\ \text { Boats } \end{gathered}$ | No. of Man | $\begin{aligned} & \text { Amount } \\ & \text { Paid } \end{aligned}$ | Total <br> Bounty <br> Paid to Vessels and Boats |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | \& cts. |  |  | $\leqslant$ cts. | 8 cts. |
| Prince Edward Island- <br> Kings. | 2 | 21 | 10 | 4 |  | 240 | 360 |  |  |
| Prince................... | 2 | 30 | 15 | 7 | 8980 | 2400 | 749 | 2,526 00 | 2,575 80 |
| Queens. | 1 | 79 | 79 | 5 | 11500 | 135 | 275 | 1,881 25 | 1,996 25 |
| Total. | 5 | 130 | 26 | 16 | 24520 | 775 | 1,384 | 9,563 40 | 9,808 60 |
| Nova Scotia- |  |  |  |  |  |  |  |  |  |
| Anmpolis... | - | - | - | - | - | 151 | 257 | 1,782 95 | 1,782 95 |
| Antigonish... | 36 | 5 | 16 | $\overline{-}$ | 1.710 ${ }^{-}$ | 305 | 397 | 2,825 95 | 2,825 95 |
| Cape Breton. | 36 | 579 | 16 | 158 | 1,716 60 | 323 | 564 | 3,904 40 | 5,621 00 |
| Cumberland. | - | - | - | - |  | 3 | 3 | 2205 | 2205 |
| Digby..... | - | - | - | - | - | 340 | 562 | 3,908 70 | 3,908 70 |
| Guysborough. | 29 | 458 | 15 | 143 | 1,48760 | 413 | 753 | 5,194 55 | 6,682 15 |
| Halifax... | 65 | 1,018 | 15 | 247 | 2,796 40 | 804 | 1,056 | 7,50960 | 10,306 00 |
| Invirneso | 6 | 70 | 11 | 27 | 26440 | 277 | 586 | 3,998 10 | 4,262 50 |
| Kings... | - | - | - | - |  | 36 | 57 | +39795 | 39795 |
| Lunenburg. | 114 | 5,911 | 51 | 1,523 | 16,876 60 | 449 | 562 | 4,017 70 | 20,894 30 |
| Pictou..... | - | - | - | - | - - | 26 | 37 | 26095 | 26095 |
| Queens.. | 10 | 225 | 29 | 64 | 68580 | 137 | 230 | 1,597 50 | 2,28330 |
| Richmond | 5 | 72 | 14 | 18 | 20160 | 383 | 706 | 4,86610 | 5,067 70 |
| Shelburne. | 31 | 712 | 20 | 223 | 2,31760 | 490 | 895 | 6,173 25 | 8,49085 |
| Victorin. | 7 | 116 | 16 | 28 | + 31760 | 321 | 491 | 3,438 85 | 3,756 45 |
| Farmouth | 10 | 451 | 28 | 148 | 1,516 60 | 135 | 289 | 1,970 15 | 3,486 75 |
| Total. | 319 | 9,612 | 30 | 2,529 | 28,180 80 | 4,593 | 7,445 | \$1,868 75 | 80,049 55 |
| New Brunswich- |  |  |  |  |  |  |  |  |  |
| Charlotte............. | 4 | 55 | 13 | 15 | 16300 | 241 | 415 | 2,876 25 | 3,039 25 |
| Gloucester. | 201 | 3,267 | 16 | 892 | 9,689 40 | 422 | 1,091 | 7,349 55 | 17,038 95 |
| Kent. | 7 | 78 | 11 | 16 | 19320 | 116 | 200 | 1,386 00 | 1,579 20 |
| Northumberland. | 20 | 228 | 11 | 43 | 53760 | 55 | 111 | 75985 | 1,29745 |
| Restigouche.......... | - | - | - | - | - | 6 34 | 13 | $\begin{array}{r}8855 \\ 37055 \\ \hline\end{array}$ | 8855 37055 |
| Total. | 232 | 3,628 | 15 | 968 | 10,583 20 | 874 | 1,883 | 12,830 75 | 23,413 95 |
|  |  |  |  |  |  |  |  |  |  |
| Bonaventure. | 10 | 11. | 11 | 4 <br> 48 <br> 4 | 3980 39860 | . 388 | 653 4.843 | $\begin{array}{r}4,544 \\ 35 \\ \hline 1224 \\ \hline\end{array}$ | 4,58435 33,62265 1,128 |
| Gaspe................. | 10 | 125 | 12 | 38 | 39860 | 2,471 | 4,843 | 33,224 1,129 35 | 33,022 1,129 |
| Matana... Saguenay | - | - | - | - | - | 523 | 1,046 | 1,129 <br> 7,165 <br> 10 | 1,12935 7,16510 |
| Total. | 11 | 136 | 12 | 42 | 43840 | 3,499 | 6,703 | 46,063 05 | 46,501 45 |
| Grand Total... | 567 | 13,505 | 23 | 3,603 | 39,447 60 | 9,741 | 17,415 | 120,325 95 | 159,773 55 |

# STATISTIQUE DES PÊCHERIES 

## 1930

(En collaboration avec les Services des Pêcheries du Gouvernement Fédéral et des Provinces)

Publié par ordre de l'hon. H. H. Stevens, M.P. Ministre du Commerce



## TABLE DES MATIĖRES

Preface ..... 217
Les pêcheries du Canada ..... 218
Introdution et Résumé
Quantité et valeur des principaux poissons, 1926-1930 ..... 225
Etudes sur les pêcheries, 1930 ..... 226
Résumé de la production de 1929 et 1930 . ..... 236
Facteurs de production, 1028-1930- Péche proprement dite- Capital ..... 242, 243
Personnel. ..... 243
Usines poissonnières-
243
Capital. ..... 24
Durée des opérations. ..... 243
Employes, salaires et gages ..... 244
Employes à gages occupes par mois ..... 245
Consommation de combustible ..... 245
Force motrice utilisée ..... 245
Valeur des matières premiéres. ..... 245
Valeur des produits ..... 246
Répartition par provinces-
Valeur des pecheries, 192 6-1930 ..... 247
Quantité des principaux poissons dont on fait commerce, et leur valeur, 1926-1930. ..... 247
Quantité et valeur de tout le poisson péché et mis en vente, 1930 ..... 250
Valeur totale, par comtés et districts, de tout le poisson de mer pêché et mis en vente, 1830 ..... 257
Proportion du poisson de mer pris en haute mer, 1930 ..... 258
Capitaux engages, 1930. ..... 264
Personnel. 1930. ..... 260
Primes de pêche, 1930 ..... 268
Importations et exportations, 1930. ..... 268
Revue rêtrospective ..... 268
Tableaux d'ensemble
I. Poisson pêchê et vendu. 1930 ..... 60
Ile du Prince-Edouard, 60; Nouvelle-Ecosse, 62; Noureau-Brunswick, 86: Qu6bec, 98; Ontario, 106; Manitoba, 106; Saskatchewan, 108; Alberta, 110; Yukon, 111; Colombie Britannique, 112.
II. Moyens de production, 1930-Capital d'exploitation, personnel, etc ..... 124
lère Partie-Péche proprement dite-
Ile du Prince-Edouard, 124; Nouvelle-Ecosse, 126; Nouveau-Brunswick, 138; Quebbec, 144; Ontario, 150; Manitoba, 152; Saskatchewan, 152; Alberta, 154; Yukon, 154; Colombie Britannique, 156.
2e Partie-Usines poissonnières-
(a) Relevé général des statistiques ..... 162
(b) Capitaux engages ..... 168
(c) Employes, gages et salaires. ..... 170
(d) Employés à gages occupés par mois ..... 172
(e) Consommation de combustible ..... 174
(f) Force motrice utilisee. ..... 176
(g) Classification des établissements selon la durée des opérations et les heures de travail. ..... 176
(h) Classification des établissements par importance de leur production ..... 178
(i) Classification des établissements par rapport a leur personnel. ..... 179
III. (1) Classification des bateaux dé pêche des pécheries maritimes, suivant l'espèce de poisson peché, 1930. ..... 182
(2) Importations et exportations de poisson et de produits du poisson, 1928, 1929, 1930. ..... 200
(3) La manutention du saumon en Colombie Britannique, 1920-1930 ..... 210
(4) La mise en boite du homard au Canada, 1919-1930 ..... 212
(5) Tableau portant sur la conversion de la pesee du poisson ..... 212
(6) Primes de pêche, 1930 ..... 213

## PRÉFACE

Ce rapport est publié en vertu d'une entente établissant la coopération en matière de statistique intervenue entre le Bureau Fédéral de la Statistique et les différents services gouvernementaux ayant juridiction sur les pêcheries canadiennes. Ces services comprennent: le ministère des Pêcheries, qui exerce sa juridiction sur les pêcheries des Provinces Maritimes, de la Colombie Britannique et les Divisions des Pêcheries des provinces d'Ontario, Québec, Manitoba, Saskatchewan et Alberta, qui régissent les pêcheries de leurs provinces respectives, sauf les pêcheries des îles de la Madeleine, en Québec, lesquelles sont sous la juridiction du ministère des Pêcheries du Dominion. La Colombie Britannique possède une Division des Pêcheries, mais cet organisme ne s'occupe pas de statistique pour son propre compte.

En vertu de l'arrangement dont il est parlé plus haut, les statistiques du poisson pêché, et des produits offerts en vente à l'état frais ou après une préparation sommaire, sont recueillies par les fonctionnaires locaux du ministère des Pêcheries, vérifiées's et condensées au ministère des Pêcheries, puis compilées au Bureau Fédéral de la Statistique. En ce qui concerne le poisson industriellement préparé et ses sous-produits, des formules similaires à celles en usage dans le recensement des autres branches de production sont envoyées directement par le Bureau aux usines poissonnières, les fonctionnaires des services des pêcheries s'assurant que ces formules sont consciencieusement remplies et promptement retournées. Les fonctionnaires des gouvernements provinciaux voudront bien accepter nos remerciements pour le concours qu'ils nous ont prêté.

R. H. COATS,<br>Statisticien du Dominion.

Bureau fédéral de la statistique, Ottana, 7 août 1931.

## LES PÊCHERIES DU CANADA

Le début des pêcheries.-La pêche est l'une des plus anciennes industries du Canada. Les Normands, les Bretons et les Basques pêchaient la morue à Terre-Neuve dès avant la découverte de l'Amérique. Lorsqu'en 1498 le continent nord-américain s'offrit da la vue de Cabot, ce narigateur lui donna le nom de "Bacalaos», nom basque de la morue que ces rudes pêcheurs poursuivaient déjà. CapBreton, l'un des plus anciens noms géographiques de l'Amérique, est un autre sowvenir des premiers pêcheurs fransais que les Espagnols et les Portugais ne tardèrent pas à suiure. Fernandez de Navarrette nous apprend que des pêcheurs de ces trois nationalités fréquentaient le Grand Banc en 1502. La pêche se pratiquait au moyen de lignes à main passées sur des barils fixés à l'extérieur du passavant pour éviter le contact des lignes avec les flancs du navire; les bateaux de pêche se livraient à leurs opérations tant que durait le beau temps, puis s'en retournaient en France avec leurs prises de 30,000 à 50,000 morues. Les voyages entrepris le long du littoral démontrèrent bientôt que la morue était aussi abondante en vue du rivage que sur les bancs lointains; les équipages s'accoutumèrent alors à jeter l'ancre dans une baie, a construire une hutte sur la grève et à faire dans leurs petites chaloupes des excursions quotidiennes dont le produit était salé et séché à terre, puis expedié en France d̀ la fin de la saison. Lorsqu'il remonta le Saint-Laurent, en 1534, Jacques-Cartier trouva partout les traces du passage de ces «capitaines courageux" et de leurs rivalités, lesquelles s'exerçaient aussi bien dans des rencontres armées que dans la capture du poisson qui les avait attirés si loin de chez eux. Chauvin fonda un établissement de cette sorte à Tadoussac, en 1599. Bientót après les pêcheurs s'habituèrent à passer l'hiver en Amérique et à y construire de véritables villages. La première concession de pêche fut octroyée par le roi de France d̀ de Monts, en 1603. On peut donc considérer la pêche comme la première industrie à laquelle se soient livrés systématiquement les Européens au Canada; depuis ces temps lointains elle n'a jamais cessé de donner sa récolte annuelle tant à l'Europe qu'al l'Amérique.

Le traité d'Utrecht de 1713 attribua Terre-Neuve à la Grande-Bretagne, dépossédant la France de son droit de pêcher et de faire sécher le poisson sur certaines sections du littoral de cette ile, mais la France conserva les pêcheries de Cap-Breton et celles du golfe. La guerre de Sept ans (1756-63) interrompit les opérations de pêche sur une vaste íchelle. Lorsqu'elle se termina, la famille Robin, de Jersey, vint au Canada et au moyen d'acquisitions graduelles s'empara de toutes les anciennes stations de pêche françaises. Jusqu'd l'arrivéée des Loyalistes, les pêcheurs s'étaient occupés exclusivement de la morue. Seules les pêcheries côtières étaient exploitées durant cette phase, y compris celles du littoral du Labrador; ce ne fut qu'en 1878 qu'un navire de pêche en haute mer sortit du port de Lunenburg qui est maintenant le centre principal de la grande pêche.

Lieux de pêche du Canada.-Les pêcheries canadiennes sont probablement les plus vastes de l'univers. Sur l'Atlantique, depuis Grand Manan jusqu'au Labrador, le rivage mesure plus de 5,000 milles, à l'exclusion des anses et échancrures qui le dentellent. La baie de Fundy avec 8,000 milles carrés, le golfe SaintLaurent dix fois plus grand, et d'autres eaux océaniques représentent ensemble environ 200,000 milles carrés, c'est-à-dire plus des quatre cinquièmes des pêcheries du nord de l'Atlantique. De plus, l'on compte sur les bords de l'Atlantique 15,000 milles carrés d'eaux territoriales sous le contrôle absolu de la Puissance. Mais ces vastes étendues ne représentent qu'une partie des eaux canadiennes. Sur le Pacifique, le littoral canadien mesure 7,180 milles; ses baies et fords innombrables offrent aux pêcheurs une multitude d'abris très sûrs. Enfin, disséminés sur tout le territoire s'égrènent une série de lacs qui, tous ensemble, contiennent plus de la moitié des eaux douces du globe, la part du Canada dans les Grands Lacs seulement
couvrant plus de 34,000 milles carrés, auxquels viennent s'ajouter le lac Winnipeg ( 9,457 milles carrés), le lac Manitob a et de nombreux autres non moins vastes.

Mais la qualité des produits des pêcheries canadiennes est encore plus remarquable. Chacun sait que l'excellence de la chair du poisson est en proportion directe de la pureté et de la frâ̂cheur des eaux qu'il habite. Considérés sous cet angle la morue, le flétan, le hareng, le maquereau, le poisson blanc et le saumon du Canada n'ont pas de rivaux dans l'univers. Il est donc évident, que les plus magnifiques pêcheries de l'hémisphère occidental, sinon du globe, appartiennent au Canàda.

Le bref exposé qui précède démontre qu'il est impossible d'envisager les pêcheries canadiennes sous un unique aspect; embrassant tout un continent, elles offrent nécessairement une grande diversité. Laissant de côté les immenses étendues de la baie d'Hudson et de la région arctique qui s'étend depuis l'Ungava jusqu'à l'Alaska, lesquelles, outre la baleine, donnent asile à de nombreux poissons comestibles, on peut diviser ainsi qu'il suit les pêcheries canadiennes.

1. Pêcheries de l'Atlantique.-Elles sont les premières en date, et jusqu'en 1918 elles furent les plus importantes par la valeur de leurs produits. On y prend la morue, le flétan, l'églefin, le merlan, le hareng, le maquereau, le homard, l'hut̂tre et le phoque. Le golfe et les eaux intérieures des provinces maritimes et de Québec sont quelquefois considérés distinctement; mais en les réunissant, la liste ci-dessus s'accrô̂trait du saumon, de l'alose, du gasparot, de l'éperlan, du bar, du tacaud, de la truite et du maskinongé. Les opérations de pêche sont communément considérécs sous deux aspects distincts, la pêche hauturière ou de haute mer et la pêche côtière. Cette dernière se pratique au moyen de petites embarcations le plus souvent automotrices, montées par deux ou trois hommes; on y emploie aussi de petits navires dont l'équipage se compose de quatre à sept hommes. Les engins de pêche le plus fréquemment employés sont les rets à mailles, les lignes à main et les chaluts; d'autre part, on dispose le long du rivage des filets, des sennes et des nasses. La pêche à l'églefin est aussi importante que celle de la morue; pendant le printemps et l'été ce poisson est ouvert et salé mais la meilleure saison est à l'automne, le poisson étant alors vendu frais ou fumé, sous le nom de "finnan haddie». La pêche en haute mer se pratique au moyen de navires de 40 à 100 tonnes, portant de douze à vingt hommes, qui pêchent dans les doris au moyen de lignes de fond. Les flotilles fréquentent tour à tour les différents bancs de pêche tels que le Grand Banc, le Banc Intermédiaire et le Banquereau. Ces navires, construits sur place, restent quelquefois plusieurs mois en mer; les naufrages sont rares, tant est grande l'habileté de leurs équipages. A leur retour, le poisson, qui a été vidé et salé à bord, est débarqué, lavé et séché. Les Antilles sont le principal débouché de ce produit; aucune autre morue ne pourrait supporter le climat tropical aussi bien que celle préparće par les pêcheurs de la Nouvelle-Ecosse, De grands chalutiers à vapeur, tels que ceux en usage dans la mer du Nord, ont été introduits depuis plusieurs années dans les pêcheries canadiennes du littoral de l'Atlantique; on compte actuellement sept de ces navires appartenant aux ports de la NouvelleEcosse. Ils se livrent à la pêche presque toute l'année; leurs prises approrisionnent le commerce de poisson frais.

La pêche du homard est également une industrie caractéristique. En 18\%0, il n'existait que trois homarderies sur le littoral de l'Atlantique; en 1930 on en compte SSS occupant environ 5,800 personnes; $30,000,000$ de homards constituent une prise normale. L'un des constants problèmes de cette industrie, c'est d'assurer l'exécution des dispositions prohibant la capture des jeunes homards et des adultes au moment du frai; on croit toutefois avoir mis un frein au déclin de la production. Au Nouveau-Brunswick, la mise en bô̂tes des sardines, qui sont de jeunes harengs, est une industrie aussi importante que celle du homard. L'huître qui pullulait autrefois tout le long du rivage est maintenant moins abondante, mais le gouvernement s'attcnd d̀ rćtablir cette industrie au moyen de l'ostréiculture. Le naissain sera placé dans les endroits favorables des eaux de l'lle du Prince-Edouard; ce
travail, de même que celui qui s'ensuivra, sera sous la direction d'experts en élevage des huîtres.

Les pêcheurs des Provinces Maritimes constituent une population industrielle spécialisếe. La pêche côtière s'y pratique d'avril à novembre, et même en janvier, dans les districts abrités et, quoique les plus grands navires travaillent pendant tout l'hiver, plusieurs milliers d'hommes sont disponibles à certains moments de l'année pour d'autres travaux. Les uns cultivent de petites parcelles de terre entourant leurs maisons, les autres travaillent dans les chantiers de bois du NouveauBrunswick ou bien dans les charbonnages de la Nouvelle-Ecosse. Quelques pêcheurs de Lunenburg et d'ailleurs font du négoce avec les Antilles Outre l'oisiveté forcée résultant soit du mauvais temps, soit de la fermeture de la pêche, la méthode consistant à rémunérer les pêcheurs au moyen d'une part de la prise tend à les pousser vers des occupations secondaires, surtout dans les mauvaises années.
2. Pêcheries interimures.-Les Grands Lacs et les eaux tributaires du St-Laurent constituent une seconde grande division des pêcheries canadiennes. La valeur des pêcheries intérieures de Québec se compose principalement de produits de la pêche à l'anguille, au doré, à l'éperlan et à l'esturgeon. Le poisson blanc, la truite, le doré et le hareng des lacs sont les poissons les plus importants d'Ontario, commercialement parlant, quoique le brochet, l'esturgeon et quelques autres poissons ne soient pas à dédaigner. Dans les Grands Lacs la saison de pêche dure de six à huit mois; quelques pêcheurs continuent leurs opérations durant l'hiver en creusant des trous dans la glace, mais le plus grand nombre cherche une autre occupation dans l'intermède des saisons. En se dirigeant plus à l'ouest, le lac Winnipeg, le lac Winnipegosis, le lac Manitoba et des lacs plus petits au nord et à l'est de celui-ci fournissent la plupart des poissons du Manitoba. Le poisson blanc et le doré sont les principaux d'entre eux, mais le brochet, le tullipi, l'œil d'or et nombre d'autres variétés s'y trouvent à profusion. En Saskatchewan et en Alberta, la pêche pour le commerce est confinée aux régions situées au nord de la rivière Saskatchewan ò̀ l'on prend de grandes quantités de poisson blanc. Le problème des transports devient particulièrement aigu; quelques-uns des plus grands lacs du continent, les lacs Reindeer, Athabaska, Grand Esclave, Grand Ours et des centaines de lacs plus petits n'ont aucune communication avec les marchés de consommation. Toutefois, les lacs de l'Ouest ont joué le même rôle que le Saint-Laurent dans les temps du régime français et que les bancs de morue dans l'histoire de la Nouvelle-Angleterre, en facilitant la colonisation du pays, puisqu'ils offrent un aliment certain aux colons nouvellement arrivés.
3. Pêcheries du Pacifique.-La Colombie Britannique possède des pêcheries d'eau douce presque similaires à celles de la région des prairies; il est douteux que le commerce des fourrures (qui devait être l'agent de liaison entre cette province et le reste du Canada à travers les Montagnes Rocheuses) eut pu s'étabtir au commencement de l'histoire de cette province si ces pêcheries n'avaient pas existé. Les pêcheries de la Cólombie Britannique sont d'une grande richesse; elles représentent environ les deux cinquièmes de l'industrie poissonnière du Canada et ses produits se consomment jusqu'aux extrémités de la terre; ils sont essentiellement constitués par le saumon pêché à l'embouchure du fleuve Fraser, de la Skeena, de la Naas et d'autres rivières descendant du versant occidental des montagnes. Chacune des variétés de ce roi des poissons comestibles (qui toutefois n'est pas le vrai saumon) fréquentant les eaux du Pacifquue, se trouve sur le littoral de la Colombie Britannique, c'est-à-dire le sockeye ou dos bleu, le saumon de printcmps, le saumon argenté, le saumon rose et le saumon bécard. Entre tous ceux-ci, le dos bleu est de beaucoup le plus important, tant en raison de son abondance que de l'excellence de sa chair, dont la belle couleur rougeatre est tant appréciée des consommateurs de la Grande-Bretange. Le fleuve Fraser était autrefois la principale source d'approvisionnement de saumon, máis sa production est aujourd'hui dépassće par celle de la rivière Skeena et de ses tributaires septentrionaux; la prise varie considérablement d'année en année. La montée du saumon commence vers la fin de juillet
et atteint son apogće dans les premières semaines d'aout; néanmoins, les régions septentrionales ont une saison plus hâtive. Le saumon de printemps ou quinnat est un très gros poisson; c'est la première espèce qui fut mise en bô̂te aux EtatsUnis; la migration de ce poisson s'opère au commencement du printemps et se continue jusqu'en juillet. Le saumon argenté est plus petit; comme le dos bleu, il voyage par bandes innombrables, pendant septembre et octobre, dans le fleuve Fraser, et un peu plus tôt dans les cours d'eau plus au nord. Le saumon bécard est mis en bô̂te et une quantité considérable est salé pour l'exportation en Orient. Le saumon rose, lui aussi, suit le dos bleu. Le plus grand nombre de personnes qu'occupe cette pêche sont des Chinois, des Japonais et des Indiens, l'élément chinois étant prépondérant dans les usines, tandis que les Indiens et les Japonais se consacrent plutôt aux opérations de pêche.

Le fiétan abonde à hauteur de l'̂̂le Vancouver et entre les रles de la Reine Charlotte et le continent; quoique la première fentative d'exploitation industrielle de ce poisson ait avorté, dès 1903 la Colombie Britannique contribuait pour 10,000,000 de livres à la production de $25,000,000$ de livres péchées sur le littoral du Pacifque, au nord de la Californie, chiffre qui a triplé depuis lors. La prise annuelle de hareng de la Colombie Britannique représente environ 56 p.c. de tout le hareng de mer pêché dans les eaux canadiennes. Ce poisson est presque en entier salé à sec et exporté en Chine et au Japon. Depuis quelques années, la pêche au pilchard a pris une certaine importance, la plus grande partie de la prise allant aux huileries qui produisent chaque année de grandes quantités d'huile et de poudre de poisson. En 1980, le pilchard était troisième par ordre de valeur parmi les poissons pêchés en Colombie Britannique; il est aussi le huitième, à ce point de vue, de tous les poissons du Canada. On y pêche aussi la baleine et deux stations sont en opérations dans les îles Reine Charlotte. On prend annuellement des cétacés de différentes sortes; baleines franches, rorquals, dauphins et même parfois des cachalots. La pêche à la baleine se pratique dans des bateaux rapides armés de canons lanceharpon Svend Foyn, système venu de Norvège. Aucune partie de la baleine ne se perd, l'huile, la poudre ou engrais en sont les produits les plus importants. Lia morue-lingue, la morue noire, l'oulachon, la plie, la raie, la sole, l'éperlan et l'esturgeon sont également abondants dans les eaux de la Colombie Britannique.

Ajoutons un mot concernant les pêcheries du phoque à fourrure du Pacifque dont le siège historique était autrefois à Victoria. Cette industrie est à peu près disparue, tant à cause de la raréfaction de ces animaux que par l'effet du traité de 1911. Ce traité, aux termes duquel la pêche pélagique ou pêche en haute mer est prohibée, a été conclu dans l'intêrềt de la conservation du phoque. Comme compensation pour son privilège de la pêche du phoque, le Canada reģoit annuellement des gouvernements des Etats-Unis, de la Russie et du Japon, une partie du revenu de la pôche du phoque sur les îles Pribaloff et autres pêcheries appartenant à ces pays respectivement. Les Indiens de la côte du Pacifquue sont exempts des dispositions de ce traité en autant qu'il leur est permis de prendre des phoques, pourvu qu'ils en fassent la chasse en bateaux ouverts dont l'équipage, de pas plus de cinq personnes, n'emploie pas d'armes à feu.

Le sport de la pêche.- Nous n'avons envisagé jusqu'ici les pêcheries qu'au point de vue purement industriel et commercial; mais le sport lui-même comporte un aspect économique dans un pays ou foisonnent des poissons aussi réputés que le saumon de la Restigouche, l'achigan de Québec et des hautes terres d'Ontario et la truite de la Nipigon. Le gouvernement perçoit des revenus fort élevés en louant soit à des clubs, soìt à des particuliers, le droit de pêche dans les lacs et les cours d'eau des contrées les moins peuplées; d'autre part, des centaines de guides y trouvent une occupation rémunératrice pendant les mois d't'té.

Le gouvernement et les pêcheries.-Au début de la Confédération, le gouvernement fédéral administrait directement la marine et les pêcheries du Canada; un ministre du Cabinet exersait cette juridiction au moyen d'un personnel consi-
dérable d'inspecteurs, de surveillants et de gardes-pêche, en vue de la mise en vigueur des lois rógissant les pêcheries. Cependant, dès le début de 1930, ce ministère a été divisé en deux organisations distinctes, la Marine et les Pêcheries, chacune sous la direction d'un ministre du Cabinet. Des décisions judiciaires intervenues en 1882, 1898, 1913 et 1920 ont sensiblement modifié la juridiction du Gouvernement fédéral à l'avantage des provinces, et en 1922, il $y$ eut de nouveaux changements lorsque le Gouvernement fédéral transféra à la province de Québec l'administration des pêcheries de cette province, sauf celles des Iles de la Madeleine, et en 1930 alors que les pêcheries du Manitoba, de la Saskatchewan et de l'Alberta furent transférées, en même temps que d'autres ressources naturelles, aux gouvernements de ces provinces. Aujourd'hui, le Dominion contrôle les Pêcheries en eau salée des proninces Maritimes et de la Colombie Britannique, les pêcheries en eau douce des Provinces des Prairies et celles des Iles de la Madeleine dans la proanince de Québec. Les pêcheries intérieures d'Ontario et des provinces Maritimes et les pêcheries, tant en eau douce qu'en eau salée, du Québec (sauf celles des Iles de la Madeleine) sont contrôlées par ces provinces respectivement, mais le Gouvernement fédéral possède seul le droit de légiférer sur toutes les matières concernànt la pêche dans tout le pays. Les dépenses encourues par les pêcheries, et payées par le Dominion, au cours de l'exercice clos le 31 mars 1991, s'élevaient à $\$ 2,435,299$; les recettes de cette même source se chiffraient à $\$ 186,935$.

Conservation.-Les pêcheries fluviales et larustres incontestablement, et les pêcheries maritimes probablement, si elles étaient abandonnées à elles-mêmes, subiraient la loi économique de l'appauvissement. Pour combaltre cette tendance lé gouvernement canadien dut légiférer, interdisant la pêche en certaines saisons, la pollution des rivières et l'obstruction de leur cours; il dut aussi spécifier les dimensions des mailles de filets, réglementer les agrès et les opérations de pêche. En outre, il a été créé en 1929 un système de pisciculture qui possède aujourd'hui 29 frayères, 10 viviers auxiliaires et 7 bassins à saumon, ayant couté 8322,586, et distribuant 479,412,046 cufs, alevins et poissons par année, principalement le saumon de la Colombie Britannique, le doré et le poisson blanc. Ces alevins sont distribués gratuitement et placés dans les eaux qui leur conviennent le mieux.

Recherches scientifiques.-Des stations ou l'on procède à des recherches biologiques sur les problèmes aussi nombreux que complexes que présentent les pêcheries, et placées sous la direction de la Commission Biologique du Canada, sont établies à Halifax, $N .-T ., S t$. Andrews, $N .-B$., et à Nanaimo et Prince Rupert, C.B. Les Universités de Toronto, $M c$ Gill, Queen's, du Manitoba, de la Colombie Britannique et les principales institutions des Provinces Maritimes détachent à chacune de ces stations, soit des professeurs, soit des spécialistes et techniciens. Parmi les problèmes pratiques que l'on $y$ a abordés citons entre autres: l'histoire naturelle des poissons comestibles, la bactériologie du poisson, soit frais, soit préparé, l'amélioration des méthodes de manipulation et de préparation du poisson, etc. Des mémoires scientifiques et des rapports sont publiés chaque saison.

Aide directe.-Dans le domaine d'aide directe, outre le paiement de primes aux pêcheurs dont il est question dans un autre paragraphe, le gouvernement adopte différentes mesures de temps à autre. Depuis 1927 un service de transport du poisson a été fait sur plusieurs divisions de la côte de l'Atlantique par le ministère des Pêcheries. Ce service permet aux pêcheurs des tervitoires desservis par les bateaux du Ministère de vendre leurs prises rapidement, parce qu'ils peuvent les délivrer aux acheteurs à des points centraux, à un coût beaucoup moins élevé par quintal. Ainsi les régions qui peuvent bénéficier d'un marché immédiat pour le poisson frais se trouvent grandement étendues à une époque à laquelle le marché du poisson frais prendra une plus grande importance. Les pêcheurs peuvent obtenir une meilleure compensation pour leur travail beaucoup plus tôl qu'il leur serait possible autrement et de plus ils peuvent consacrer à la pêche tout le temps $q u$ 'ils devaient autrefois employer au saurissage du poisson. Un autre pas destiné
à rendre de grands services aux pêcheurs est l'établissement d'un système de radio pour émettre des rapports sur les probabilités de température, les approvisionnements de boitte et de glace le long des côtes et les prix du marché aux poissons. Pendant la saison, ces rapports sont irradiés deux fois par jour a'Halifax à Louisbourg, et les rapports de température sont également irradiés de St. John. Comme la plupart des vaisscaux de pêche ont maintenant des appareils récepteurs, ce service est d'une grande valeur. Les informations télégraphiques sur les approvisionnements de boitte à la côte sont aussi irradiées par le département des Pêcheries et affichées dans nombre de ports dans les mois de printemps et d'ćté. Des bulletins statistiques traitant de la pêche maritime sont préparés par le ministère des Pêcheries et publiés mensuellement et trimestriellement et sont distribués par tout le Canada, pour le plus grand avantage des pêcheurs et de l'industrie poissonnière. On publie aussi des rapports mensuels sur les conditions du marché dans les principaux pays auxquels l'on exporte le poisson canadien. Depuis plusieurs années des primes ont été payées pour la destruction des phoques dans les ports de certaines régions. Afin d'améliorer la qualité du haveng salé, séché ou f'umé, canadien, le gouvernement a employé un expert pour démontrer les méthodes écossaises de saurissage du poisson. En vertu de la Loi d'inspection du poisson, un système d'instruction sur les méthodes améliorées de préparer le poisson et de fabriquer les barils est en općration depuis plusieurs années de même que l'inspection du poisson préparé. Une flotte de petites canonnières circule dans les eaux côtières, aussi bien que dans les caux intérieures pour assurer l'application des règlements de la pêche et prévenir le braconnage. Depuis plusieurs années on fait aussi dans les stations scientifiques du gouvernement des recherches et des expérimentations sur la pêche et les productions poissonnières. Cette partie des activités du gouvernement fait l'objet d'un autre paragraphe de cette revue, sous l'en-tête "Recherches Scientifiques".

Problèmes internationaux.-Une région de, pêche aussi riche que celle du nord de l'Atlantique ne pouvait manquer d'attirer les pêcheurs d'autres pays et d'anciennes coutumes se transformèrent en droits acquis, dont quelques-uns durent encore, notamment le séchage de leurs prises par les pêcheurs français sur les rivages de Terre-Neuve. Autrement grave est la question des droits des Etats-Unis dont les pêcheurs, durant la période coloniale, approvisionnaient de poisson la NouvelleAngleterve et à qui le traité de Versailles de 1783 reconnut le droit de pêcher dans les eaux côtières du Canada. La guerre de 1812 leur fit perdre cette prérogative, si bien qu'après 1818, les Etats-Unis n'avaient d'autres droits que ceux de faire escale dans les ports canadiens pour s'y abriter ou s'y approvisionner de bois ou d'eau, ou y réparer leurs embarcations; de pêcher autour des iles de la Madeleine et sur la rive du golfe Saint-Laurent, à l'est de Pointe-Jolie; enfn de faire sécher et de préparer leur poisson dans les havres, baies et anses non habités de cette partie de la rive nord. L'interprétation des clauses du traité de 1818 souleva maintes querelles apaisées par le traité de réciprocité (1854-1866). Par ce dernier traité, le poisson canadien et ses sous-produits entraient en franchise aux Etats-Unis et vice versa; de plus, les pêcheurs des Etats-Unis obtenaient le droit de pêche dans les eaux territoriales canadiennes de l'Atlantique, les pêcheurs canadiens étant autorisés à pêcher dans certaines eaux territoriales des Etats-Unis, sur le même littoral, à l'exclusion dans les deux cas des cours d'eau et de leurs estuaires. Les crustacés, mollusques et coquillages étaient exceptés. Le traité de Washington de 1871 confirma le traité de réciprocité de 1854 en ce qui concerne les pêcheries et pourvut à la nomination d'une commission d'arbitrage devant déterminer le chiffre de l'indemnité à payer par les Etats-Unis à la Grande-Bretagne, en raison dès concessions par elles consenties. Cette commission siégea à Halifax en 1877 et y rendit une sentence arbitrale fixant cette indemnité à $\$ 5,500,000$, dont $\$ 1,000,000$ étaient attribués à Terre-Neuve. Cependant, en 1885, les Etats-Unis dénoncèrent les clauses de ce traité se rapportant à la pêche et cette action fut suivie d'une période de désagriments entre les deux pays. Une convention signée en 1888 porte le
nom de "Traité non ratifié de 1888». Les plénipotentiaires qui l'ont négocié étaient tombés d'accord sur les points suivants: les bateaux de pêche des Etats-Unis recevraient annuellement et gratuitement des licences les autorisant à pénétrer dans les ports canadiens, à y acheter des provisions et des agrès, à transborder leurs prises et à embarquer des équipages. C'est ce traité qui donna naissance aux «licences de modus vivendi». Les négociateurs du traité ayant reconnu qu'il ne pouvait être ratifié par les deux gouvernements avant l'ouverture de la saison de la pêche, décidèrent comme mesure transitoire et ne devant pas durer plus de deux ans, que les bateaux de pêche des Etats-Unis, sur paiement d'un droit de $\$ 1.50$ par tonneau, pourraient exiger l'émission d'une licence leur accordant le bénéfice des dispositions ci-dessus énumérées. Le Sénat des Etats-Unis rejeta ce traité; néanmoins, le gouvernement canadien continua à émettre des «licences du modus vivendi» jusqu'en 1918, date à laquelle des arrangements furent faits assurant des privilèges réciproques aux pêcheurs des deux pays dans les ports de leur voisin, mais les effets de cette entente-qui était une mesure spéciale de guerre du gowvernement des Etats-Unis-cessèrent le premier juillet 1921. L'année suivante, on dut recourir de nowveau aux "licences du modus vivendi", mais à la fin de l'année 1925 elles disparurent. Depuis lors on est revenu aux dispositions du traité de 1818.

Dans les Grands Lacs également les problèmes les plus importants, tels que le repeuplement et la disposition du poisson, ont nécessairement un caractère international et se compliquent du nombre d'Etats intéressés. Une situation analogue s'est créée en Colombie Britannique, où les industriels du Puget Sound capturent le saumon dos bleu du fleuve Fraser en quantités beaucoup plus considérables que les pêcheurs du Canada et ce, au moyen de pièges et autres méthodes interdites dans les eaux canadiennes. En 1906, une commission internationale fit le premier pas vers une entente sur cette question vitale; en 1922 une commission parlementaire recommandait la prohibition de la pêche de ce saumon dans les eaux du Fraser, pendant cinq ans, comme mesure de conservation.

La pêche au flétan de notre côté du Pacifique ne peut se faire que par les ports du Canada ou des Etats-Unis, mais comme elle se pratique principalement en dehors des eaux territoriales, aucun des deux pays ne pouvait la contrôler seul. En même temps, il est de l'intérêt des deux pays de la maintenir florissante et permanente. C'est pourquoi l'étude des moyens à adopter pour la protection de ce poisson a été confiée à la conférence Canado-américaine des pêcheries nommée en 1918 par les deux pays pour atudier toutes les questions importantes relatives à la pêche entre les deux pays. En 1922, le Canada a proposé que la question du fétan fut étudiée séparément. La suggestion ayant été bien accueillie, il en est résulté le traité du 2 mars 1923 "pour la protection de flétan du Pacifique". En vertu de ce traité, la pêche du fítian est interdite depuis le 16 novembre de chaque annee jusqu'au 15 février inclusivement de l'année suivante. Une autre canvention, signée à Ottawa, le 9 mai 1930, par les représentants des deux pays, prolonye la saison défendue pour la pêche au fétan, de façon à comprendre, chaque année, la période s'étendant du 1er novembre au 15 férrier, inclusivement; cette convention devant tenir lieu du traité du 2 mars 1923 et rester en vigueur pour une période de cinq ans et, cette période expirée, jusqu'à deux ans après la date d'avis, donné par l'un à l'autre des deux pays, quant à son désir d'annuler ledit traité.

Primes.-Une conséquence indirecte mais fort importante du traité de Washington subsiste encore aujourd'hui. Une loi de 1882 (45 Vict., c. 18) pour le développement des pêcheries maritimes et l'encouragement à la construction des navires de pêche, a consacré une somme annuelle de $\$ 150,000$ représentant l'intêrêt sur le montant de la sentènce arbitrale d'Halifax, à la distribution de primes aux propriétaires de bateaux de pêche et à leurs équipages. Une autre loi, votée en 1891 (54-55 Vict., c. 42) éleva ces primes à $\$ 160,000$, les détails de leur distribution étant réglés chaque année par arrêté ministériel.

Industrie moderne.-L'industrie poissonnière du Canada telle qu'elle existe actuellement est le fruit des efforts accomplis depuis un siècle. En 1844, la valeur
des prises n'était estimée qu'à $\$ 125,000$; elle doubla dans la décade suiivante, et dès 1860 , dépassait $\$ 1,000,000$. Dix ans plus tard, elle atteignit $\$ 6,000,000$, chiffre plus que doublé en 1878. Dans la dernière décade du siècle elle dépassait $\delta 20,000,000$, touchait à trente-quabre millions en 1911 et atteignait presque quarantesept millions en 1930. Mais son apogée fut atteinte en 1918, année qui dépassa S60 millions. Ces chiffres représentent la valeur totale de tout le poisson vendu soit frais, soit séché, soit en conserve ou autrement préparé... Pendant ce temps le personnel de cette industrie a atteint 80,000 personnes et le capital qu'elle absorbait, $\$ 60,000,000$. On estime à plus de 21 livres la consommation per capita annuelle de poisson au Canada.

Entre tous les poissons, la morue et le saumon se disputèrent longtemps la primauté; si l'on remontait jusqu'aux origines, la morue tiendrait la tête, mais si l'on ne considère que les trente dernières années, on constate que le saumon a deffnitivement conquis la première place et même le volume de homard et son prix élevé ont plus d'une fois relégué la morue au troisième rang. Ceci eut pour effet de modifier le rang des provinces entre elles, la Colombie Britannique tenant maintenant la première place qui appartenait auparavant à la Nouvelle-Ecosse. Le fétan prend la quatrième place parmi nos poissons de commerce.

Commerce.-On a déjà vu que la consommation domestique de poisson est relativement minime au Canada et que cette industrie dépend largement des marchés de l'étranger. On peut évaluer approximativement à 60 ou 70 pour cent des prises annuelles la portion exportée, dont les Etats-Unis absorbent approximativement un tiers et la Grande-Bretaqne un sixième. Pendant l'année civile 1930, les exportations totales se sont élevées à $831,869,350$, dont $\$ 14,374,096$, pour les EtatsUnis et $84,790,032$ pour la Grande-Bretagne. Le plus importañt des poissons exportés est le saumon en boite (expédié en Grande-Bretagne et aux autres marchés européens), suivi de près par la morue sèche (expédièe aux A ntilles, en Amérique du Sud, etc.). Pour le poisson frais, spécialement le poisson blanc et le homard, les Etats-Unis constituent le principal débouché. En définitive, les exportations de poissons du Canada ne le cèdent qu'à celles de la Grande-Bretagne et de la Norvège, mais si l'on y joint les exportations de Terre-Neuve, elles excèdent l'une et l'autre. En 1930, le Canada a importé pour $\$ 8,446,601$ de poisson.

## STATISTIQUE DES PECHERIES DU CANADA, 1930

La valeur totale de la production des pêcheries du Canada pour 1930 était de $\$ 47,804,216$, comparativement à $\$ 53,518,521$ en 1929 et $\$ 55,050,973$ en 1928. Ces totapx représentent la valeur du produit vendu, soit à l'état frais, soit salé, mis en boîte ou autrement préparé dans les conserveries. Le tableau suivant indique la quantité des principaux poissons commerciaux pris et leur valeur, (ceux qui sont évalués à $\$ 100,000$ ou plus) pendant les cinq dernières années, la dernierre colonne indiquant l'augmentation ou la diminution en 1930 en regard de celle de 1929.

1. Quantité ${ }^{1}$ et valeur ${ }^{2}$ des principaux poissons, 1926-1930

| Espèces | 1926 | 1927 | 1928 | 1929 | 1930 | Augmentation ou diminution en 1930 sur 1929 Aug. + Dim. - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Saumon........................... qtr | 2,180,470 | 1,541,447 | 2, ${ }_{17}^{2,2867,151}$ | 15,550,780 | $\left.\begin{array}{r} 2,362,529 \\ 17,731,891 \end{array} \right\rvert\,$ | $\begin{aligned} & +811,749 \\ & +\quad 723,066 \end{aligned}$ |
|  | 19,607,082 | 15,065,063 |  |  |  |  |
| Homard......................... $\underset{\text { qtx }}{\text { g }}$ | $\begin{array}{r} 339,583 \\ 5,883,672 \end{array}$ | $\begin{array}{r} 316,831 \\ 5,426,176 \end{array}$ | $\begin{array}{r} 322,437 \\ 5,183,988 \end{array}$ | $\begin{array}{r} 372,820 \\ 5,696,542 \end{array}$ | $\begin{array}{r} 407,265 \\ 5,214,643 \end{array}$ | $\begin{array}{r} \mathbf{3 4 , 4 4 5} \\ \pm \quad 481,899 \end{array}$ |
|  | 2,733,864 | 1,978,803 | 2,150,078 | 1,979, 440 | $1,662,421$ | $-\quad 317,019$ |
|  | 6,995,283 | 4,881,980 | 6.285,777 | 5,394, 636 | $4,288,813$ | - $1,105,823$ |
| Fletan........................... qtx | ${ }^{339,918} 9$ | - 2999,854 | $\begin{array}{r} 329,923 \\ 3,812,321 \end{array}$ | $\begin{array}{r} 335,824 \\ 4,832,296 \end{array}$ | $\begin{array}{r} 282,605 \\ 2,871,455 \end{array}$ | $\begin{array}{r} 53,219 \\ -\quad 1,960,841 \end{array}$ |

32810-15

1. Quantitel et valeur ${ }^{2}$ des principaux poissons, 1926-1930-fin

| Espèces | 1926 | 1927 | 1928 | 1029 | 1030 | Augmentation ou diminution en 1930 sur 1929 Aug. + Dim. - |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Hareng......................... qtx | 2,423,457 | 2,724,113 | 2,396,054 | $\begin{aligned} & 2,317,806 \\ & 3,186,669 \end{aligned}$ | $\begin{aligned} & 2,190,776 \\ & 2,623,174 \end{aligned}$ | - | $\begin{aligned} & 127,030 \\ & 563,495 \end{aligned}$ |
|  | 3,238,919 | 3,358,098 |  |  |  |  |  |
| Eglefin............................ qtx | 496,802 $1,754,846$ | $\begin{array}{r} 421,709 \\ 1,483,844 \end{array}$ | 481,708 $1,733,781$ | 546,400 $1,951,642$ | 485,344 | 56 |  |
| Poisson blanc....................... qtx $_{\text {¢ }}$ | $\begin{array}{r} 190,644 \\ 2,167,865 \end{array}$ | $\begin{array}{r} 185,664 \\ 2,192,738 \end{array}$ | $\begin{array}{r} 180,695 \\ 2,192,567 \end{array}$ | $\begin{array}{r} 196,386 \\ 2,453,703 \end{array}$ | $\begin{array}{r} 169,747 \\ 1,818,941 \end{array}$ | - | $\begin{array}{r} 26,639 \\ 634,762 \end{array}$ |
|  |  |  |  |  |  |  |  |
| Pilchard............................. qtx | $\begin{array}{r} 969,958 \\ 1,256,721 \end{array}$ | $\begin{aligned} & 1,368,582 \\ & 1,838,867 \end{aligned}$ | $\begin{aligned} & 1,610,252 \\ & 2,563,137 \end{aligned}$ | $\begin{aligned} & 1,726,851 \\ & 2,199,834 \end{aligned}$ | $\begin{aligned} & 1,501,404 \\ & 1,589,609 \end{aligned}$ | - | 225,447610,225 |
|  |  |  |  |  |  |  |  |
| Sardines.......................... ${ }^{\text {brl }}$ | $\begin{array}{r} 173,166 \\ 1,175,268 \end{array}$ | $\begin{array}{r} 174,695 \\ 1,046,575 \end{array}$ | $\begin{array}{r} 285,090 \\ 1,291,722 \end{array}$ | $\begin{array}{r} 249,194 \\ 1,626,764 \end{array}$ | $\begin{array}{r} 129,459 \\ 1,074,487 \end{array}$ | 二 | $\begin{aligned} & 119,735 \\ & 552,277 \end{aligned}$ |
|  |  |  |  |  |  |  |  |
| Truite............................. qtr | $\begin{array}{r} 78,710 \\ 1,051,196 \end{array}$ | $\begin{array}{r} 92,007 \\ 1,397,294 \end{array}$ | $\begin{array}{r} 91,694 \\ 1,347,779 \end{array}$ | $\begin{array}{r} 90,854 \\ 1,324,775 \end{array}$ | $\begin{array}{r} 69,809 \\ 1,031,979 \end{array}$ | - | $\begin{array}{r} 21,045 \\ 292,796 \end{array}$ |
|  |  |  |  |  |  |  |  |
| Dore............................ qtx | $\begin{array}{r} 126,086 \\ 1,385,856 \end{array}$ | $\begin{array}{r} 140,019 \\ 1,347,589 \end{array}$ | $\begin{array}{r} 142,610 \\ 1,616,442 \end{array}$ | $\begin{array}{r} 128,500 \\ 1,453,847 \end{array}$ | $\begin{aligned} & 103,146 \\ & 939,762 \end{aligned}$ | - | $\begin{array}{r} \mathbf{2 5 , 3 5 4} \\ \mathbf{5 1 4}, 085 \end{array}$ |
|  |  |  |  |  |  |  |  |
| Eperlan........................... qtx $_{\text {S }}$ | $\begin{array}{r} 92,311 \\ 1,174,185 \end{array}$ | $\begin{array}{r} 82,762 \\ 1,117,330 \end{array}$ | $\begin{array}{r} 91,877 \\ 1,241,452 \end{array}$ | $\begin{array}{r} 83,984 \\ 1,190,908 \end{array}$ | $\begin{array}{r} 66,121 \\ 853,034 \end{array}$ | - | 17,863337,874 |
|  |  |  |  |  |  |  |  |
| Maquereau........................ qtx | $\begin{aligned} & 115,487 \\ & 443,155 \end{aligned}$ | $\begin{aligned} & 158,797 \\ & 582,705 \end{aligned}$ | $\begin{aligned} & 123,768 \\ & 528,267 \end{aligned}$ | $\begin{aligned} & 152,756 \\ & \mathbf{5 3 6}, 021 \end{aligned}$ | $\begin{aligned} & 178,464 \\ & 598,019 \end{aligned}$ | $+$ | $\begin{aligned} & 25,708 \\ & 61,998 \end{aligned}$ |
|  |  |  |  |  |  |  |  |
| Tullipi............................. qtx | $\begin{aligned} & 101,525 \\ & 645,945 \end{aligned}$ | $\begin{aligned} & 121,764 \\ & 633,150 \end{aligned}$ | $\begin{aligned} & 104,145 \\ & 612,931 \end{aligned}$ | $\begin{array}{r} 97,669 \\ 687,731 \end{array}$ | $\begin{array}{r} 62,041 \\ 461,676 \end{array}$ | - | $\begin{array}{r} 35,628 \\ 226,055 \end{array}$ |
|  |  |  |  |  |  |  |  |
| Merluche et lotte................... qtx ${ }_{\mathbf{8}}$ | $\begin{aligned} & 151,051 \\ & 203,502 \end{aligned}$ | $\begin{aligned} & 177,370 \\ & 232,404 \end{aligned}$ | $\begin{aligned} & 253,244 \\ & 368,237 \end{aligned}$ | $\begin{aligned} & 339,217 \\ & 517,311 \end{aligned}$ | $\begin{aligned} & 294,376 \\ & 431,566 \end{aligned}$ | - | $\begin{aligned} & 44,841 \\ & 85,745 \end{aligned}$ |
|  |  |  |  |  |  |  |  |
| Sandre............................ qtx | $\begin{array}{r} 30,385 \\ \mathbf{1 8 2 , 3 1 0} \end{array}$ | $\begin{array}{r} 31,173 \\ 187,038 \end{array}$ | $\begin{array}{r} 21,496 \\ 257,952 \end{array}$ | $\begin{array}{r} 25,831 \\ 333,220 \end{array}$ | $\begin{array}{r} 59,284 \\ 420,917 \end{array}$ | $+$ | $\begin{aligned} & 33,453 \\ & 87,697 \end{aligned}$ |
|  |  |  |  |  |  |  |  |
| Perche............................. qux | $\begin{array}{r} 30,498 \\ 230,155 \end{array}$ | $\begin{array}{r} 34,573 \\ 272,687 \end{array}$ | $\begin{array}{r} 53,176 \\ 763,315 \end{array}$ | $\begin{array}{r} 67,055 \\ 616,722 \end{array}$ | $\begin{array}{r} 43,762 \\ 346,649 \end{array}$ | - | $\begin{array}{r} 23,293 \\ 270,073 \end{array}$ |
|  |  |  |  |  |  |  |  |
| Morae lingue ...................... qtx | - | $\begin{array}{r} 49,916 \\ 401,259 \end{array}$ | $\begin{array}{r} 50,772 \\ 366,101 \end{array}$ | 48,489415,776 | $\begin{array}{r} 49,591 \\ 333,564 \end{array}$ | $\pm$ | $\begin{array}{r} 1,102 \\ 81,821 \end{array}$ |
|  |  |  |  |  |  |  |  |
| Coques et palourdes............... bri | $\begin{array}{r} 54,230 \\ 268,887 \end{array}$ | $\begin{array}{r} 57,712 \\ 274,287 \end{array}$ | $\begin{array}{r} 63,320 \\ 322,874 \end{array}$ | $\begin{array}{r} 67,739 \\ 346,772 \end{array}$ | $\begin{array}{r} 64,709 \\ 319,469 \end{array}$ | 二 | $\begin{array}{r} 3,030 \\ 27,303 \end{array}$ |
|  |  |  |  |  |  |  |  |
| Brochet.......................... qtr | $\begin{array}{r} 72,520 \\ 407,181 \end{array}$ | $\begin{array}{r} 70,473 \\ 356,992 \end{array}$ | $\begin{gathered} 62,701 \\ 362,922 \end{gathered}$ | $\begin{array}{r} 82,546 \\ 409,970 \end{array}$ | $\begin{array}{r} 56,464 \\ 228,905 \end{array}$ | - | $\begin{array}{r} 26,082 \\ 181,065 \end{array}$ |
|  |  |  |  |  |  |  |  |
| Espadon........................... qtx ${ }_{\text {\% }}$ | $\begin{array}{r} 12,936 \\ 207,248 \end{array}$ | $\begin{array}{r} 7,299 \\ 120,692 \end{array}$ | $\begin{array}{r} 8,088 \\ 132,345 \end{array}$ | $\begin{array}{r} 6,336 \\ 98,241 \end{array}$ | $\begin{array}{r} 11,933 \\ 214,806 \end{array}$ | $+$ | $\begin{array}{r} 5,597 \\ 116,565 \end{array}$ |
|  |  |  |  |  |  |  |  |
| Huitres........................... ${ }_{\text {brl }}^{\text {¢ }}$ | $\begin{array}{r} 22,255 \\ 209,378 \end{array}$ | $\begin{array}{r} 21,650 \\ 197,781 \end{array}$ | $\begin{array}{r} 21,493 \\ 214,180 \end{array}$ | $\begin{array}{r} 24,959 \\ 226,876 \end{array}$ | $\begin{array}{r} 23,942 \\ 205,019 \end{array}$ | - | $\begin{array}{r} 1,017 \\ 21,857 \end{array}$ |
|  |  |  |  |  |  |  |  |
| Anguille............................ qtx | $\begin{array}{r} 24,466 \\ 231,559 \end{array}$ | $\begin{array}{r} 15,926 \\ 139,932 \end{array}$ | $\begin{array}{r} 25,661 \\ 227,751 \end{array}$ | $\begin{array}{r} 14,539 \\ 133,542 \end{array}$ | $\begin{array}{r} 16,388 \\ 147,114 \end{array}$ | $+$ | 13,849 |
|  |  |  |  |  |  |  |  |
| Morue noire........................ qtx qus $_{\text {S }}$ | $\begin{aligned} & 10,358 \\ & 89,371 \end{aligned}$ | $\begin{array}{r} 16,430 \\ 123,421 \end{array}$ | $\begin{array}{r} 13,388 \\ 101,452 \end{array}$ | 15,308118,362 | $\begin{array}{r} 16,517 \\ 120,583 \end{array}$ | $\pm$ | 1,2092,221 |
|  |  |  |  |  |  |  |  |
| Gasparot......................... qtx | $\left.\begin{array}{r} 72,237 \\ 149,619 \end{array} \right\rvert\,$ | $\begin{gathered} 54,775 \\ 86,608 \end{gathered}$ | $\begin{array}{r} 36,252 \\ 57,729 \end{array}$ | $\begin{array}{r} 67,968 \\ 123,508 \end{array}$ | $\begin{array}{r} 71,539 \\ 112,451 \end{array}$ | $\pm$ | $\begin{array}{r} 3,571 \\ 11,057 \end{array}$ |
|  |  |  |  |  |  |  |  |
| Esturgeon.......................................... | $\begin{array}{r} 5,198 \\ 159,438 \end{array}$ | $\begin{array}{r} 4,788 \\ 143,720 \end{array}$ | $\begin{array}{r} 4,866 \\ 141,009 \end{array}$ | $\begin{array}{r} 5,143 \\ 132,530 \end{array}$ | $\begin{array}{r} 4,977 \\ 112,622 \end{array}$ | - | $\begin{array}{r} 166 \\ 19,908 \end{array}$ |
|  |  |  |  |  |  |  |  |

${ }^{1}$ Pris et débarqué. ${ }^{2}$ Vendu. ${ }^{3}$ Compris avec morue avant 1927.
L'étude suivante sur les pêcheries canadiennes pour l'année civile 1930 à été gracieusement fournie par le sous-ministre des Pêcheries; elle fait partie de son rapport annuel.

Études sur les pêcheries, 1930
Au cours de l'année civile 1930, la valeur marchande des pêcheries a été de $\$ 47,804,216$, ou $\$ 5,714,000$ de moins, en chiffres ronds, qu'en 1929. Les prises ont été moindres qu'en 1929 dans chacune des trois divisions des pêche-ries,-les pêcheries du littoral de l'Atlantique, les pêcheries intérieures et celles
de la côte du Pacifique-la prise globale dans le Dominion accusant une diminution d'environ $53,000,000$ de livres. Ce n'est cependant pas cette diminution dans les prises qui a été le principal facteur de la baisse de la valeur marchande de la production de l'année, mais plutôt la situatioh incertaine et languissante de la plupart des marchés où s'écoulent les produits des pêcheries canadiennes. Le niveau des prix a baissé et l'industrie a eu à faire face à maintes conditions adverses du marché.

Comparativement aux rapports de 1929 il y a eu des diminutions dans la valeur marchande de la production des pêcheries dans toutes les provinces. La valeur marchande de la production des pêcheries en eau salée cette année a été de $\$ 41,451,977$, mais elle avait atteint $\$ 44,928,742$ l'année dernière. La production des pêcheries intérieures, qui a été évaluée à $\$ 6,352,239$, accuse une moins-value de $\$ 2,237,000$ depuis 1929. La Colombie Britannique, est encore en tête des provinces en ce qui concerne la valeur de la pêche, laquelle représente environ 48 p.c. de la valeur de la production du Dominion, comparativement à 34 p.c. pour les Provinces Maritimes, 7 p.c. pour l'Ontario, 5 p.c. pour le Québec, et 4 p.c. pour les Provinces des Prairies et le territoire du Yukon combinés.

Capitaux et personnel.-Nonobstant le fait que la pêche, de même que d'autres industries, a été sérieusement affectée pendant l'année par les conditions économiques généralement défavorables, il y a eu une augmentation considérable dans le capital engagé, lequel a atteint un chiffre sans précédent. En 1929, le capital engagé avait été d'un peu plus de $\$ 62,579,444$, mais à la fin de 1930 cette somme avait augmenté de plus de $\$ 2,000,000$, le capital de l'industrie se totalisant à $\$ 64,026,297$. En 1930, il y eut une diminution de plus de $\$ 700,000$ dans le placement en vaisseaux, bateaux et engins de pêche employés dans les opérations primaires, ayant été de $\$ 33,198,690$; cependant, il a été engagé des sommes plus considérables dans les conserveries et les saurisseries, le total en étant de $\$ 30,827,607$. Ainsi qu'il a été noté en plusieurs rapports précédents, le capital engagé dans l'industrie de la pêche s'est accru constamment ces dernières années. Il y a probablement lieu de croire que cette augmentation sera temporairement arrêtée par les conditions économiques adverses dans le monde entier actuellement; toutefois elle est significative, prouvant l'intérêt croissant des Canadiens, dans l'industrie poissonnnière, ainsi que les possibilités de plus en plus grandes qu'offrent les ressources remarquables des pêcheries canadiennes; et on peut raisonnablement s'attendre à une nouvelle augmentation dans le capital engagé dans cette industrie, dès que les conditions générales seront plus favorables à l'expansion commerciale.

Le nombre de personne directement occupées dans cette industrie pendant l'année est de 79,558 , soit 892 de moins que l'année précédente. Le personnel employe dans les opérations primaires est de 63,836, comparativement à 64,083 en 1929. On compte 15,722 personnes employées dans les conserveries et saurisseries, ou 645 de moins que l'année précédente.

Grandes pêcheries.-Un fait saillant des opérations de l'année a été le succès exceptionnel de la pêche de saumon, quant à la quantité des prises. Dans les pêcheries, tant d'un littoral que de l'autre, les prises de saumon ont considérablement augmenté, étant estimées à $229,600,000$ livres en Colombie Britannique et à près de $6,500,000$ livres dans les provinces de l'Atlantique. Il a été établi de nouveaux records dans les prises; en dépit des conditions défavorables du marché mondial, la production des pêcheries indique une plus-value de $\$ 2,700$,000 depuis l'année précédente, ayant atteint une valeur totale de $\$ 17,697,655$. La pêche au homard, qui ne se pratique que sur le littoral de l'Atlantique, n'a encore été inférieure qu'à celle du saumon au point de vue de la valeur marchande. La prise avait été plus considérable, mais l'industrie du homard, comme toutes les autres, eut à souffirir des conditions peu satisfaisantes du marché, et quoiqu'il y ait eu un gain dans les prises, la valeur marchande de la pro-

32810-151
duction a été d'environ $\$ 481,000$ inférieure à celle de 1929 , n'étant que de $\$ 5,214,643$. La pêche à la morue vient en troisième en valeur, les ventes ayant rapporté $\$ 4,288,813$, comparativement à $\$ 5,394,636$ l'année dernière. La valeur marchande des prises de frétan a diminué sensiblement n'ayant été que de $\$ 2,871,455$ comparativement à plus de $\$ 4,832,296$ en 1929 . Le rendement de la pêche au hareng a été moindre, la valeur en ayant été de $\$ 2,623,174$ contre $\$ 3,186,669$. Le poisson blanc, le plus important des poissons des eaux intérieures, a rapporté $\$ 1,818,941$, plus de $\$ 600,000$ de moins que la valeur marchande de 1929.

## Nouvelle-Ecosse

Un accroissement de plus de $1,800,000$ livres dans la prise de homard caractérise les opérations de 1930 en Nouvelle-Ecosse, quoique la baisse des prix ait diminué la valeur marchande de la production annuelle de homard ( $\$ 3,046,-$ 084), d'environ $\$ 165,000$. Il y a eu des augmentations considérables relativement dans les prises de saumon et d'espadon; ayant été, dans l'un et l'autre cas, deux fois celles de l'année précédente. La pêche au maquereau a aussi eu plus de succès qu'en 1929, tant dans les prises que la valeur marchande. Il a été pris des quantités beaucoup plus considérables de merluche et de lotte, de carrelet, de raie, de sole, de gasparot, d'éperlan, bonite, anguille, huistres et une ou deux autres variétés. D'autre part, la prise de morue a baissé de plus de $23,000,000$ de livres, tandis que la valeur marchande des produits a diminué de près de $\$ 800,000$. Les conditions défavorables du commerce de morue sèche on contribué à dimiuer le rendement de l'industrie du homard. La prisen globale de poisson par la flotte de Lunenberg, qui s'occupe principalement du commerce de poisson séché, a été moindre qu'en 1929, ayant donné 14,078,000 livres contre $20,870,000$ livres. La pêche de l'églefin, gade, flétan, hareng, de pétoncles, coques et palourdes, n'a pas eu d'aussi bons résultats qu'en 1929, au point de vue ni de la prise ni de la valeur marchande. La valeur de la production des pêcheries de la Nouvelle-Ecosse pour l'année s'est totalisée à $\$ 10$,411,202 , soit $\$ 1,016,289$ de moins que l'année précédente.

## Nouveat-Brunswick

La production des pêcheries en eau salée du Nouveau-Brunswick a été de $\$ 4,819,396$, ou $\$ 1,000,000$ de moins que le total de 1929 , mais le rendement des pêcheries en eaux intérieures indique une légère augmentation de valeur dans les ventes, ou $\$ 34,179$ comparativement à $\$ 31,452$. La pêche au homard et celle à la sardine, ensemble, représentent environ 47 p.c. de la valeur marchande de la production globale des pêcheries de la province pour l'année. La prise de homard, estimée $\grave{\mathbf{a}}$ un peu plus de $9,000,000$ de livres, est une augmentation de 870,000 livres sur celles de l'année dernière; cepenclant, elle accuse une moins-value. Les pêcheries de sardine, qui occupaient la première place en 1929 parmi les pêcheries du Nouveau-Brunswick pour la valeur de la production, ont eu beaucoup moins de succès en 1930. La prise a diminué subitement et la valeur marchande a baissé de $\$ 550,000$. Il y avait un total de 244,238 caisses de sardines en boîtes, comparativement à 329,204 caisses l'année précédente, la valeur en ayant diminué de $\$ 340,000$. Il y a eu une ciminution dans les prises, ainsi que dans la valeur marchande de l'éperlan, l'églefin, la morue, le hareng, la merluche et la lotte, le maquereau, l'alose, les huitres et les coques et palourdes. Il y a eu une augmentation assez considérable dans la prise du gade, la valeur marchande s'en étant accrue de plus de $\$ 23,000$. Les prises de saumon pour le commerce ont été près de deux fois aussi considérables que celles de 1929, s'élevant à $3,332,600$ livres, comparativement à $1,765,000$ livres; la valeur marchande en a été de $\$ 641,734$ comparativement à $\$ 416,925$.

## Ile du Prince-Edouard

L'année a été remarquable dans les pêcheries de l'Ile du Prince-Edouard par un accroissement de près de $1,610,000$ livres dans les prises de morue, lesquelles se sont totalisées à $6,625,500$ livres. Les pêcheries de homard ont aussi été plus productives; il en a été pris plus de $8,000,000$ de livres comparativement à $7,359,000$ livres en 1929. En ce qui concerne la pêche de la morue, il y a eu une augmentation dans la valeur marchande, plus-value qui peut probablement s'attribuer aux méthodes perfectionnées dans la préparation de ce poisson, en certaines parties de la province, par suite d'instructions spéciales données aux pêcheurs par les fonctionnaires du ministère. La pêche au maquereau a été meilleure qu'en 1929, tant au point de vue de la prise que de la valeur marchande, mais la plupart des autres pêches accusent une diminution dans la prise et la valeur; toutefois, la prise de coques et palourdes a été plus productive que l'année précédente. La pêche des hultres n'a pas été aussi bonne qu'en 1929.

## Québec

Il y a eu dans le Québec une baisse dans la valeur marchande tant de la production des pêcheries en eau salée que dans celles des eaux intérieures. Les produits de ces premières ont été évalués à $\$ 1,976,798$, soit plus de $\$ 392,000$ de moins que le total de 1929. Les pêcheries intérieures ont donné une production dont les ventes ont été évaluées à $\$ 526,200$, ou quelque $\$ 38,000$ de moins que l'année précédente. Il y a eu une nouvelle augmentation importante dans la prise de saumon dans les pêcheries en eau salée, laquelle s'est élevée à 1,685 ,600 livres, contre $1,005,400$ livres, la valeur s'en étant accrue d'environ $\$ 55,000$. La pêche du maquereau indique aussi un gain dans la prise et la valeur marchande. La pêche des pétoncles a été plus considérable et la valeur en a augmenté. Cependant, la presque totalité des autres pêches, y inclus celles de la morue et du hareng, ont rapporté de moindres quantités et les bénéfices en ont diminué. Il y a eu une légère augmentation dans la pêche du homard; cependant, la valeur marchande en a diminué. Les pêcheurs dans les eaux intérieures ont pris de plus grandes quantités d'anguilles qu'en 1929, leurs profits augmentant de quelques milliers de dollars. La pêche du hareng a été un peu meilleure que celle de l'année dernière, et il en a été de même pour la pêche du poisson blanc et une couplé d'autres variétés. La prise du doré n'a pas été aussi abondante qu'en 1929, mais la diminution n'en a pas été considérable. Comme dans les pêcheries maritimes, les pêcheurs de saumon dans les eaux intérieures ont pris des quantités beaucoup plus considérables que l'année précédente, cependant la prise du saumon marchand dans les eaux intérieures du Québec n'a pas été très importante.

## Manitoba

Alors que les principales pêcheries indiquent de moindres bénéfices qu'en 1929, la production du Manitoba en 1930 ne s'est élevée qu'à $\$ 1,811,962$, une diminution de plus de $\$ 933,000$. La pêche du doré a été estimée à une valeur marchande de $\$ 581,018$, tandis que la production de 1929 était évaluée à $\$ 988$,563. La prise du poisson blane s'est accrue, mais la valeur marchande en est tombéc de quelque $\$ 80,000$. La prise du tullipi, 4,749,900 livres, a été beaucoup moins considérable que l'année précédente, la valeur marchande, $\$ 370,-$ 074 , indiquant une baisse de $\$ 218,000$. La prise d'œil-d'or n'a été guère plus de la moitié de celle de 1929. La pêche de la truite a aussi diminué.

## Saskatchewan

Les prises de doré, de tullipi et de mulet en Saskatchewan ont été plus abondantes en 1930 qu'en 1929, mais les prises de poisson blanc et de truite ont diminué. La pêche dans cette province accuse une diminution de 1,433,000
livres et de plus de $\$ 338,000$ en valeur marchande, la valeur de la production se totalisant pour l'année à à $\$ 234,500$ comparativement à $\$ 572,871$. Dans les pêcheries de poisson blanc, les plus importantes de la Saskatchewan, au point 'de vue des bénéfices, la prise s'est élevée à $3,152,200$ livres comparativement à 4,593,400 l'année précédente.

## Alberta

La pêche du poisson blanc et celle de la truite sont les plus importantes de l'Alberta, mais en 1930, elles ont été l'une et l'autre moins productives que l'année précédente. Ces diminutions expliquent en partie la baisse dans la valeur marchande de la production, soit de $\$ 732,214$ en 1929 à $\$ 421,258$ en l'année sous revue. La pêche de la truite en 1930 a rapporté $1,491,800$ livres, une diminution de plus de 800,000 livres depuis les chiffres de 1929, tandis que la valeur marchande était de $\$ 148,959$ contre $\$ 235,391$. La pêche du poisson blanc a donné $1,906,200$ livres contre $2,809,100$ l'année précéclente, et une valeur marchande de $\$ 187,751$, soit une diminution de plus de $\$ 138,000$. Les prises de toutes espèces de poisson dans l'Alberta, sauf le mulet, ont été moindres qu'en 1929. La pêche du mulet n'est guère importante.

## Colombie Britannique

La valeur marchande des produits poissonniers de la Colombie Britannique en 1930 est de $\$ 23,103,302$, ou $\$ 827,000$ environ de moins qu'en 1929. Cette diminution est due en partie à la baisse des prix et en partie à une réduction des travaux dans certaines pêcheries en raison de la situation défavorable du marché. Le saumon ayant été exceptionnellement abondant, la valeur marchande de la production s'est accrue de quelque $\$ 2,345,000$, mais la valeur marchande du fétan a diminué de plus de $\$ 1,870,000$, celle du hareng, de près de $\$ 265,000$ et celle du pilchard d'environ $\$ 600,000$. D'autres pêcheries de la côte du Pacifique accusent aussi des diminutions dans la prise et la valeur du poisson. Ainsi, il n'a été capturé que 320 baleines, contre 407 en 1929, et la valeur marchande des produits n'a été que de $\$ 227,993$, représentant une diminution de près de $\$ 160,000$.

## Territoire du Yukon

La valeur marchande du poisson pris dans le territoire du Yukon au cours de l'année est de quatre à cinq mille dollars de plus qu'en 1929 , ou $\$ 29,510$ en 1930, comparativement à a $\$ 24,805$. La prise de saumon, 54,900 livres, a été 23,000 livres de moins que le total de 1929, mais il a été pris plus de deux fois autant de truite que l'année précédente, et il en a été ainsi du poisson blanc et divers autres poissons.

## Pêcheries du littoral de l'Atlantique

Au cours de l'année, les pêcheurs de la Nouvelle-Ecosse, du NouveauBrunswick, de l'Ile du Prince-Edouard et du Québec, les quatre provinces de l'Atlantique, ont pris en tout $483,935,700$ livres de poisson comparativement à $536,193,900$ livres en 1929. La valeur marchande de ces prises a été de $\$ 18,909,054$, approximativement $\$ 1,090,000$ que moins de l'année précédente. La pêche de l'Ile du Prince-Edouard a augmenté de beaucoup plus qu'un million de livres, tandis que dans les trois autres provinces elle a diminué.

Morue, églefin, merluche, lotte et gade.-Les prises totales de ces espèces de poisson sur ce littoral ont été moindres qu'en 1929 et la valeur marchande en a diminué. Sauf dans l'Ile du Prince-Edouard, où, comme en 1929, les prises ont été plus abondantes, la pêche de la morue a diminué sur le littoral de l'Atlantique. La prise de l'eglefin dans les trois Provinces Maritimes a été moins considérable; aucune prise n'en a été rapportée dans le Québec, ni
en 1929 ni en 1930. La prise de merluche et de lotte en Nouvelle-Ecosse a été supérieure à celle de l'année précédente, mais la prise globale dans les eaux des Provinces Maritimes a diminué; on ne pêche ni la merluche ni la lotte dans le Québec. La pêche du gade au Nouveau-Brunswick a été plus productive qu'elle n'avait été l'année précédente, mais elle l'a été moins en NouvelleEcosse et la production nette de ce poisson en ces deux provinces, les deux seules où l'on prenne le gade, a diminué de 186,000 livres.

La pêche de la morue sur le littoral de l'Atlantique a donné 166,146,600 livres d'une valeur marchande de $\$ 4,284,209$, comparativement à $197,883,200$ livres évaluées à plus de $\$ 5,391,627$ en 1929. C'est dans la Nouvelle-Ecosse que la pêche de la morue est la plus fructueuse; les pêcheurs de cette province en ont pris $106,513,300$ livres pendant l'année contre $129,784,600$ livres l'année avant.

C'est aux pêcheurs de la Nouvelle-Ecosse qu'est due toute la prise d'églefin de l'année, excepté une très faible quantité, et leur pêche en 1930 a rapporté $47,163,900$ livres sur un total de $48,634,400$ livres d'églefin de l'Atlantique. Comparativement à 1929 , la pêche sur ce littoral accuse une diminution de $5,900,000$ livres et il en a été pris quelque $4,450,000$ livres de moins en NouvelleEcosse. La pêche de l'églefin au Nouveau-Brunswick a donné 1,320,300 livres, moins de la moitié de celle de 1929. Dans l'Ile du Prince-Edouard, où la pêche de l'églefin n'a jamais été abondante, la prise a été un peu moindré que celle de l'année précédente. La valeur marchande de l'églefin pris sur la côte entière a été de $\$ 1,851,724$, ou $\$ 100,000$ de moins qu'en 1929 .

En Nouvelle-Ecosse, il a été pris 19,020,300 livres de merluche et de lotte, ce qui est une augmentation de 550,000 livres sur la pêche de 1929. Au Nou-veau-Brunswick, ainsi que l'Ile du Prince-Edouard, cependant, les prises ont diminué, ne rapportant que $29,437,400$ livres pour les trois provinces, ou 4,500,000 livres de moins que l'année précédente. La valeur marchande est calculée à $\$ 431,562$ contre $\$ 517,296$.

Les pêcheurs du Nouveau-Brunswick ont pris 1,289,400 livres de gade pendant l'année, ceux de la Nouvelle-Ecosse en ont pris $3,942,200$ livres, soit un total de 5,231,600 livres comparativement à 5,417,900 livres l'année précédente. La prise du Nouveau-Brunswick s'est accrue de quelque 443,000 livres, mais celle de la Nouvelle-Ecosse a diminué de plus de 600,000 livres. La valeur marchande du gade dans les deux provinces s'est totalisée à $\$ 80,662$, ou $\$ 4,300$ de moins qu'en 1929.

La quantité de poisson vendu à l'état frais et sous forme de filets (poisson frais sans trêtes), morue, églefin, merluche, lotte et gade, s'est accrue de près de $1,800,000$ livres, au total de $36,053,400$ livres. D'autre part, la production de poisson séché et de poisson sans arêtes, de ces espèces, ne s'est totalisée qu'à $42,561,800$ livres, ou environ $12,435,000$ livres de moins que l'année précédente. La production de poisson fumé ou de filets fumés, de ce groupe, a aussi diminué, ayant été de $8,191,600$ livres contre $10,453,100$.

Hareng, maquereau et sardines.-La prise totale de ces variétés, sur le littoral de l'Atlantique en 1930, s'est élevée à $134,108,300$ livres, ou quelque $25,700,000$ livres de moins qu'en 1929. La valeur marchande en a été de $\$ 2,785,942$, soit une diminution d'environ $\$ 752,000$. Dans les pêcheries de hareng, il y a eu une diminution tant dans la prise que dans la valeur marchande, et il en a été de même de la pêche à la sardine. Les prises de maquereau ont augmenté; la valeur marchande en a été plus élevée, quoiqu'il y ait eu une diminution dans la production au Nouveau-Brunswick.

La pêche du hareng a été moins bonne, dans les quatre provinces, qu'elle n'avait été en 1929. La prise s'en est totalisée à $90,370,100$ livres d'une valeur. marchande de $\$ 1,113,436$. En 1929 , les chiffres ont été de $94,757,700$ livres et : $\$ 1,375,310$.

La pêche du maquereau a donné en tout plus de $17,846,400$ livres, ou approximativement 2,500,000 livres de plus qu'en 1929. La vleur marchande, $\$ 598,019$, représente une augmentation de près de $\$ 62,000$.

La prise de sardine, qu'il faut créditer, sauf quelque milliers de livres, au Nouveau-Brunswick, s'est élevée à $25,891,800$ livres, ou près de $24,000,000$ livres de moins qu'en 1929. La valeur marchande qui en était de $\$ 1,074,487$, se compare à plus de $\$ 1,626,000$ l'année précédente. Il n'a été empaqueté que 244,238 caisses de sardines, une diminution de plus de 84,900 caisses.

Plie, fétan et espadon.-La pêche de l'espadon, dont ne s'occupent que les pêcheurs de la Nouvelle-Ecosse, a été beaucoup meilleure en 1930 qu'en 1929. Elle s'est élevée à plus de $1,193,300$ livres, une augmentation de plus de 559,000 livres, d'une valeur marchavde de $\$ 214,896$ comparativement à $\$ 98,241$ en 1929. Les prises de flétan ont diminué en Nouvelle-Ecosse, le principal producteur, ainsi que dans le Québec et le Nouveau-Brunswick; le flétan est une prise rare dans les eaux provinciales de l'Ile du Prince-Edouard. La valeur marchande du flétan a baissé. La pêche dans la Nouvelle-Ecosse a rapporté 2,725,800 livres, près de 370,000 livres en-dessous des chiffres de 1929. La pêche dans le Québec n'a été que de 45,100 comparativement à plus de 73,000 . Les prises du Nouveau-Brunswick,-(celle du flétan n'est jamais considérable, en cette province),-a été de 10,000 ou guère plus de la motié de la pêche de 1929. On ne pêche la plie qu'en Nouvelle-Ecosse et au Nouveau-Brunswick; en l'année sous revue, elle a été beaucoup plus abondante qu'en 1929; la prise s'en est élevée à 640,900 livres, une augmentation de plus de 178,000 livres, tandis que la valeur marchande en a été de $\$ 27,941$ comparativement à $\$ 19,243$ l'année précédente.

Poisson frayant dans les rivières.-Il y a eu une augmentation considérable dans la prise de saumon, et il en a été ainsi dans la prise de gasparot. D'autre part, la pêche de l'éperlan a encore diminué. La pêche du saumon avait rapporté $3,528,700$ livres en 1929, mais celle de 1930 a été plus abondante donnant $6,448,600$ livres et nonobstant les perturbations économiques, la valeur marchande indique un accroissement de plus de $\$ 375,000$, se totalisant à $\$ 1,086,821$. Il y a eu augmentation dans la prise du saumon dans les quatre provinces sur le littoral de l'Atlantique, mais la pêche dans l'Ile du Prince-Edouard n'est jamais abondante. Il a été pris $3,332,600$ livres de poisson au NouveauBrunswick comparativement à $1,765,000$ livres en 1929. La prise dans le Québec a été de 1,685,600 livres, une augmentation de près de 680,000. La prise en Nouvelle-Ecosse a été de 1,419,800 livres, contre 755,600 livres l'année précédente. Dans l'Ile du Prince-Edouard, la prise s'est totalisée à 10,600 livres, environ quatre fois celle de 1929.

Le Nouveau-Brunswick est de beaucoup le plus grand producteur d'éperlan, cependant la prise de 1930 en cette province a été bien moins abondante qu'en 1929, n'étant que de $3,838,500$ livres comparativement à $5,102,300$ livres; la valeur marchande était de $\$ 551,443$, comparativement à $\$ 816,303$. La prise d'éperlan dans l'Ile du Prince-Edouard a été moins considérable que celle de l'année précédente, et il en a été ainsi dans les pêcheries du Québec, tandis qu'il y a eu un gain dans la Nouvelle-Ecosse.

La presque totalité des prises de gasparot du Dominion se font dans le Nouveau-Brunswick et la Nouvelle-Ecosse. En 1930, il a été pris dans cette province $4: 079,000$ livres (y compris la pêche dans les eaux intérieures), 300,000 livres de moins qu'en 1929. D'autre part, en Nouvelle-Ecosse, on en a pris $3,071,900$ livres comparativement à $2,418,300$ livres l'année précédente. Toutefois, ces deux provinces accusent une moins-value.

Homard:-Il y a encore eu une augmentation considérable dans la prise de homard dans les quatre provinces sur l'Atlantique. En 1929, il en avait été pris $5,000,000$ de livres de plus qu'en 1928; en 1930 il y eut une nouvelle augmentation d'approximativement $3,500,000$ livres. Il y a eu des gains dans les
quatre provinces en 1930, quoique l'augmentation dans le Québec n'ait pas été considérable. La valeur marchande de la production combinée des provinces, $\$ 5,214,643$, a cependant été de $\$ 482,000$ inférieure à celle de l'année précédente.

Autres mollusques.-La pêche de coques et palourdes, qui a été de 40,722 barils, a été de 8,760 barils de moins qu'en 1929. Dans l'Ile du Prince-Edouard, la pêche a été plus considérable que l'année précédente, étant de 4,921 barils comparativement à 4,275 . Dans le Québec, 2,668 barils représentent une diminution sur les chiffres de 1929. Dans le Nouveau-Brunswick, le plus grand producteur, il y en a eu quelque 5,600 barils de moins, 22,450 barils contre 28,065 . La Nouvelle-Ecosse a produit 10,683 barils, comparativement à 14,462 barils l'année précédente.

Il a été pris 700 barils de plus de pétoncles qu'en 1929 , ou 18,636 barils comparativement à 17,921 .

La pêche d'huîtres a donné 20,745 barils, à peu près le même nombre qu'en 1929. Il y a eu des diminutions dans l'Tle du Prince-Edouard et le NouveauBrunswick, mais compensation dans le gain de la Nouvelle-Ecosse.

## Pêcheries intérieures

Les pêcheries intćrieures, telles que celles de l'Ontario, des Provinces des Prairies et du territoire clu Yukon, ainsi que les pêcheries en eau douce du Québec et du Nouveau-Brunswick, ont été moins abondantes en 1930 qu'en l'année précédente, et la valeur marchande de la pêche a été de $\$ 6,352,239$ comparativement à $\$ 8,589,779$. Toutes les principales variétés de poisson pris dans les eaux intérieures, sauf le hareng, l'anguille et la sandre, ont été moins considérables que l'année avant. La péche à la sandre, poisson que l'on prend exclusivement dans l'Ontario, a presque doublé celle de 1929.

L'Ontario a continué a être le plus grand producteur de poisson blanc, mais la prise de l'année se limite à $5,543,300$ livres, ou 615,000 de moins qu'en 1929. La prise de poisson blanc au Manitoba a été plus considérable que l'année avant, mais la pêche dans la Saskatchewan et l'Alberta respectivement a été moindre que la précédente.

Au point de vue prise et poids, la pêche du doré au Manitoba a été plus considérable que dans les auties régions où l'on trouve ce poisson; cependant, les pêcheur's de cette province n'en ont pris que $6,905,300$ livres, ou environ deux millions et demi de livres de moins qu'en 1929. L'Ontario, avec ses $2,091,300$ livres, et la Saskatchewan avec 338,700 , indiquent une augmentation dans les priśes, tandis que l'Alberta accuse une baisse de 741,800 livres à 595,800 .

Bien que le Manitoba ait pris plus de brochet qu'aucune autre province, sa prisc évalućc à $3,402,700$ livres est de plus de $2,000,000$ inférieure à celle de 1929. La pêchc de ce poisson dans la Saskatchewan, l'Alberta, l'Ontario et le Québcc, a été moins considérable que l'année précédente. La pêche de la barbotte, du saumon, du maskinongé, du sauger et de l'alose a augmenté en 1930, si nous calculons le total des pêcheries en eaux intérieures, mais il a été pris de moindres quantités de gasparot, d'achigan et d'éperlan.

Provinces des Prairies.-Les conditions du marché en 1930 ont mis un frein à l'expansion des pêcheries dont le progrès avait été constant depuis plusieurs années dans les Provinces des Prairies. La valeur marchande de la pêche de 1930 est de $\$ 2,467,721$, le Manitoba à lui seul montrant une diminution de $\$ 277,000$ sur 1929. Il ne faut cependant pas voir dans cet arrêt d'expansion un indice de dépérissement des ressources piscicoles des Provinces des Prairies, la situation étant due entièrement aux conditions si peu satisfaisantes du marché. Le poisson ne diminue pas dans les eaux des Provinces des Prairies déjà exploitées pour le commerce; il y a de nombreuses pêcheries où l'expansion n'attend qu'une saison plus favorable. Et la preuve en est que malgré les circonstances adverses les opérations commerciales des pêcheries ont été poursuivies toute l'année
dans un grand nombre de rivières du Manitoba septentrional où la pêche ne se pratiquait pas avant, et en certains cas il a été fait des prises importantes.

La pêche du Manitoba en 1930 est évaluée à $\$ 1,811,662$ et se compare à $\$ 2,745,205$ en 1929. La valeur du poisson de l'Alberta, qui s'était élevée à $\$ 732,214$ en 1929, est baissée à $\$ 421,258$. En Saskatchewan, la pêche de 1930 a eu une valeur marchande de $\$ 234,501$, moins de la moitié de l'année précédente.

Le capital engagé dans les pêcheries des trois provinces se totalise à guère moins de celui de 1929 , se chiffrant à $\$ 1,936,221$ comparativement à $\$ 1,986,036$. Le nombre de 'personnes employées dans les pêcheries de ces provinces est de 6,905 , soit une diminution d'environ 600, bien que le personnel du Manitoba, 4,781, accuse une diminution de 94 .

Ainsi qu'on pouvait s'y attendre en des conditions économiques aussi incertaines, on s'est moins intéressé au sport de la pêche à la ligne que l'année précédente, quoique le nombre de pêcheurs ait augmenté dans la Saskatchewan. Dans ces trois provinces, on a constaté les bons résultats des établissements de pisciculture du ministère, et les pêcheries en ont été améliorées. En plusieurs cas, notamment dans l'Alberta et la Saskatchewan, on a pris d'excellent poisson dans des eaux dépourvues de poisson sportif avant que le département n'y eût introduit différentes espèces de truites.

## Pêcheries de la Côte du Pacifique

Le succès remarquable des pêchèries de saumon au point de vue des montées et de la production a éclipsé tout record établi dans les pêcheries de la Colombie Britannique avant 1930. En effet, les montées ont été tellement considérables, que n'eût-ce été la restriction exercée sur la production par les conditions économiques des marchés, le rendement de l'industrie du saumon dans la Colombie Britannique se serait élevé en 1930 à des chiffres de beaucoup supérieurs à tous les précédents. Les conditions économiques, cependant, étaient tellement défavorables que non seulement les exploitants de l'industrie du saumon n'étaient pas encouragés à tirer avantage des montés exceptionnelles, mais l'industrie elle-même avait à parer à de très sérieuses difficultés pendant l'année. A ce sujet, nous pourrions ajouter, d'ailleurs, que la perspective actuelle est que l'industrie saumonière de 1931 aura à surmonter de grandes difficultés à cause de la situation languissante et incertaine du marché.

L'arrivée de montées considérables de saumon en 1930 fut une source de grande satisfaction, et particulièrement parce qu'elle prouvait que les mesures de réglementation et de conservation des pêcheries, prises ces dernières années, avaient été sages et qu'il n'y a apparamment aucune crainte à y avoir que l'on ne puisse préserver avec succès les différentes variétés de saumon. Il est intéressant à ce sujet d'examiner les chiffres de la production annuelle de saumon en bôtes dans la Colombie Britannique depuis 1916, ainsi que la moyenne quinquennale. De 1916 à 1920, inclusivement, la moyenne annuelle a été de $1,349,895$ caisses. Les cinq années suivantes, la moyenne annuelle a été de $1,340,735$ caisses seulement, mais cette période comprend un temps de commerce languissant et on peut raisonnablement croire que n'ê̂t-ce été cette situation la moyenne de la production de saumon en boites eut dépassé celle des cinq années précédentes. De 1926 à 1930, la moyenne annuelle a été de 1,816,754 caisses, soit une augmentation de plus de 465,000 caisses sur les chiffres des premières périodes quinquennales. Cette augmentation indique clairement que les montées de saumon n'ont pas diminué, quoique l'on puisse justement dire que cette accroissement des produits des conserveries s'explique en partie par la plus grandê activité dans la mise en boíte du saumon rose et du saumon "chum" ou saumon bécard, variétés pour lesquelles la demande a été considérable ces dernières années.

Les montées de sockeye ou saumon à dos bleu en 1930, notamment dans les rivières Naas, Skeena et Fraser, ont été très satisfaisantes, et dans le cas des dernières montées dans le fleuve Fraser, les poissons étaient plus gros, en général,
que les années passées. La production de saumon sockeye, 477,678 caisses, a été la plus considérable depuis 1914; comparativement à la production du cycle précédent (1926), celle de 1930 représente un gain de près de 42 p.c. Ces chiffres sont utiles en ce qu'ils donnent une idée de l'abondance des montées du sockeye, mais toute estimation des quantités de ce poisson pendant l'année, doit tenir compte du fait que, afin qu'il n'y ait aucun doute qu'un nombre suffisant de poissons puissent se rendre aux frayères, le ministère a ajouté différentes périodes de pê̂che prohibée à celles qui étaient déjà spécifiées dans les règlements. Ainsi, dans le fleuve Fraser, a-t-il été défendu de pêcher depuis le 20 septembre jusqu'au 20 octobre. Par suite de la mise en vigueur de ces nouveaux règlements de prohibition de pêche en certains endroits, les prises de saumon ont beaucoup diminué, naturellement, et les chiffres de production, par conséquent, n'indiquent nullement le volume des montées. Cependant, le volume croissant de la production de sockeye en boittes suffit à prouver que ce poisson était beaucoup plus abondant en 1930 que depuis bien des années.

Les montées de saumon bécard, de saumon quinnat ou saumon du printemps, ainsi que de saumon argenté (cohoe) ont été très satisfaisantes, mais c'est l'abondance du saumon rose qui a été le fait saillant de l'industrie des pêcheries de saumon, à part le saumon "sockeye", dont il y avait aussi de grandes quantités. Le saumon rose est un poisson de deux ans,- c'est-dे-dire que le saumon qui remonte les cours d'eau en une année quelconque est le produit de la fraye de deux années avant,--pt il avait été pris de si grandes quantités de saumon rose en 1928 que l'on avait craint que les montées de 1930 n'en fussent diminuées. Les événements ont prouvé qu'une telle appréhension n'était pas fondée. Le surveillant en chef des pêcheries de la Colombie Britannique a rapporté que des "quantités énormes de cette variété de saumon étaient arrivées à presque tous les endroits où le saumon rose est attendu, en toutes les années de nombre pair, et en outre, les cours d'eau où l'on croyait que cette espèce de poisson était inconnue reçurent des quantités considérables de poissons anadromes". Il y avait une telle abondance de saumon rose en certaines parties de la province que les conserveurs trouvèrent nécessaire de placer une limite à la quantité qu'ils acheteraient des pêcheurs. Les saumoneries en remplirent près de 320,000 caisses de plus que le record précédent de production annuelle établi en 1928; 1,111,937 caisses en tout furent préparées pour le commerce.

Nonobstant le fait que des prises aussi considérables de saumon avaient rendu possible la production remarquable de $2,221,783$ caisses de saumon en conserves, les frayères furent exceptionnellement bien repeuplées d'alevins. Les montées considérables de l'année nécessitaient une telle mesure, et le ministère en prohibant de temps à autres la pêche de ce poisson s'assurait que le poisson adulte pourrait ainsi plus sûrement et en nombres suffisants atteindre les frayères. A moins de circonstances extraordinaires, il devrait en résulter des montées satisfaisantes pendant le prochain cycle d'années, les cycles, naturellement, différant selon les variétés de saumon.

Ainsi que l'on pouvait s'y attendre, étant donné les conditions économiques mondiales, il y a eu une diminution considérable dans les exportations de saumon en boites de la Colombie Britannique. Les ventes au RoyaumeUni ont augmenté, mais les expéditions aux pays étrangers ont été beaucoup moins considérables qu'en 1929. Les exportations vers l'Italie se sont maintenues aux chiffres de l'année précédente, tandis qu'il y a eu une diminution sensible dans le commerce avec des marchés aussi importants que l'Australasie, la France et la Belgique.

La diminution dans les prises de flétan pendant l'année, dans la production de hareng salé à sec, dans le rendement des conserveries de pilchards, est attribuée à la situation adverse des marchés mondiaux plutôt qu'elle n'est un indice de la rareté du poisson. Les prix du fétan durant la saison ont été peu satisfaisants. Les conditions des marchés orientaux, où se vend la presque totalité
du hareng salé à sec, étaient tellement défavorables que l'industrie a diminué sa production. Les pilchards étaient abondants, mais le commerce de ce poisson en boites était tellement languissant qu'il n'était guère encourageant d'en augmenter la production. Il n'est donc pas étonnant que dans les circonstances les rendements des poissonneries aient diminué considérablement. Il a été pris 4,950,000 livres de poisson de moins qu'en 1929. La production de hareng salé à sec a beaucoup diminué; celle des pilchards en boitte ne s'est élevée qu'à 55,166 caisses comparativement à 98,821 caisses en 1929 , alors qu'il y en avait eu une production sans précédent.

Ainsi que dans toutes les autres branches de l'industrie des pêcherics, les. producteurs de farine et d'huile de poisson et les pêcheurs qui ont fourni la matière première aux huileries, ont eu à souffrir du marasme. Il a été fabriqué un peu moins d'huile qu'en 1929, ou $3,872,600$ gallons en tout, mais les prix en étaient très bas. La production totale de la farine de poisson, a été de quelque deux mille tonnes de plus que l'année précédente, ou 23,123 tonnes contre 21,084 . Les prix de la farine étaient aussi meilleurs que ceux de l'huile. Une grande partie de la farine et de l'huile de poisson de la Colombie Britannique est fournie par le pilchard, mais il en est aussi fourni une grande quantité par la baleine et le hareng. La truite de mer et les issues de poisson sont aussi utilisées dans cette industrie, dont l'expansion sur la côte du Pacifique a été très rapide ces dernières années, et cependant que la situation mondiale met temporairement obstacle à une telle expansion, il y a lieu de croire que lorsque la situation économique sera redevenue normale, il y aura une recrudescence d'activité dans ce champ industriel, et que le développement y sera plus grand que jamais. Les recherches expérimentales et scientifiques ont fait connaître de nouvelles utilisations des produits d'huileries, et la découverte par ceux qui s'occupent de ces recherches, que non seulement l'huile du foie, mais, aussi celle des issues de poisson, sont spécialement riches en vitamines, porte à croire qu'il y aura une utilisation croissante des sous-produits des pêcheries sous différentes formes.

Le tableau suivant est un relevé des pêcheries du Canada, indiquant les prises et le poisson vendu en 1930 avec une statistique comparative pour 1929. On y trouve d'abord la quantité et la valeur marchande de chaque espèce au navire ou bateau de pêche, puis, une indication cle la forme sous laquelle chaque espèce est vendue au consommateur.
2. Quantité et valeur de tout poisson péchê et mis en vente au Canada, durant les années 1929 et 1930

| Espèces |  | Pêcheries maritimes |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1929 |  | 1930 |  |
|  |  | Quantite | Valeur | Quantite | Valeur |
| Morue prise... | qtx | 1,979,440 | $\begin{gathered} S \\ 4,010,562 \end{gathered}$ | 1,662,421 | $\stackrel{\S}{\mathbf{S}, 216,002}$ |
| Mise en vente |  |  |  |  |  |
| Filets frais. | qtx | 16,187 | 193,335 | 27,386 | 315, 701 |
| En saumure. | qtx | 138,929 | 605,292 | 149,070 | 599,122 |
| En boite. | caisses | 3,992 | 33,787 | 5,793 | 28,394 |
| Fumée...... | qtx | -392 | 3,166 |  |  |
| Filets fumés. | qtx | 46,565 | - 599,231 | 33,564 | 395,701 $2,116,889$ |
| Seché...... | qtx | 424, 087 | 3,057,839 | 322,960 | 2,116,889 |
| Sans arêtes............. |  | ${ }^{31,766}$ | 339,766 | 24, $\begin{aligned} & 240 \\ & 84.596\end{aligned}$ | 252,524 65,046 |
| Huile de foie, médicinale Huile de morue. . . | $\xrightarrow[\text { gal. }]{\text { gal }}$ | r91, ${ }^{1622} \times 14$ | 83,167 77,089 | - $\begin{array}{r}84,596 \\ 181,326\end{array}$ | 65,046 80,883 |
| Total valeur marchande. |  | - | 5,304,638 | - | 4,288,813 |
|  |  | 545,409 | 1,052,563 | 486,311 | 1,006,144 |
| Frais......................... | qtx | 147,761 | 572,743 | 136,816 | 575,831 |
| Filets frais | gtx | 53,739 | 656,061 | 59,357 | 743.924 |
| En boite. |  | 11,998 | 89,672 | 15.123 | 95.014 |
| Fumé. | qtx | 38,033 | 332,772 | 34,589 | 293,282 |
| Filets fumes | qtx | 10,400 | 132,119 | 4,122 | 48.161 |
| En saumure. |  | 17.210 | 52,997 | 10.208 | 26,116 |
| Seche. |  | 24,769 | 108,602 | 13,049 | 55,160 |
| Sans arêtes. | qtx | 735 | 6,676 | 1,751 | 14,236 |
| Total valeur marchande. | ...... |  | 1,951,642 |  | 1,851,724 |

2. Quantité et valeur de tout poisson pêché et mis en vente au Canada, durant les années 1929 et 1930 -suite

3. Quantité et valeur de tout le poisson pêché et mis en vente au Canada, durant les années 1929 et 1930-suite


## 2. Quantité et valeur de tout le poisson pêché et mis en vente au Canada durant les années 1929 et 1930-suite



[^25]2. Quantité et valeur de tout poisson pêché et mis en vente au Canada, durant les années 1929 et 1930 -suite

| Espèces |  | Pêcheries maritimes |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1529 |  | 1930 |  |
|  |  | Quantité | Valeur | Quantite | Valeur |
|  |  |  | \$ |  | \$ |
| Algue, verte. Mise en vente, séchée. | . qtx | 7,748 <br> 1,124 | 10,260 10,620 | 5, ${ }_{765}$ | 9,646 10,306 |
| Phoque à fourrure, pris. | .nomb. | 3,347 $-3,347$ | 28,776 33,272 | 2,291 | 13,746 13,746 |
| Phoque, commun. | nomb. | 24,076 | 62,872 | 10,544 | 23,853 |
| Peaur vendues.. | nomb. | 23,860 | 56,222 | 10,544 | 18.190 |
| Huile de....... | . gal. | 43,176 | 34,989 | 22,377 | 9,786 |
| Total valeur marchande.. |  | - | 01,211 | - | 27,976 |
| Marsouins, pris.. | .nomb. | 26 | 87 | , | 200 |
| Peaux vendues.. | nomb. | 26 | 104 | 309 | 76 |
| Huile.......... | . gal. | 800 | 400 | 300 | 152 |
| Total valeur marchande. |  | - | 504 | - | 228 |
| Baleines, prises. Mises en vente- | nomb. | 407 | 387,049 | 320 | 227,093 |
| Os poudre........... | .tonnes | 416 | 13,728 | 273 | 6,775 |
| Huile de... | - gal. | 712,5979 | 327, 686 | 525,533 | 192.168 |
| Engrais de. | .tonnes | 779 | 45,635 | 581 | 29,050 |
| Total valeur marchande. |  | - | 387,049 | - | 227,993 |
| Produtts dirers- |  |  |  |  |  |
| Huile de poisson (autre), n.a.e. | gal. | 532,144 | 161,324 | 99,127 | 34,342 |
| Colle de poisson.. | gal. | 7,653 | 4,592 | 27,953 | 36,443 |
| Peaux et os de poisson | . qtx | 17,438 | 27,502 | 31,574 | 30,784 |
| Issues de poisson.. | tonnes | 12,006 | 35,919 | 11,055 | 31,059 |
| Engrais de poisson. | tonnes | 2,671 | 58,020 | 390 | 14.120 |
| Poudre de poisson. | .tonnes | 5,382 | 289,189 | 3,841 | 238,950 |
| Autres produits.. |  | - | 10,994 |  | 10,476 |
| Valeur totale des pêcheries maritime Valeur des prises. |  | - | 27,220,308 | - | 24,719,077 |
| Valeur marchande, |  | - | 44,923,742 | - | 41,451,977 |
|  |  |  | Pêcheries in | térleures |  |
| Espèces |  | ... 192 |  | 193 |  |
|  |  | Quantite | Valeur | Quantits | Valeur |
|  |  |  | \$ |  | \$ |
| Gasparot, pris.. | . qtx | 550 | 1,750 | 543 | 1,291 |
| Mis en vente |  | 235 | 655 | 257 | 579 |
|  | . brl | 105 | 915 | 104 | 712 |
| Total valeur marchande. |  | - | 1,570 | - | - 1,291 |
| Achlgan, pris. | . qtx | 713 | 11,324 | 638 | 10,361 |
| Mise en vente, frais. | . qtx | 713 | 11,324 | 630 | 10,374 |
| Carpe, prise. |  | 13,451 | 86,123 | 12,034 | 59,923 |
| Mise en vente, iraiche. | qtx | 13,451 | 86, 123 | 12,034 | 67,179 |
| Barbotte, prise.......... | . qtx | 8,765 | 74,308 | 8,954 | 78,833 |
| Mise eri vente, iraiche. | . qtr | 8,765 | 74,580 | 8,854 | 79,829 |
| Angullie, prise. |  | 12,657 | 115,356 | 13,914 | 123,879 |
| Mise en vente, irafche.. | . qtx | 12,657 | 115,356 | 13,914 | 123,879 |
| EIII-d'or, pris.. | . qtx | 11,151 | 66,163 | 5,809 | 37,276 |
| Mis en vente- |  |  |  |  |  |
| Frais. | . qtx | 2,589 | 174,234 | 366 3,266 | 3,139 94,428 |
| Fume. | . qtx | 5,137 | 174,234 | 3.260 | 94, 428 |
| Total valeur marchande........ |  | - | 191,793 | - | 97,567 |
| Hareng, pris...... | . qtx | 54,562 | 324,654 | 65,113 | 203,835 |
| Mis en vente, frais. | . qtx | 54,562 | 324,704 | 65,113 | 287,435 |
| Llngue, prise $\qquad$ Mis en vente, frais. | $\begin{aligned} & . \\ & \because \text { qtx } \end{aligned}$ | - | - | 652 <br> 652 | 391 391 |
| Maskinomgé, pris. | . qtx | 101 | 2,810 | 147 | 3,975 |
| Mis en vente, frais. | . qtx | 104 | 2,810 | 147 | 3,975 |

2. Quantité et valeur de tout poisson pêché et mis en vente au Canada durant les années 1929 et 1930-fin

| Espèces | Pêcheries intêrieures |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 1929 |  | 1930 |  |
|  | Quantité | Valeur | Qauntite | Valeur |
| Poisson divers (gade, chahot, ouananiche, ete.) pris.......... qtx Mis en vente, frais. $\qquad$ |  | \$ |  | \$ |
|  | 44,488 44,428 | 1766360 177,908 | 41,652 <br> 41,652 <br> 18 | $\begin{aligned} & 149,618 \\ & 151,273 \end{aligned}$ |
|  | 19,926 19,926 | 29,943 | 13,189 13,189 | 16,375 23,413 |
| Perche, prise. <br>  qts | 64,887 64,827 | 398,989 | 42,029 <br> 42,029 | $\begin{aligned} & 285,586 \\ & 331,073 \end{aligned}$ |
|  | 128,500 128,500 | 1,148,335 | 103,146 <br> 103,146 | $\begin{aligned} & 740,355 \\ & 939,762 \end{aligned}$ |
| Sandre, prise. <br>  | 25,831 25,831 | $\begin{array}{r}151,987 \\ 333,220 \\ \hline\end{array}$ | 59,284 59,284 | $\begin{aligned} & 361,632 \\ & 420,917 \end{aligned}$ |
| Brochet, pris. $\qquad$ <br>  | - 82,546 | 335,025 409,970 | 56,464 | $\begin{aligned} & \mathbf{1 6 7}, 527 \\ & 228,905 \end{aligned}$ |
| Saumon, pris.................................................................. <br> Ifis en vente, frais.................................................. qts | 1,455 1,455 | -28,795 | 1,880 1,830 | 31,491 34,236 |
| Sauger, pris $\qquad$ <br>  | 8,181 8,181 | 49,835 <br> 63,478 | 8,961 8,961 | 48,074 62,482 |
| Alose, prise................................................................... Mise en vente, iraiche.............................................. qts | 1,818 1,818 | 16,178 16,178 | 2,023 2,023 | 16,573 16,573 |
| Eperian, pris. $\qquad$ <br> Mis en vente, fraig............................................................. qts | 8,654 | 68,011 | 7,177 | 56,334 56,334 |
| Cyprin-sucet pris et débarqué Mis en vente, frais.. | - | - | 5 | $\begin{array}{r}15 \\ \hline 15\end{array}$ |
|  | 4,809 | 115,970 | 4,451 | 95,117 |
|  | 4.809 | 121,330 | 4,451 | 101,607 |
|  | 3,755 | 3,755 | 3:647 | 3,647 |
| Total valeur marchande |  | 125,085 |  | 105,254 |
|  | 90,656 90,656 | 492; 401 | 69,670 69,670 | 765,495 $1,029,065$ |
| Tullini, pris qtx <br> Mis en vente- | 37,669 | 561,748 | 62,041 | 379,731 |
|  |  |  |  |  |
| Mis en vente- <br> Frais. $\qquad$ | 97,530 | 685,407 | 62,016 | 461,676 |
| Fume................................................... qtx | 87 | 2,324 | 15 | 400 |
| Total valeur marchande. |  | 687,731 |  | 462,076 |
| Polsson blanc, pris. $\qquad$ qtx <br> Mis en vente, irais. $\qquad$ qta | 196,386 | 1,783,360 | 169,747 | 1,409,874 |
|  | 196,386 | 2,453,703 | 169,747 | 1,818,941 |
| Valevr totale des pêcheries IntêricuresValeur des prises. Valeur marchande. | - | $6,479,235$ $8,589,779$ | - | $\mathbf{5 , 0 4 3 , 5 8 5}$ $6,352,239$ |
| Yaleיr totale de tontes ies pêcheriesValeur des prises Valeur marchande. | - | $\begin{gathered} 33,699,543 \\ 53,518,521 \end{gathered}$ | - | 29,762,663 $\mathbf{4 7 , 8 0 4 , 2 1 6}$ |

## Production, capital engagé, employés, etc.

Capital.-Le capital engagé dans les pêcheries du Canada en 1930 était de $\$ 64,026,297$ comparativement à à $\$ 62,579,444$ en 1929 et $\$ 58,072,371$ en 1928. Le chiffre de 1930 se répartissait ainsi: $\$ 33,198,690$ en vaisseaux, bateaux, filets, pièges, môles et quais, etc. employés dans les operations primaires de la pêche et du débarquement du poisson, et $\$ 30,827,607$, en établissements et outillage pour la préparation et la conservation du poisson. L'item du capital engagé dans les conserveries et les saurisseries comprend (a) terrain, bâtiments et machinerie, (b) matières premières, produits et approvisionnements en main, et (c) encaisse, comptes et effets à recevoir. L'augmentation depuis 1929 indiquée par le capital des pêcheries est due à une augmentation de plus de deux millions de dollars dans la valeur des conserveries et saurisseries; le capital 32810-16
engagé dans les bateaux et engins accuse une diminution depuis l'année précédente. Tableaux 3 et 4.

Employés.-Le nombre de pêcheurs employés en 1930 était de 63,836 et le nombre de personnes travaillant dans les conserveries et saurisseries, 15,722, représentant un total de 79,558, comparativement à un total de 80,450 en 1929 et 78,219 en 1928. Tableaux 5 et 6 .
3. Matériel et agrès de pêche. Valeur des vaisseaux et barques de pêche, filets, pièges, quais, etc., employés dans les pêcheries canadiennes en 1928, 1929 et 1930

| Nomenclature | Pècheries maritimes |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1928 |  | 1929 |  | 1930 |  |
|  | Nombre | Valeur | Nombre | Valeur | Nombre | Valcur |
|  |  | § |  | \$ |  | 8 |
| Chalutiers à vapeur. | 11 | 743.000 | 10 | 640.000 | 8 | 470,003 |
| Vaisseaux à vapeur... | 9 | 164,500 | 12 | 216.500 | 8 | 156,000 |
| Vaisseaux a voile et a gazoline | 1,422 | 7,707,251 | 1,309 | 8,048,609 | 1,216 | 7.854.044 |
| Barques (voiles et rames)..... | 14,877 | 587,472 | 15,985 | 593,427 | 14,571 | -530,415 |
| Barques a gazoline........ | 15, 136 | 6,004, 131 | 16,498 | 6,965, 284 | 16.737 | 7.475,309 |
| Pinasses et ehalands | 407 | 579,515 | 405 | 1570,254 | 642 | 875.015 |
| Filets a mailles. | 67,139 | 1,231,711 | 72,273 | 1,740.885 | 67,279 | 984,138 |
| Sennes à saumon trainantes. | 11,349 | 1,444, 019 | 8,877 | 898.011 | 12,619 | 1,433,228 |
| Sennes à eammon, de fond. | 21 | 5,500 | 14 | 4.450 | 19 | 10.875 |
| Sennes à saumon, à parc. | 136 | 39,500 | 259 | 72.800 | 312 | 103,215 |
| Autres sennes à parc... | 855 | 449,495 | 1,042 | 575, 260 | 1,121 | 668.858 |
| Sennes de fond...... | -602 | 591,861 | 18. 218 | 1,095 |  |  |
| Sennes à éparlan. | 15.294 | 591,458 | 18,581 | 664.130 | 18,482 | 627,629 |
| Sennes à parc. | 65 <br> 446 | 13,000 429,155 | 76 422 | 15.200 404,145 | 346 | - 352,329 |
| Nasses à eeines. | 19 | 3,800 | 23 | 4,600 |  |  |
| Seines en bourse pour saumon. | 354 | 512,244 | 485 | 865,035 | 399 | 767,775 |
| Autres seines.. | 1,913 | 449,242 | 3,225 | 656,810 | 3,470 | 422,255 |
| Traineurs de nasse. | 15 | 17, 100 | 15 | 17,100 |  |  |
| Baquets de palangre | 18,557 | 326,691 | 21,655 | 351,724 | 20,859 | 306.672 |
| Tessure de filets.... | - |  |  |  | 2,461 | 54,636 |
| Chaluts a panneaux. | - | 3 | - | 50 | 59 | 15,625 |
| Lignes à main... | 65, 303 | 155,693 | 59,028 | 177,250 | 63,699 | 153,785 |
| Piêges à crabes. | 6,551 | 21,583 | 7,245 | 26,432 | 4,870 | 16, 930 |
| Pieges in anguilles. | 418 | 1,032 | 433 | ${ }^{895}$ | ${ }^{416}$ | 1,847 |
| Pieges a homard. | 1,586,576 | 2,050, 207 | 1,618,779 | 2,125,283 | 1,503,584 | 2.116.828 |
| Parcs a homard ${ }^{\text {a }}$. |  | 39,570 |  | 58,540 |  | 63.640 |
| Rateaux a huitres ${ }^{\text {a }}$ | 1,365 | 5,207 | 1.543 | 6,025 | 1,449 | 5.341 |
| Rateaux à pétoncles? | 418 | 10,130 | 331 | 10,110 | 322 | 9.760 |
| Rateaux a palourdes ${ }^{2}$ | 329 | 682 | 289 | 680 | 279 | ${ }^{653}$ |
| Pares d'huitres et outillage |  | 26,000 825,365 |  |  |  | 21.208 811.655 |
| Quais et moles... | $\begin{array}{r}2,060 \\ \hline 994 \\ \hline\end{array}$ | 825,365 342,275 | 1,836 <br> 551 | 732,235 782,526 | 1,793 | 8112,650 282,680 |
| Fumeries...... | 6,040 | 920,539 | 6,934 | 940,985 | 6,940 | 917.323 |
| Vaieur total | - | 25,698,928 | - | 28,162,312 |  | 2i,534,25s |
| Nomenclature | Pêcheries intéricures |  |  |  |  |  |
|  | 1928 |  | 1929 |  | 1930 |  |
|  | Nombre | Valeur | Nombre | Valeur | Nombre | Valeur |
|  |  | \$ |  | \$ |  | \$ |
| Bateaux it vapeur et remorque | 135 | 1,037.684 | 139 | 1,115,375 | 136 | 1.103,695 |
| Barques (voiles et rames). | 3,860 | 176,471 | 3,853 | 167,501 | 3.722 | 151.770 |
| Barques ì gazoline. | 1,557 | ${ }^{906,516}$ | 1,533 |  | 1.480 8 | 966,020 42,500 |
| Chalands...ile. | 7 | - $\begin{array}{r}23,500 \\ 1,606,105\end{array}$ | - ${ }_{-1}$ | - $\begin{array}{r}45,100 \\ 1,802,783\end{array}$ | 8 | 1,720,632 |
| Seines ......... | 160 | 1,62,851 | 151 | 1,82,557 | 183 | 22,747 |
| Filets a parc | 1,225 | 672,780 | 1,263 | 650,180 | 1,182 | 622,525 |
| Filets cylindriques | 921 | 29,602 | 932 | 31,565 | 888 | 28,767 |
| Filets a rouleaux. | 80 | 978 | 123 | 1,585 | 135 | 1,263 |
| Lignes... | 2,573 | 43,800 | 3,017 | 19,690 | 1,669 | 15.216 |
| Nasses. | 1,624 | 129,789 | 1,432 | 118,696 | 1,109 | 122,269 |
| Pièges ì anguille. | 110 | 320 | 90 | $\stackrel{24}{ }$ |  | 200 |
| Roues. | ${ }^{6}$ | 900 | 8 | 1,200 | ${ }^{6}$ | 960 |
| Dards. | 88 | 1,134 | 75 | 526 | 93 | ${ }^{680}$ |
| Quais et moles | 467 | 183, 760 | 463 | ${ }^{236,015}$ | 483 | 229,275 |
| Glacieres | 1,005 | 545,058 | 826 | 524,715 | 958 | 527.435 108.538 |
| Fumeries. | 331 | 50,912 | 292 | 109,326 | 225 | 108,538 |
| Valeur tot |  | 5,432,160 | - | 5,772,690 | - | 5,661,432 |

- Avant 1930 inclus avec chaluts.

4. Capital d'exploitation des établissements de préparation du poisson en 1928, 1929 et $1930^{1}$

| Enumération | 1928 |  | 1929 |  | 1930 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Nombre | Valeur | Nombre | Valeur | Nombre | Valeur |
| Homarderies. Saumoneries <br> Crustacés et moliusques. <br> Sardineries et autres conserveries <br> Saurisseries. <br> Huileries. | 3756727520440 | \$ | 3546423824239 | \$ | 33368231023431 | $\begin{gathered} \S \\ 1,257,185 \\ 17,927,102 \\ 204,969 \\ 1,405,921 \\ 7,562,694 \\ 2,469,736 \end{gathered}$ |
|  |  | 1,358,263 |  | 1,265,183 |  |  |
|  |  | 12,477,218 |  | 15,103,888 |  |  |
|  |  | 1,262, 229 |  | 117,352 |  |  |
|  |  | 7,520, 3 3 3 |  | 1,383, 202 |  |  |
|  |  | 4,051,383 |  | 3,089,179 |  |  |
| Total. | 313 | 26,941,283 | 730 | 28,64,442 | 669 | 30,827,607 |

[^26]5. Personnel occupé aux opérations de pêche en 1928, 1929 et 1930

| Classification | Pêcheries maritimes ${ }^{\text {- }}$ |  |  | Pêcheries intérieures |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1928 | 1929 | 1930 | 1928 | 1929 | 1930 |
| Hommes employes: | nomb. | nomb. | nomb. | nomb. | nomb. | nomb. |
| A bord de schalutiers il vapeur. | 226 | 182 | 142 | - | - |  |
| A bord des navires..... | 7,567 | 7,070 | 6, 745 | ${ }^{767}$ | 727 | 658 |
| A bord des pinasses... | 38,061 536 | 40, 101 | 40,208 | 8,166 | 7,576 | 7,514 |
| Pecheurs sans cmbarcations. | 2,972 | 2,821 | 2,837 | 4,469 | 5,036 | 4,763 |
| Total. | 49,362 | 50,714 | 50,881 | 13,427 | 13,369 | 12,955 |

6. Personnel des établissements de préparation du poisson en 1928, 1929 et 1930

| Enumeration | 1928 |  |  | 1929 |  |  | 1930 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\underset{\text { mes }}{\text { Hom- }}$ | Femmes | Total | Hommes | Femmes | Total | $\underset{\text { mes }}{\substack{\text { Hom- }}}$ | Femmes | Total |
| Personnes employees dans les: | nomb. | nomb. | nomb. | nomb. | nomb. | nomb. | nomb. | nomb. | nomb. |
| Homarderies........................... | 2,614 | 3,197 | 5,811 | 2.596 | 3,274 | 5,870 | 2,450 | 3,159 | 5,609 |
| Stamoneries......................... | 3,307 | 1,872 | 5,179 | 3,521 | 2,296 | 5,817 | 3,340 | 2,504 | 5,844 |
| lusques et crustacts................... | 103 | 326 | 429 | 100 | 171 | 271 | 100 | 199 | 299 |
| Sardineries et autres conserveries......... | 275 | 143 | 418 | 283 | 201 | 484 | 183 | 212 | 395 |
| Saurisseries. | 2,566 | 298 | 2,795 | 2,859 | 325 | 3, 184 | 2,810 | 310 | 3,120 |
| Total. | 9,630 | 5,804 | 15, 434 | 10,076 | 6,291 | 16,367 | 9,313 | 6,409 | 15,222 |
|  |  |  |  | 10,0\% | 6,20 | 16,30, | 0,313 | 6,40, | 15, 23 |

## Etablissements industriels dépendant de la pêche

Nombre d'établissements.-Le nombre d'établissements industriels dont le produit de la pêche est la matière première, qui était de 699 en 1930, a baissé de 31 depuis 1929 et de 14 depuis 1928. Les homarderies contribuent le plus grand nombre d'établissements, 333 ; viennent ensuite les saurisseries, 234; les saumoneries, 68; les huileries, 31 ; les conserveries de coques, 23; les sardineries, 10 , etc. Ces établissements sont classifiés selon leur principale activité ou la principale espèce de poisson utilisé. Les huileries sont aussi les établissements fabriquant la poudre de poisson pour engrais. La conserverie et la saurisserie du poisson sont des industries limitées aux deux littoraux du Canada. Toutes les homarderies, les sardineries et la plupart des conserveries de coques sont sur le littoral de l'Atlantique tandis que la Colombie Britannique a 60 des 68 saumoneries en activité en 1930.

Durée des opérations.-En 1930, les usines ont été en activité pendant 71,789 jours, ou une moyenne de $102 \cdot 7$ jours par établissement. En classant les établissments par groupes suivant le nombre de jours d'activité dans l'année, nous en comptons 289 dans le groupe de ceux dont les opérations ont duré moins
de 60 jours; 182 dans le groupe actif de 60 à 119 jours; 108 dans le groupe de 120 à 179 jours; 58 dans le groupe de 180 à 239 jours; et 67 dans le groupe d'usines en activité pendant 240 jours et plus. Dans ce dernier groupe, il y a 9 homarderies, 4 saumoneries, 1 conserverie de coques, 3 sardineries et conserverie d'autre poisson, 46 saurisseries et 4 huileries.

Employés, salaires et gages.-En 1930, 15,722 personnes étaient employées dans les conserveries et saurisseries, se classent comme suit: à salaire, 591 ; à gages, 9,967 ; à l'entreprise ou à la pièce, 5,164 . Les employés à l'entreprise se trouvant dans les saumoneries de la Colombie Britannigue, où une grande partie du travail est fait à la pièce, l'entrepreneur ayant ses propres employés et les payant, étant lui-même remunéré par l'exploitant ㄷlon la quantité de poisson mis en boîtes. Environ 75 p.e. des employés dans les saumuneries de la Colombie Britannique travaillent à ces conditions. La statistique des employés dans ces établissements est calculée d'après l'emploi mensuel des ourrinrs et le nombre d'employés à salaire et d'ouvriers à l'entreprise durant la suison sntière, la méthode de revision des rapports étant la suivante: sur réception du rapport de chaque établissement on additionne le nombre d'ouvriers à gages indiqué pour chaque mois, le total étant ensuite divisé par le nombre de mosis durant lesquels l'usine a été en activité pendant l'année. Le chiffre ainsi obte :u est inscrit comme moyenne d'employés à gages dans l'établis eoment poudant l'année. A ce nombre on ajoute celui des employés à salaire et le rombre d'ouvriers à l'entreprise ou à la pièce, enregistrés pour l'année ou la saison et non pas pour le mois. Le chiffre final représente le nombre d'employés de cet établissement pour l'année, la compilation des totaux donnant le nombre d'employés dans cette industrie. La durée de l'emploi varic selon la saison des travaux; les homarderies sont exploitées pendant un mois ou deux de l'année, les saumoneries durant de plus longues périodes, tandis qu'un grand nombre de saurisseries fonctionnent toute l'année. La fluctuation dans l'emploiement est indiquée par la statistique du nombre d'employés à gages chaque mois. Il n'y a aucune statistique mensuelle sur les travailleurs à l'entreprise, car, étant donné qu'ils sont employés par les entrepreneurs, l'exploitant des conserveries n'en tient pas de registre mensuel, et par conséquent, ne peut inclure dans son rapport que la moyenne du nombre employé pendant la saison et la somme totale qui leur es! payée. En 1930 , ce total s'est élevé à $\$ 5,326,463$, dont les ouvriers à gages ont reçu $\$ 3,383,902$, les ouvriers à l'entreprise ou à la pièce, $\$ 1,023,609$, et les employés à salaire, $\$ 918,952$, soit une diminution de $\$ 85,392$ sur le total de l'année précédente. Le tableau suivant donne le nombre d'employés, sous chaque classification, et les montants qui leur ont été payés, pendant les années 1928 à 1930.
7. Personnel des usines poissonnières, salaires et gages, 1928, 1929 et 1930-

| Annee | Employés |  | Ouvriers ot journaliers |  | Ouvriers à l'entreprige ou aux pieces |  | Total, personnel. salaires et gages |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | nomb. | 5 | nomb. | \$ | nomb. | 8 | nomb. | 5 |
| 1928. | 630 | 853,800 | 10.579 | 3,539,070 | 4,225 | 809,220 | 15, 434 | 5,261,096 |
| 1929.. | 660 | 951,069 | 11.122 | 3,668, 802 | 4.585 | 701.384 | 16,367 | 5,411,855 |
| 1930. | 591 | 918,952 | 9.967 | 3,383,902 | 5,164 | 1,023,608 | 15, 722 | 5,326.463 |

Main-d'ourre par mois.-Les mois de grande activité dans les établissements industriels ont eté mai $(9,176)$ et juin ( 9,410 ), en ce qui conceme le nombre d'employés. C'est ên février $(1,582)$ et mars ( 2,050 ) que le nombre d'cmployés a été le plus bas. Les homarderies ont employé le plus grand nombre de travailleurs en mai et juin; les saumoneries de mai à septembre; les sardineries, d'avril à novembre; les conserveries de coques. les saurisseries et les huileries sont en exploitation presque toute l'année. En plusieurs des homarderies et des saumoneries on commence les travaux avant et on les continue
après la saison de la mise en boites du poisson. Le tableau suivant indique le nombre d'employés à gages, par mois, pendant les années 1928 à 1930.

## 8. Main-d'œuvre de l'industrie poissonnière - Nombre d'employés sur la liste de paie le 15 de chaque mois en 1928, 1929 et 1930

| Mois | 1928 |  |  | 1929 |  |  | 1930 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Hommes | Fermne. ${ }^{-}$ | Total | Hommes | Femmes | Total | Hommes | Femmes | Total |
|  | nomb. | nomb. | nomb. | nomb. | nomb. | лоmb. | nomb. | nomb. | nomb: |
| Janvier. | 1,608 | 111 | 1.719 | 1,675 | 107 | 1,782 | 1,926 | 111 | 2,037 |
| Fevrier. | 1,387 | 81 | 1. 468 | 1,523 | 78 | 1,601 | 1,435 | 147 | 1,582 |
| Mars... | 1,634 | 213 | 1,847 | 1,709 | 237 | 1,946 | 1,781 | 269 | 2,050 |
| Avril | 3,769 | 1,090 | 4.859 | 3,492 | 974 | 4,466 | 3,320 | 728 | 4,048 |
| Mai. | 5,629 | 3, 313 | 8.942 | 5.753 | 3,358 | 9,111 | 5,806 | 3,370 | 9,176 |
| Juin... | 6,270 4,766 | 3,148 | 9,418 5,676 | 6.450 | 3,277 | 9,727 | 6,182 | 3,228 | 9,410 |
| Aout. | 4, 4.414 | 910 560 | 5,676 4,974 | 4,870 4,785 | 930 674 | 5,800 | 4,731 | 917 850 | 5,648 |
| Septembre. | 4,194 | 496 | 4,694 4,690 | 4,100 4,403 | 674 | 5,439 5,049 | 4,474 <br> 3,909 | 850 | 5;324. |
| Octobre., | 3,850 | 369 | 4,219 | 3,961 | 601 | 4,562 | 3,142 | 519 | 3,661. |
| Novembre. | 3,100 | 210 | 3,310 | 3,329 | 288 | 3,617 | 2,622 | 152 | 2,774 |
| Décembre. | 2,585 | 184 | 2,769 | 2,492 | 145 | 2,637 | 1,962 | 101 | 2,063 |

'A l'exclusion des ouvriers travaillant à l'entreprise ou a la pièce.
Combustible et force motrice.-Les principales espèces de combustible employé dans les usines sont le charbon, dont la valeur en 1930 était de $\$ 199,022$ et l'huile combustible pour une valeur de $\$ 126,629$. Les autres combustibles incluent la gazoline ( $\$ 27,597$ ) et le bois ( $\$ 50,835$ ). Le coût de lélectricité pour force motrice a été de $\$ 38,279$. La valeur du combustible et de l'éléctricité s'est totalisée à $\$ 449,179$ en 1930 comparativement à $\$ 471,649$ en 1929. Le principal item sous la rubrique de force motrice, d'après la consommation en h.p., comprend les moteurs turbines à vapeur au nombre de 233 en 1930, et d'une puissance de $5,742 \mathrm{~h} . \mathrm{p}$. L'item des moteurs à gazoline et huile est le deuxième avec 647 unités et une capacité de $4,285 \mathrm{~h} . \mathrm{p}$. L'item moteurs électriques vient en troisième au nombre de 124 et une puissance de $2,122 \mathrm{~h} . \mathrm{p}$. actionnés par l'énergie achetée, et 74 de $664 \mathrm{~h} . \mathrm{p}$. générés par l'energie primaire de l'usine. La force motrice de tous les établissements en 1930 ćtait fournie par 1,073 unités d'une puissance de $13,327 \mathrm{~h}$.p., comparativement ì 1,061 unités et une puissance de $12,337 \mathrm{~h} . \mathrm{p}$. en 1929.

Matières premières.-La quantité de poisson utilisée par les usiues en 1930 a été de $7,881,740$ quintaux, soit 76 p.c. de la prise de poisson de mer cette année, le reste de la pêche étant vendu; par les pêcheurs cux́-mêmes La valeur globale du poisson utilisé, savoir, la somme totale payée aux pêcheurs par les exploitants de conserveries et autres établissements a été de $\$ 15,939,137$. Les autres matières premières employées par les conselveries sont le sel, d'une valeur de $\$ 348,201$; les récipients, $\$ 4,569,026$; divers autres matériaux, $\$ 225,125$. La valeur totale du poisson et autres matières premières employés par les usiives en 1930 est de $\$ 21,081,489$, répartie ainsi parmi les différents établissements: homarderies $\$ 3,315,681$; saumoneries, $\$ 9,294,508$; conserveries de coques, $\$ 150,244$; sardineries et autres conserveries $\$ 602,175$; saurisseries $\$ 7,039,327$; huileries $\$ 679,554$. Le tableau suivant indique la valeur du poisson. et autres matières premières utilisés en 1928, 1929 et 1930.
9. Valeur des matières premières de l'industrie poissonnière, 1928, 1929 et 1930

|  | 1928 | 1929 | 1930 |
| :---: | :---: | :---: | :---: |
|  | 5 | \$ | \$ |
| Poisson. | 15,617,194 | 17,061,780 | 15.939, 137 . |
| Sel. . . | 444,471 | 413,722 | 348:201 |
| Recipients. | 4.14.429 | - 218.644 | 4,$569 ; 026$ $225 ; 125$ |
| Autres matieres premieres |  |  |  |
| Total. | 20,578,767 | 21,496, 859 | 21,081,433 |

Valeur de la Production.-La valeur globale de la production de ces usines en 1930 a été de $\$ 32,973,308$ y inclus $\$ 25,333,751$, valeur du poisson mis en boîtes, salé, fumé, etc., et $\$ 7,639,557$ valeur du poisson vendu à l'état frais aux consommateurs. La valeur de la production industrielle représente $791 / 2$ pour cent de la valeur totale des ventes de poisson de mer, le reste est la valeur du poisson vendu à l'état frais et préparé par les pêcheurs. En 1930, la valeur totale de la production s'est répartie ainsi par établissements: saumoneries, $\$ 15,149,954$ ou $46 \cdot 0$ p.c., les saurisseries $\$ 10,267,421$ ou $31 \cdot 1$ p.c., les homarderies $\$ 4,419,208$ ou $13 \cdot 4$ p.c., les huileries $\$ 1,701,833$ ou $5 \cdot 1$ p.c., les sardineries et autres conserveries de poisson $\$ 1,180,316$ ou $3 \cdot 6$ p.c., les conserveries de coques $\$ 254,576$ ou 0.8 p.c. La valeur moyenne du rendement par établissement en 1930 était de $\$ 47,172$. En groupant ces usines selon la valeur de leur production, on obtient le résultat suivant: 240 établissements figurent dans le groupe dont la production est évaluée à moins de $\$ 5,000 ; 114$ d'une production dont la valeur varie entre $\$ 5,000$ et $\$ 10,000 ; 128$ avec une valeur de $\$ 10,000$ à $\$ 20,000 ; 86$ avec une valeur de $\$ 20,000$ à moins de $\$ 50,000$; et 131 avec une production évaluée à $\$ 50,000$ et plus. Ce dernier groupe comprend 17 homarderies, 60 saumoneries, 2 conserveries de coques, 1 sardinerie ou autre conserverie; 40 saurisseries et 11 huileries.

Le tableau suivant donne en résumé la valeur de la production en différents établissements depuis 1928 jusqu'à 1930.
10. Valeur des produits de l'industrie poissonnière, 1928, 1929 et 1930

| Nomenclature | 1928 |  | 1929 |  | 1930 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Poisson vendu frais | Paisson en botte ou autrement préparé | $\begin{aligned} & \text { Poisson } \\ & \text { vendu frais } \end{aligned}$ | Poisson en bolte ou autrement préparé | Poisson vendu frais | Poisson on botte ou autroment prépaŕ |
|  | \$ | $\delta$ | $\delta$ | \$ | $\delta$ | 8 |
| Homarderies $\qquad$ <br> Saumoneries. $\qquad$ <br> Etablissements de conserves de coquea: $\qquad$ | 1,263,559 | 3,258,875 | 1,583,095 | 3,495.721 | 1,296,099 | 3,123,109 |
|  | 338,907 | 14,930,342 | 303,463 | 13,24,069 | 224,734 | 14,925,220 |
|  | 3,927 | 291,927 | 5,057 | 270,245 | 529 | 254.047 |
| Sardineries...................... | 241,237 | 1,518,008 | 161,121 | 1,790,268 | 49,075 | 1.131.241 |
| Saurisseries..................... | 6,428,039 | 4,903,851 | 6,914,517 | 4,799,334 | 6,069,120 | 4,198.301 |
| Huileries et fabriques d'engrais.. | - | 3,089,059 | - | 2,339,370 | - | 1,701,833 |
| Total............... | 8,275,669 | 27,992,063 | 9,057,253 | 25,909,067 | 7,639,557 | 25,333,751 |

Tableaux généraux.-Une partie des tableaux généraux de ce rapport est consacrée à la statistique des conserveries et saurisseries de poisson, et elle contient en détail, par provinces et par comtés ou districts, des renseignements sur le capital, les employés, les salaires et les gages, la valeur de la production et autres phases dont il n'a eété donné qu'un sommaire dans les paragraphes précédents.

## Répartition par provinces

Les tableaux 11-17 qui suivent sont consacrés à la production poissonnière dans les provinces. Oncy trouve la valeur totale des pếcheries; la quantité de poisson pris et de poisson vendu, pour les espèces principales; la quantité et la valeur de tout le poisson pris et vendu; la valeur totale, par comté ou district de tout le poisson de mer pris et vendu; le volume du poisson pêché en haute mer; la valeur du matériel de pêche et le nombre du personnel.
11. Valeur des pêcheries, par provinces, de 1926 à 1930, par ordre de leur importance en 1930

| Provinces | 1926 | 1927 | 1928 | 1929 | 1930 | Augmentation ou diminution en 1930 sur 1929 Aug. + dim. - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Colombie Britannique. | 27, $\frac{\text { § }}{\text { ¢ }}$, 109 |  |  | 23,930,682 | \$ ${ }_{\text {S }}$ (03, 302 | - $\quad \$ 827,390$ |
| Nouvelle-Ecosse...... | 12,505,422 | 10,783,631 | 26, 562,727 | 23,930,692 | 23, 103,302 | - 827,390 |
| Nouveru-Brunswick. | 5,325,478 | 4,406,673 | -5,001,641 | 11,427,491 | 10,411, 202 | $-1,016.289$ |
| Ontario. | 3,152,193 | 3,670,229 | 5, 4 ,030,753 | $5,935,635$ $3,919,144$ | 4,853,575 | -- 1,082,060 |
| Québec.. | 3,110,964 | 2,736,450 | 2,996,614 | 2,933,339 | 2,502,998 | - 624,515 |
| Manitoba ............ | 2.328,803 | 2,039,738 | 2,240.314 | 2,745,205 | 1,811,962 | - $\quad$ - 933,243 |
| Ile du Prince-Edouard. | 1,358,934 | 1,367,807 | 1,196,681 | 1,297,125 | 1,141, 279 | - 155,846 |
| Alberta....... | 749,076 | -712,469 | 1,125,050 | 1,732,214 | 1,421,258 | - 310,956 |
| Saskstchewan....... | 444,288 | 503, 608 | 563,533 | 572,871 | 234,501 | - $\quad 310,966$ |
| Territoire du Yukon | 17,866 | 12,080 | 51,665 | 24,805 | 29,510 | + 4,705 |
| Total | 56,360,633 | 49,123,609 | 55,050,973 | 53,518,521 | 47,801,216 | $-5,714,305$ |

12. Quantité des principaux poissons dont on fait commerce et leur valeur par provinces, 1926-1930

| Espèces | 1926 | 1927 | 1928 | 1929 | 1930 | Augmentation ou diminution en 1930 sur 1929. dim. - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ile du Prince Edouard |  |  |  |  |  |  |
| Homard.......................... qtx | 66,298 926,718 | 62,800 855,917 | 65,613 752,123 | $\begin{array}{r} 73,590 \\ 813,206 \end{array}$ | $\begin{array}{r} 80,820 \\ 694,227 \end{array} .$ | $\begin{array}{r} 7,230 \\ -\quad 118,979 \end{array}$ |
| Morve............................ qux q $_{\text {\% }}$ | $\begin{array}{r}49,83 \\ 118,380 \\ \hline\end{array}$ | 49,419 128,830 | 36,852 98,028 | 50,160 119,009 | $\begin{array}{r} 66,255 \\ 154,786 \end{array}$ | $\begin{array}{r} 16,095 \\ -\quad 35,777 \end{array}$ |
| Harcas............................ qti | 63,930 89,915 | 51,834 88,368 | 47,451 <br> 94,939 | $\begin{aligned} & 51,541 \\ & 93,923 \end{aligned}$ | $\begin{array}{r} 49,818 \\ 80,211 \end{array}$ | $\begin{array}{r} 1,723 \\ -\quad 13,712 \end{array}$ |
| Eperlan............................. qtx | 15,390 98,670 | 14,936 179,232 | 13,122 112,319 | $\begin{array}{r} 9,489 \\ 104,974 \end{array}$ | $\begin{array}{r} 7,789 \\ 63,828 \end{array}$ | $\begin{array}{r} 1,700 \\ -\quad 41,146 \end{array}$ |
| Maquereau $\underset{\S}{\mathrm{qtx}}$ | $\begin{gathered} 6,054 \\ 20,653 \end{gathered}$ | $\begin{array}{r} 6,455 \\ 28,255 \end{array}$ | $\begin{aligned} & 10,197 \\ & 42,068 \end{aligned}$ | 9,194 44,811 | $\begin{aligned} & 10,591 \\ & 49,948 \end{aligned}$ | $\begin{aligned} & 1,397 \\ & 5,137 \end{aligned}$ |
| Huttres............................ qtx ${ }_{\text {s }}^{\text {s }}$ | $\begin{array}{r} 5,161 \\ 61.898 \end{array}$ | $\begin{array}{r} 4,071 \\ 48.838 \end{array}$ | $\begin{array}{r} 4,756 \\ 47,619 \end{array}$ | $\begin{array}{r} 4,928 \\ 49,030 \end{array}$ | $\begin{array}{r} 4,888 \\ 41,495 \end{array}$ | $-\quad{ }^{40}-7,535$ |


| Nouvelle-Ecosse |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Homard........................ qtx | $\begin{array}{r} 184,316 \\ 3,386,416 \end{array}$ | $\begin{array}{r} 179,673 \\ 3,255,627 \end{array}$ | $\begin{array}{r} 172,409 \\ 3,048,255 \end{array}$ | $\begin{array}{r} 190,035 \\ 3,210,504 \end{array}$ | $3,208,201]+$ | $\begin{array}{r} 18,166 \\ 164,420 \end{array}$ |
| Morue............................... qus | $\begin{aligned} & 1,858,944 \\ & 4,652,858 \end{aligned}$ | $\begin{aligned} & 1,331,873 \\ & 3,455,772 \end{aligned}$ | $\begin{aligned} & 1,470,172 \\ & 4,398,018 \end{aligned}$ | $\begin{aligned} & 1,297,841 \\ & 3,484,583 \end{aligned}$ | $\left.\begin{array}{l} 1,065,133 \\ 2,685,879 \end{array}\right)=$ | $\begin{aligned} & 232,708 \\ & 798,704 \end{aligned}$ |
| Eglefin............................. qtx | $\begin{array}{r} 458,292 \\ 1,671,971 \end{array}$ | $\begin{array}{r} 384,207 \\ 1,402,135 \end{array}$ | $\begin{array}{r} 445,950 \\ 1,654,977 \end{array}$ | $\begin{array}{r} 516,149 \\ 1,863,947 \end{array}$ | $\begin{array}{r} 471,639 \\ 1,798,330 \end{array}=$ | $\begin{aligned} & 44,510 \\ & 65,617 \end{aligned}$ |
| Harcng............................ qtx | $\begin{array}{r} 264,823 \\ \mathbf{5 4 7}, 548 \end{array}$ | $\begin{aligned} & 214,560 \\ & 482,378 \end{aligned}$ | $\begin{aligned} & 166,398 \\ & 368,221 \end{aligned}$ | $\begin{array}{r} 237,738 \\ 525,963 \end{array}$ | $\begin{aligned} & 204,745 \\ & 435,810 \end{aligned}=$ | $\begin{aligned} & 32,993 \\ & 90,153 \end{aligned}$ |
| Mnqueresu.......................... qtx | 67,580 $\mathbf{2 8 5 , 9 6 1}$ | $\begin{array}{r} 72,306 \\ 338,851 \end{array}$ | $\begin{array}{r} 71,440 \\ 369,752 \end{array}$ | $\begin{aligned} & 107,385 \\ & 387,179 \end{aligned}$ | $130,359+$ | $\begin{aligned} & 22,974 \\ & 44,364 \end{aligned}$ |
| Fletan............................ qtx | $\begin{array}{r} 23,725 \\ 381,720 \end{array}$ | 27,551 468,679 | 25,768 434,110 | $\begin{array}{r} 30,971 \\ 506,976 \end{array}$ | $\begin{array}{r} 27,258 \\ 419,761 \end{array}=$ | $\begin{array}{r} 3,713 \\ 87,215 \end{array}$ |
| Merluche et lotte.................... qtx | $\begin{array}{r} 91,946 \\ 135,517 \end{array}$ | $\begin{aligned} & 119,431 \\ & 153,840 \end{aligned}$ | $\left.\begin{aligned} & 158,744 \\ & 268,577 \end{aligned} \right\rvert\,$ | $\begin{aligned} & 184,713 \\ & 321,772 \end{aligned}$ | $190,203 \div+$ | $\begin{aligned} & \mathbf{5 , 4 9 0} \\ & 8,560 \end{aligned}$ |
| Saumon............................. qtx | $\begin{array}{r} 13,428 \\ 253,272 \end{array}$ | 12,819 233,189 | 7,059 138,681 | $\begin{array}{r} 7,556 \\ 155,651 \end{array}$ | $\begin{array}{r} 14,198 \\ 249,962 \end{array}+$ | $\begin{gathered} 6,642 \\ 94,311 \end{gathered}$ |
| Espadon........................... qtx | 12,936 207,248 | $\begin{array}{r} 7,299 \\ 120,692 \end{array}$ | $\begin{array}{r} 8,088 \\ 132,345 \end{array}$ | $\begin{array}{r} 6,336 \\ 98,241 \end{array}$ | $\stackrel{11,933}{214,805} \div+$ | $\begin{array}{r} 5,597 \\ 116,565 \end{array}$ |
| Eperlan.............................. qtx | $\begin{array}{r} 10,981 \\ 165,630 \end{array}$ | $\begin{array}{r} 7,110 \\ 124,653 \end{array}$ | $\left.\begin{array}{r} 6,089 \\ 103,535 \end{array} \right\rvert\,$ | $\begin{array}{r} 7,184 \\ 119,659 \end{array}$ | $\left.\begin{array}{r} 7,906 \\ 136,909 \end{array} \right\rvert\,+$ | $\because 722$ |
| Pétoncles.......................... brl | $\begin{array}{r} 19,918 \\ 138,472 \end{array}$ | $\begin{array}{r} 37,607 \\ 212,838 \end{array}$ | $\begin{array}{r} 24,533 \\ 156,188 \end{array}$ | $\begin{array}{r} 16,856 \\ 110,192 \\ \hline \end{array}$ | $\begin{array}{r} 16,488 \\ 81,619 \\ \hline \end{array}$ | $\begin{array}{r} 368 \\ 28,573 \\ \hline \end{array}$ |

12. Quantité des principaux poissons dont on fait commerce et leur valeur par provinces, 1926-1930-suite

| Espèces | 1926 | 1927 | 1028 | 1028 | 1030 | Augmentation ou diminution en 1930 sur 1929. Aug. + dim. - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Nouveau-Birunswick |  |  |  |  |  |  |
| Homard. $\qquad$ qts | $\begin{array}{r} 59,611 \\ 1,135,664 \end{array}$ | $\begin{gathered} 49,752 \\ 955,053 \end{gathered}$ | $\begin{array}{r} 57,970 \\ 1,037,195 \end{array}$ | $\begin{array}{r} 81,862 \\ 1,361,786 \end{array}$ | $\begin{array}{r} 90,567 \\ 1,206,996 \end{array}$ | $\begin{array}{r} 8,705 \\ 154,800 \end{array}$ |
| Sardinea $\qquad$ $\stackrel{3}{\mathrm{brl}}$ | $\begin{array}{r} 171,637 \\ 1,172,490 \end{array}$ | $\begin{array}{r} 174,640 \\ 1,046,250 \end{array}$ | $\begin{array}{r} 279,349 \\ 1,284,771 \end{array}$ | $\begin{array}{r} 249,156 \\ 1,626,585 \end{array}$ | $\begin{array}{r} 129.424 \\ 1,074,342 \end{array}$ | $\begin{aligned} & 119,732 \\ & 552,243 \end{aligned}$ |
| Ssumon.............................. qtx | 25,131 408,397 | 22,464 414,280 | $\begin{array}{r} 12,557 \\ 264,000 \end{array}$ | $\begin{array}{r} 18,308 \\ 433,700 \end{array}$ | $\begin{array}{r} 34,258 \\ 662,886 \end{array}$ | $\begin{array}{r} 15,950 \\ +\quad 229,186 \end{array}$ |
| Eperlan.............................. qtx | $\begin{array}{r} 59,400 \\ 850,913 \end{array}$ | $\begin{array}{r} 46,184 \\ 686,163 \end{array}$ | $\begin{array}{r} 59,866 \\ 012,055 \end{array}$ | $\begin{array}{r} 51,023 \\ 816,303 \end{array}$ | $\begin{array}{r} 38,385 \\ 551,443 \end{array}$ | $\begin{array}{r} 12,638 \\ -\quad 264,860 \end{array}$ |
| Hareng.............................. qtr | $\begin{aligned} & 422,897 \\ & 529,195 \end{aligned}$ | $\begin{aligned} & 412,833 \\ & 379,616 \end{aligned}$ | $\begin{array}{r} 335,833 \\ 377,966 \end{array}$ | 433,275 493,631 | $\begin{array}{r} 427,406 \\ 377,988 \end{array}$ | $\begin{array}{r} 5,869 \\ -\quad 115,643 \end{array}$ |
| Morue............................... qtr | $\left.\begin{aligned} & 201,425 \\ & 478 ; 770 \end{aligned} \right\rvert\,$ | $\begin{aligned} & 136,773 \\ & 284,662 \end{aligned}$ | $\begin{aligned} & 172,874 \\ & 436,736 \end{aligned}$ | $\begin{aligned} & 140,769 \\ & 401,072 \end{aligned}$ | $\begin{aligned} & 137,436 \\ & 369,708 \end{aligned}$ | $-\quad \begin{array}{r} 3,333 \\ - \\ 31,364 \end{array}$ |
| Coques et palourdes.................. qtr | 111,362 | $\begin{array}{r} 33.197 \\ 130,698 \end{array}$ | $\begin{array}{r} 30,058 \\ 131,679 \end{array}$ | 28,065 136,559 | $\begin{aligned} & 22,450 \\ & 97,687 \end{aligned}$ | $\begin{array}{r} 5.615 \\ 38,872 \end{array}$ |
| Merluche et lotte.................... qtr | $\begin{aligned} & 43,818 \\ & 45,104 \end{aligned}$ | $\begin{aligned} & 45,759 \\ & 60,302 \end{aligned}$ | $\begin{aligned} & 78,726 \\ & 69,923 \end{aligned}$ | $\begin{aligned} & 128,161 \\ & 151,983 \end{aligned}$ | $\begin{aligned} & 87,554 \\ & 93,455 \end{aligned}$ | $\begin{array}{ll} -\quad 40,607 \\ -\quad 38,528 \end{array}$ |
| Huttres............................. brl | $\begin{aligned} & 12,383 \\ & 92,535 \end{aligned}$ | $\begin{array}{r} 13,574 \\ 100,576 \end{array}$ | $\begin{array}{r} 12,383 \\ 107,808 \end{array}$ | $\begin{array}{r} 14,146 \\ 106,618 \end{array}$ | $\begin{aligned} & 13,862 \\ & 90,212 \end{aligned}$ | $\begin{gathered} 284 \\ 16,406 \end{gathered}$ |
| Gasparot.......................... qtx | $\begin{array}{r} 52,875 \\ 116,727 \end{array}$ | $\begin{aligned} & 40,004 \\ & 65,373 \end{aligned}$ | $\begin{aligned} & 24,148 \\ & 39,329 \end{aligned}$ | $\begin{gathered} 43,785 \\ 83,728 \end{gathered}$ | $\begin{aligned} & 40,780 \\ & 73,592 \end{aligned}$ | $\begin{aligned} & 2,995 \\ & - \\ & 10,136 \end{aligned}$ |

Québec

| Morne. |  | $\begin{array}{r} 584,567 \\ 1,408,516 \end{array}$ | $\begin{array}{r} 460,573 \\ 1,011,795 \end{array}$ | $\begin{array}{r} 469,924 \\ 1,351,501 \end{array}$ | $\begin{array}{r} 490,062 \\ 1.386,963 \end{array}$ | $\begin{array}{r} 392,642 \\ 1,073,836 \end{array}$ | $\begin{array}{r} 97,420 \\ 313,127 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Homard. |  | $\begin{array}{r} 28,358 \\ 434,874 \end{array}$ | $\begin{array}{r} 24,806 \\ 359,579 \end{array}$ | $\begin{array}{r} 26,445 \\ 346,415 \end{array}$ | $\begin{array}{r} 27,333 \\ 311,036 \end{array}$ | $27,677 \mid \pm$ | $\begin{array}{r} 344 \\ 43,700 \end{array}$ |
| Hareng |  | $\begin{aligned} & 326,416 \\ & 278,795 \end{aligned}$ | $\begin{aligned} & 262,521 \\ & 238,093 \end{aligned}$ | $\begin{aligned} & 258,245 \\ & 256,015 \end{aligned}$ | $\begin{array}{r} 230,433 \\ 291,485 \end{array}$ | $\begin{aligned} & 227,173 \\ & 249,708 \end{aligned}$ | $\begin{array}{r} 3,260 \\ 41,777 \end{array}$ |
| Saumon |  | $\begin{array}{r} 15,536 \\ 159,303 \end{array}$ | $\begin{array}{r} 14,840 \\ 152,710 \end{array}$ | $\begin{array}{r} 8,159 \\ 100,007 \end{array}$ | $\begin{array}{r} 10,067 \\ 137,404 \end{array}$ | $\left.\begin{array}{r} 17,205 \\ 197,854 \end{array} \right\rvert\,+$ | $\begin{array}{r} 7.138 \\ 60.450 \end{array}$ |
| Anguille. |  | $\begin{array}{r} 21,172 \\ 195,608 \end{array}$ | $\begin{array}{r} 13,570 \\ 113,148 \end{array}$ | 192,871 | $\begin{array}{r} 11.929 \\ 109,522 \end{array}$ | $113,154+$ | 1,225 9,061 |
| Maquere | $q_{g}^{q t x}$ | $\begin{aligned} & 22,765 \\ & 71,353 \end{aligned}$ | $\begin{array}{r} 70,765 \\ 185,296 \end{array}$ | $\begin{aligned} & 23,520 \\ & 78,548 \end{aligned}$ | $\begin{aligned} & 22,967 \\ & 72,466 \end{aligned}$ | $\begin{array}{r} 31,452 \\ 100,689 \end{array}+$ | $\begin{array}{r} 88,485 \\ 28,223 \end{array}$ |
| Epe | $q_{\delta}$ | 5,259 41,811 | $\begin{array}{r} 13,428 \\ 110,823 \end{array}$ | $\begin{array}{r} 12,018 \\ 101,820 \end{array}$ | $\begin{array}{r} 15,588 \\ 139,141 \end{array}$ | $\begin{aligned} & 10,586 \\ & 82,438 \end{aligned}=$ | $\begin{gathered} 5,002 \\ 56,703 \end{gathered}$ |
| Esturgeon |  | 2,008 | 2.046 35.410 | 2,775 50,948 | $\begin{array}{r} 3,163 \\ \mathbf{5 5 , 3 2 5} \end{array}$ | $\begin{array}{r}3,162 \\ 49,877\end{array}=$ | 5, 488 |
| D |  | $\begin{array}{r} 2,104 \\ 39,214 \end{array}$ | $\left.\begin{array}{r} 8,064 \\ 137,165 \end{array} \right\rvert\,$ | $\begin{array}{r} 8,725 \\ 149,655 \end{array}$ | $\begin{array}{r} 3,969 \\ 06,459 \end{array}$ | $\left.\begin{array}{r} 3.505 \\ 49,150 \end{array}\right]=$ | $17,309$ |

Ontario

| Poisson blanc....................... qtx $_{\text {g }}$ | $\begin{array}{r} 64,049 \\ 864,661 \end{array}$ | $\begin{gathered} 61,658 \\ 937,202 \end{gathered}$ | $\begin{array}{r} 58,235 \\ 911,058 \end{array}$ | $\begin{array}{r} 61,591 \\ 1,028,571 \end{array}$ | $\begin{array}{r} 55,433 \\ 886,928 \end{array}=$ | $\begin{array}{r} 6,158 \\ 141,643 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Truite............................... qtx | $\begin{gathered} 69,127 \\ 933,214 \end{gathered}$ | $\begin{array}{r} 74,978 \\ 1,192,150 \end{array}$ | $\begin{array}{r} 60,596 \\ 1,042,893 \end{array}$ | $\begin{array}{r} 62,547 \\ 1,032,026 \end{array}$ | $\begin{array}{r} 51,205 \\ 844,882 \end{array}=$ | $\begin{array}{r} 11,342 \\ 187,144 \end{array}$ |
| Sandre.............................. qtx ${ }_{\text {g }}$ | $\begin{array}{r} 30,385 \\ 182,310 \end{array}$ | 31,173 187,038 | $\begin{array}{r} 21,496 \\ 257,952 \end{array}$ | $\left.\begin{array}{r} 25,831 \\ 333,220 \end{array} \right\rvert\,$ | $\left.\begin{array}{r} 59,238 \\ 420,917 \end{array} \right\rvert\,+$ | $\begin{aligned} & 33,453 \\ & 87,679 \end{aligned}$ |
| Perche............................ qtx | $\begin{array}{r} 20,678 \\ 124,068 \end{array}$ | $\begin{array}{r} 28,180 \\ 211,352 \end{array}$ | $\begin{array}{r} 46,935 \\ 704,025 \end{array}$ | $\begin{array}{r} 60,022 \\ 552.202 \end{array}$ | $\begin{array}{r} 36,901 \\ 281,132 \end{array}=$ | $\begin{array}{r} 23,031 \\ 271,070 \end{array}$ |
| Hareng.................................. qts $_{\text {qts }}$ | $\begin{gathered} 44,122 \\ 264,732 \end{gathered}$ | $\begin{array}{r} 58,099 \\ 302,114 \end{array}$ | $\begin{array}{r} 53,006 \\ 198,772 \end{array}$ | $\begin{array}{r} 49,127 \\ 294,762 \end{array}$ | $\begin{array}{r} 59,573 \\ 256,164 \end{array}+$ | $\begin{aligned} & 10,46 \\ & 38,598 \end{aligned}$ |
| Doré............................ qtı | $\begin{array}{r} 23,071 \\ 299,923 \end{array} .$ | $\begin{array}{r} 21,163 \\ 300,520 \end{array}$ | $\begin{array}{r} 20,012 \\ 420,252 \end{array}$ | $\begin{array}{r} 19,890 \\ 292,385 \end{array}$ | $\begin{array}{r} 20,913 \\ 248,864 \end{array} \pm$ | $\begin{array}{r} 1,023 \\ 43,521 \end{array}$ |
| Tullipi............................ qtx | $\begin{array}{r} 11,971 \\ 125,695 \end{array}$ | $\begin{array}{r} 15,520 \\ 194,001 \end{array}$ | $\begin{array}{r} 10,304 \\ 103,040 \end{array}$ | $\begin{array}{r} 6,975 \\ 62,775 \end{array}$ | $\begin{aligned} & 10,406 \\ & 77,004 \end{aligned}+$ | $\begin{array}{r} 3,431 \\ 14,229 \end{array}$ |

12. Quantité des principaux poissons dont on fait commerce et leur valeur par provinces, 1926-1930-fin

| Espèces | 1926 | 1927 | 1928 | 1929 | 1930 | Augmentation ou diminution en 1930 sur 1929. Aug. + dim. - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Manitoba |  |  |  |  |  |  |
| Dore............................ qtx q $_{\text {S }}$ | $\begin{array}{r} 87,251 \\ 900,608 \end{array}$ | $\begin{array}{r} 99,813 \\ 804,854 \end{array}$ | $\begin{aligned} & 101,870 \\ & 921,010 \end{aligned}$ | $\begin{array}{r} 94,055 \\ 988,563 \end{array}$ | $\begin{array}{r} 69,058 \\ 581,018 \end{array}$ | $=\begin{array}{r} 25,002 \\ \hline 407,545 \end{array}$ |
| Poisson blanc....................... $\mathrm{q}_{\text {¢ }}^{\text {g }}$ | $\begin{array}{r} 54,122 \\ 490,625 \end{array}$ | $\begin{array}{r} 49,114 \\ 418,461 \end{array}$ | 49,899 473,232 | $\begin{gathered} 58,964 \\ 616,864 \end{gathered}$ | $\begin{array}{r} 61,382 \\ 536,151 \end{array}-$ | $\begin{array}{r} 2,418 \\ \mathbf{~} \quad 80,713 \end{array}$ |
| Tullipi............................ qtx q $_{\text {\% }}$ | 85,267 501,814 | 102,451 419,103 | $\begin{array}{r} 89,068 \\ 484,129 \end{array}$ | $\begin{array}{r} 84,043 \\ 587,674 \end{array}$ | $\begin{array}{r} 47,499 \\ 370,074 \end{array}-$ | $\begin{array}{r} \quad 36,544 \\ =\quad 217,600 \end{array}$ |
| Brochet. $\qquad$ $\underset{s}{q}$ | $\begin{array}{r} 43,467 \\ 176,425 \end{array}$ | $\begin{array}{r} 40,166 \\ 149,658 \end{array}$ | 36,366 154,550 | $\begin{array}{r} 54,919 \\ 225,277 \end{array}$ | $\begin{array}{r} 34,027 \\ 115,736 \end{array}$ | $\begin{aligned} & \mathbf{2 0 , 8 9 2} \\ & -\quad 109,541 \end{aligned}$ |
| Eil d'or............................. qtx | $\begin{array}{\|c\|c\|} \hline 11,625 \\ 85 \end{array}$ | $\begin{array}{r} 11,420 \\ 115,190 \end{array}$ | $\begin{array}{r} 10,642 \\ 115,124 \end{array}$ | $\begin{array}{r} 11,105 \\ 191,267 \end{array}$ | $\begin{array}{r} 5,745 \\ 96,828 \end{array}$ | $\begin{aligned} & \quad 5,360 \\ & -\quad 94,439 \end{aligned}$ |
| Saskatchewan |  |  |  |  |  |  |
| Poisson blanc........................ qtx ${ }_{\text {\% }}$ | 37,667 $\mathbf{3 2 6 , 0 5 8}$ | 41,323 389,185 |  | $\begin{array}{r} 45,934 \\ 461,348 \end{array}$ | $\begin{array}{r} 31,522 \\ 179,469 \end{array}$ | $\begin{aligned} & =\quad 14,412 \\ & =\quad 281,879 \end{aligned}$ |
|  | r $\begin{array}{r}2,918 \\ 25,520\end{array}$ | 3,753 34,224 | $\begin{array}{r} 3,054 \\ 27,248 \end{array}$ | $\begin{array}{r} 2,835 \\ 26,155 \end{array}$ | $\begin{array}{r} 3,387 \\ 15,258 \end{array}+$ | $\begin{array}{r}  \pm \\ \pm \quad 10,852 \end{array}$ |
| $\underline{\text { Truite.......................... qtx }}$ | $\begin{array}{r} 3,106 \\ 33,483 \end{array}$ | $\begin{array}{r} 2,700 \\ 29,784 \end{array}$ | $\begin{array}{r} 2,408 \\ 26,908 \end{array}$ | $\begin{array}{r} 2,478 \\ 23,186 \end{array}$ | $\begin{array}{r} 1,827 \\ 13,784 \end{array}$ | $=\quad \begin{array}{r} 651 \\ \hline 14,402 \end{array}$ |
| Alberta |  |  |  |  |  |  |
| Poisson blanc........................ qtx | $\begin{array}{r} 34,132 \\ 478,660 \end{array}$ | $\begin{array}{r} 32,355 \\ 434,449 \end{array}$ | 27,020 340,407 | $\begin{array}{r} 28,091 \\ 326,090 \end{array}$ | $\begin{array}{\|c\|c\|c\|} \hline 187,062 \\ \hline \end{array}$ | $\begin{array}{r} -\quad 9,029 \\ -\quad 138,339 \end{array}$ |
| Truite.............................................. | $\begin{array}{r} 3,907 \\ 46,418 \end{array}$ | $\begin{array}{r} 10,882 \\ 126,955 \end{array}$ | $\begin{array}{r} 19,371 \\ 222,312 \end{array}$ | $\begin{array}{r} 23,491 \\ 235,391 \end{array}$ | $\begin{array}{r} 14,918 \\ 148,959 \end{array}$ | $\begin{aligned} & =\quad 8,573 \\ & =\quad 86,432 \end{aligned}$ |
| Doré. $\qquad$ qts | $\begin{array}{r} 10,374 \\ 116,175 \end{array}$ | $\begin{array}{r} 6,746 \\ 65,257 \end{array}$ | $\begin{array}{r} 8,499 \\ 92,427 \end{array}$ | $\begin{array}{r} 7,418 \\ 76,026 \end{array}$ | $\begin{array}{r} 5,958 \\ 42,232 \\ \hline \end{array}$ | $\begin{aligned} & =\quad 1,460 \\ & -\quad 33,794 \end{aligned}$ |
| Brochet............................... $\mathrm{q}_{\text {¢ }}^{\text {s }}$ | $\begin{array}{r} 9,780 \\ 83,559 \end{array}$ | $\begin{aligned} & 10,473 \\ & 63,516 \end{aligned}$ | $\begin{array}{r} 6,657 \\ 32,056 \end{array}$ | $\begin{gathered} 8,115 \\ 46,236 \end{gathered}$ | $\begin{array}{r} 5,010 \\ 20,571 \end{array}$ | $\begin{aligned} & \quad 3,105 \\ & -\quad 25,665 \end{aligned}$ |

Colomble BrItannique

| Saumon............................. qtr $_{\text {g }}$ | $\begin{array}{r} 2,125,555 \\ 18,769,605 \end{array}$ | 14, $1,290,395$ | $\begin{array}{r} 2,257,455 \\ 17,345,670 \end{array}$ | $\begin{array}{r} 1,514,038 \\ -14,265,795 \end{array}$ | $.2,296,213$ | $\begin{array}{r} 782,175 \\ +2,345,039 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fletan................................................ | $\begin{array}{r} 315,095 \\ 4,543,720 \end{array}$ | $\begin{array}{r} 271,354 \\ 3,467,904 \end{array}$ | $\begin{array}{r} 302,820 \\ -3,370,670 \end{array}$ | $\begin{array}{r} 303,921 \\ 4,317,235 \end{array}$ | $\begin{array}{r} 254,796 \\ 2,446,775 \end{array}$ | $=\begin{array}{r} 49,125 \\ -1,870,460 \end{array}$ |
| Pilchard............................. qtr $_{\text {s }}$ | $\begin{array}{r} 969,958 \\ 1,256,721 \end{array}$ | $\begin{aligned} & 1,368,582 \\ & 1,838,867 \end{aligned}$ | $\frac{1,610,252}{2,563,137}$ | $\begin{aligned} & 1,726,851 \\ & 2,199,834 \end{aligned}$ | $\begin{aligned} & 1,501,404 \\ & 1,589,609 \end{aligned}$ | $\begin{aligned} & 225 ; 447 \\ & 610,225 \end{aligned}$ |
| Hareng............................. $\mathrm{q}_{\text {tr }}^{\text {s }}$ | $\begin{aligned} & 1,301,269 \\ & 1,528,734 \end{aligned}$ | $\begin{aligned} & 1,724,246 \\ & 1,867,429 \end{aligned}$ | $\begin{aligned} & 1,535,118 \\ & 1,808,944 \end{aligned}$ | $\begin{aligned} & 1,315,667 \\ & 1,486,655 \end{aligned}$ | $\begin{aligned} & 1,221,962 \\ & 1,222,303 \end{aligned}$ | $\begin{array}{r} 93,705 \\ 264,352 \end{array}$ |
| Morue lingue ${ }^{1}$................................... qtr | - | $\begin{array}{r} 49,912 \\ 401,259 \end{array}$ | $\begin{array}{r} 50,772 \\ 366,101 \end{array}$ | $\begin{array}{r} 48,489 \\ 415,776 \end{array}$ | $\begin{array}{r} 48,591 \\ 333,564 \end{array}$ | $\begin{array}{r} 102 \\ 82 \\ \hline 2 \end{array}$ |
| Coques et palourdss................... bri | $\begin{array}{r} 12,813 \\ 105,409 \end{array}$ | $\begin{aligned} & 14,419 \\ & 96,182 \end{aligned}$ | $\begin{array}{r} 16,834 \\ 130,015 \end{array}$ | $\begin{array}{r} 18,257 \\ 120,143 \end{array}$ | $\begin{array}{r} 23,987 \\ 155,857 \end{array}$ | $\begin{array}{r} 5,730 \\ 35,714 \end{array}$ |
| Morue noire........................... qtr $_{\boldsymbol{\delta}}$ | $\begin{array}{l\|l\|} 10,358 \\ 89,371 \end{array}$ | $\begin{array}{r} 16,430 \\ 123,421 \end{array}$ | $\begin{gathered} 13,388 \\ 101,452 \end{gathered}$ | $\begin{array}{r} 15,308 \\ 118,362 \end{array}$ | $\begin{array}{r} 12 ; 517 \\ 120,583 \end{array}$ | $\begin{aligned} & 1,209 \\ & 2,221 \end{aligned}$ |

## Territoire du Yukom

| Poisbon blano......................... qtr $_{\text {¢ }}$ | 89 2,492 | 70 1,400 | $\begin{array}{r} 535 \\ 13,375 \end{array}$ | - ${ }^{124} 100$ | 344 8,600 |  | 220 5,500 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Saumon............................... qtx | $\begin{array}{r} 656 \\ 12,490 \end{array}$ | $\begin{array}{r} 805 \\ 8,050 \end{array}$ | $\begin{array}{r} 866 \\ 17,320 \end{array}$ | $\begin{array}{r} 784 \\ 15,680 \end{array}$ | 549 8,235 |  | $\begin{array}{r} 235 \\ 7,445 \end{array}$ |
| Truite................................ qtr | $\begin{array}{r} 91 \\ 2,548 \end{array}$ | $\begin{array}{r} 50 \\ 1,000 \end{array}$ | $\begin{array}{r} 562 \\ 14,050 \end{array}$ | 120 3,000 | 6,750 |  | $\begin{array}{r} 150 \\ .3,750 \end{array}$ |

[^27]13. Quantité et valeur de tout le poisson pêché et mis en vente durant l'année 1930 par provinces

| Espères | Pêcheries maritimes |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Ile du PrinceEdouard |  | Nouvelle-Ecosse |  | NouveauBrunswick ${ }^{1}$ |  | Québec ${ }^{1}$ |  | Colomble Britannique |  |
|  | $\begin{aligned} & \text { Quan- } \\ & \text { tité } \end{aligned}$ | Valeur | $\begin{aligned} & \text { Quar- } \\ & \text { tité } \end{aligned}$ | Valeur | $\begin{aligned} & \text { Quan- } \\ & \text { tite } \end{aligned}$ | Valeur | $\begin{aligned} & \text { Quan- } \\ & \text { tite } \end{aligned}$ | Valeur | $\begin{aligned} & \text { Quan- } \\ & \text { tite } \end{aligned}$ | Valsur |
|  |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |
| Horue, prise............qtx | 66,255 | 103,529 | 1,068, 133 | 1,978,386 | 137,436 | 231,636 | 392,642 | 929,850 | 955 | 2,601 |
| fraiche.............. $\mathrm{qtx}^{\text {a }}$ | 10,694 | 40,910 | 82,872 | 311,676 | 9,220 | 37,860 | 9,262 | 39,986 | 818 | ,121 |
| filets frais......... qtx |  |  | 26,298 | 304,426 | 559 | 5,996 | 518 | 5,180 |  | 4, |
| en saumure......... qtx | 26,582 | 106,303 | 76,099 | 313,536 | 2,895 | 13,520 | 43,431 | 165,280 | 69 | 183 |
| en hotte............caisses |  |  | 5,793 | 28,394 |  |  | , |  |  |  |
| filets fumés......... qtx |  | 2,510 | - $\begin{array}{r}33,544 \\ 184,409\end{array}$ | $\xrightarrow{3950} 5$ | 20 40,978 | ${ }_{285}{ }_{263}^{183}$ | 97, 142 | - ${ }^{-}$ |  |  |
| séchée............. qtx | 431 267 | $\stackrel{2,510}{3,338}$ | 184,409 | $1,020,108$ 237,340 | $\begin{array}{r}40,978 \\ \hline 366\end{array}$ | 285,263 4,026 | 97,142 | 809,008 7,820 | - |  |
| huile de foie de morue, médicinale... gal. | - | 3,388 | 40,526 | 27,730 | 15,410 |  |  |  |  |  |
| huile de morue..... gal. | 5,420 | 1,626 | 98,354 | 47,151 | 26,775 | 9,195 | 50,777 | 22,911 | - |  |
| Total, valeur marchande. |  | 154,786 |  | 2,685,879 | , | 369,708 | 5, | 1,073,836 | - | 4,604 |
| Egiefin, pris.......... qtx | 1,502 | 2,873 | 471,639 | 975,864 | 13,203 | 27,407 | - | - | - | - |
| frais.............. qtr | 1,454 | 4,768 | 125,282 | 530,590 |  |  |  |  |  |  |
| filets frais........... ${ }^{\text {atx }}$ |  |  | 59,295 | 743,363 | -62 | . 561 | - | - | - |  |
| en boite.............caisses | - | - | 15,123 | 95,014 | - | - | - | - | - |  |
| fume.............. qtx | - | - | 34,109 | 288,498 | 480 | 4,784 | - | - |  |  |
| filets fumés........ qtx |  | 6 | 4,122 | 48,161 |  |  | - | - |  |  |
| en saumure......... ${ }_{\text {seché........... }}^{\text {qtx }}$ | 16 | 64 | 10,054 | 25,674 | 138 <br> 554 | 378 2,366 | - | - | - |  |
| sans aretes.......... qux | - |  | 1,751 | 14,238 |  |  | - | - | - |  |
| Total, valeur marchande. |  | 4,832 |  | 1,798,330 | - | 48,562 | - | - | - |  |
| Merluehe et Ingue, prises............... qtx | 16,617 | 13,017 | 190,203 | 136,148 | 87,554 | 55,038 | - | - | 2 | 4 |
| fratches............ qtx | 888 | 1,396 | 7,139 | 11,816 | 426 | 1,068 | - | - | 2 |  |
| filets frais........... qtx |  |  | 8,081 | 72,731 | 372 | 3,378 | - | - |  |  |
| en boite............ccisses |  |  | 1,193 | 6,562 |  |  | - | - | - |  |
| en saumure........ qtx | 5,978 | 18,468 | 18,789 | 43,711 | 13,082 | 24,377 | - |  |  |  |
| filets fumes......... qtx | 1,242 | 4,968 | 31,798 | 80,346 <br> 87 <br> 159 | 17.860 | 2,995 58,906 | - | - | - |  |
| sans aremes.......... ${ }^{\text {stx }}$ qux | 1,242 | 4,968 | 31, ${ }^{1,580}$ | 10,887 | $\begin{array}{r}17.860 \\ 340 \\ \hline\end{array}$ | - | - | - | - |  |
| Total, valeur marchande. | , | 24,895 |  | 313,212 |  | 83,455 | - |  | - | 4 |
| Merlan, pris.......... qtx | - | - | 39,422 | 38,184 | 12,894 | 14,152 | - | - | - |  |
| Mise en vente-..... ${ }^{\text {a }}$ |  |  |  |  |  |  |  |  |  |  |
| frais................ qtx | - | - | 8.003 | 16.794 | 20 | 50 | - | - | - |  |
| en saumure......... qtx | - | - | 5.603 | 12,450 | 1,096 | 3.138 | - | - | - |  |
| séché............... qtx | - | - | 6,642 | 28,145 | 3,659 | 19,948 | - | - | - |  |
|  | - | - | - | 57, 589 | ${ }_{-}^{14}$ | 23,273 | - | - | - | - |
| Colin, pris............ qtx | - |  | - | - | - | - |  | - |  |  |
| Mis en vente, frais.... qtx | - | - | - | - | - | - | - | - | 40 | 211 |
| Barbotte, prise........ atr | - | - | 1,905 | 1,917 | - | - | - | - | - | - |
| Mise en vente-..... |  |  |  |  |  |  |  |  |  |  |
| fratche............. qtr | - | - | 1,886 | 4,571 | - | - | - | - | - |  |
| filets frais........... qtx Total, valeur marchande | - | - | 4 | 32 4,603 | - | - | - | - | - |  |
| Flétan, pris.......... qtx | - | - | 27,258 | 332,237 | 100 | 1,400 | 451 | 3,202 | 254,796 | 2,402,574 |
| Mis en vente- |  |  |  |  |  |  |  |  |  |  |
| frais.............. $\mathrm{qtx}_{\text {fumi }}$ | - | - | 27,081 | 418,397 | 100 | 1,607 | 451 | 3,312 | 254,784 | 2,446,645 |
| fumé................ qtx | - | - |  |  | - |  | - | - |  |  |
| Total, valeur marchande. | - | - | 135 | $\begin{array}{r} 1,364 \\ 419,761 \end{array}$ | - | 1,607 | - | 3,312 | - | 2, 146,775 |
|  |  |  |  |  |  |  |  |  |  |  |
| etc., pris..........., qtx | - |  | 4,726 | 6,401 | 1,683 | 3,665 | - | - | 5,013 | 16,009 |
| Mis en vente- |  |  |  |  |  |  |  |  |  |  |
| Irais............. ${ }_{\text {atr }}$ | - | - | 4,693 | 22,170 | 1,683 | 5,650 | - | - | 5,013 | 20,268 |
| filets irais............. qtr |  |  |  | $\begin{array}{r} 121 \\ 22,291 \end{array}$ |  | 5,650 | - | - | $-1$ | 20, 268 |

[^28]13. Quantité et valeur de tout le poisson pêché et mis en vente durant l'année 1930 par provinces-suite


[^29]13. Quantité et valeur de tout le poisson pêchê et mis en vente durant l'année 1930 par provinces-suite


[^30]13. Quantité et valeur de tout le poisson pêché et mis en vente durant l'année 1930 par provinces-suite

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow{3}{*}{Espèces} \& \multicolumn{10}{|c|}{Pêcheries maritimes} \\
\hline \& \multicolumn{2}{|l|}{Ie du PrinceEdouard} \& \multicolumn{2}{|l|}{Nouvelle. Ecosse} \& \multicolumn{2}{|l|}{NouveauBrunswick \({ }^{1}\)} \& \multicolumn{2}{|r|}{Quêber \({ }^{1}\)} \& \multicolumn{2}{|l|}{Colombie Britannique} \\
\hline \& Quan- \& Valeur \& \[
\begin{aligned}
\& \text { Quan- } \\
\& \text { tite }
\end{aligned}
\] \& Valeur \& \[
\begin{aligned}
\& \text { Quan- } \\
\& \text { tité }
\end{aligned}
\] \& Valeur \& Quantité \& Valeur \& \[
\begin{aligned}
\& \text { Quan- } \\
\& \text { tité }
\end{aligned}
\] \& Valeur \\
\hline \& \& \$ \& \& \$ \& \& \$ \& \& \$ \& \& \$ \\
\hline \begin{tabular}{l}
Polssons disers, pris.. qtx \\
(a) l'exclusion de toutes les espèces ci-dessus). \\
Mis en vente, frais..., qtx
\end{tabular} \& - \& - \& 79,512 \({ }^{2}\) \& 10,380 \& 42
42 \& 42
42 \& 5,877

5,877 \& 29,317
29,317 \& -

- \& ${ }_{-}^{-}$ <br>
\hline Clorisses et mactres, prises............... brl Mises en vente- \& 4,921 \& 7,537 \& 19,683 \& 17,155 \& 22,450 \& 33,12? \& 2,668 \& 15,138 \& 23,987 \& 65,271 <br>
\hline fralches........... brl \& 890 \& 1,960 \& 7,210 \& 13,641 \& 6,023 \& 11.786 \& 2,668 \& 15,138 \& 2,886 \& 14,586 <br>
\hline en batte...........caisses \& 2,507 \& 12,392 \& 4,088 \& 22,79i \& 17,012 \& 85,901 \& 2,68 \& 15,-2 \& 21,101 \& 141,271 <br>
\hline Totat, valeur marchande. \& \& 14,352 \& - \& 36,435 \& 17, \& 97,687 \& - \& 15,138 \& -1, \& 155,857 <br>

\hline | Crabes, pris............ qtx |
| :--- |
| Mis in vente- | \& - \& - \& 80 \& 160 \& - \& - \& - \& - \& 4,852 \& 27,475 <br>

\hline frais.............. qtx \& - \& - \& 80 \& 240 \& $-$ \& - \& - \& - \& 4,459 \& 26,036 <br>
\hline . on boite...........caisses \& - \& - \& - \& - \& - \& - \& - \& $\underline{-}$ \& 4,295 \& 3,141 <br>
\hline Total, valeus marchande. \& - \& - \& - \& 240 \& - \& - \& - \& - \& - \& 29,177 <br>
\hline Homards, pris........ qtx \& S0,820 \& 339,730 \& 208,201 \& 2,204,153 \& 90,56\% \& 717,526 \& 27,678 \& 216,303 \& - \& - <br>
\hline Wis en vente- \& \& \& \& \& \& \& \& \& \& <br>
\hline vivant............. qix \& 4,574 \& 48,205 \& 85,835 \& 1,645,812 \& 33,592 \& 574,456 \& 1,085 \& 15,335 \& - \& - <br>
\hline chnir de........... gtx \& 48 \& +1,800 \& 209 \& 12,100 \& 135 \& 9,470 \& \& \& - \& <br>
\hline en bolte............caisses \& 31,935 \& 635,931 \& 63,422 \& 1,367,957 \& 31,983 \& 618,286 \& 11,769 \& 251,592 \& - \& <br>
\hline foie de.............enisses \& 500 \& 5,201 \& 2,089 \& , 20,215 \& 624 \& 4,784 \& 42 \& - 409 \& - \& <br>
\hline Total, valeur marehande. \& - \& 694,227 \& \& 3,046,084 \& \& 1,206,996 \& - \& 267,336 \& - \& - <br>
\hline Maliotide, prise....... brl \& - \& - \& - \& - \& - \& - \& - \& - \& 466 \& 1,864 <br>

\hline | Mise en Yeate- |
| :--- |
| en bolte..............caisses | \& - \& - \& - \& - \& - \& - \& - \& - \& 350 \& 3,500 <br>

\hline Huitres, prises........ br! \& 4,888 \& 26,516 \& 1,995 \& 12, 1.12 \& 13, 852 \& 63,226 \& - \& - \& 3,197 \& 56,825 <br>
\hline Mises en vente, fraiches brl \& 4,888 \& 41,495 \& 1,993 \& 15,160 \& 13,862 \& -0,212 \& - \& - \& 3,197 \& 58,146 <br>
\hline Pêtoncles, pris........ bri \& - \& - \& 16,455 \& 76,476 \& 1,395 \& 9,426 \& 753 \& 4,330 \& - \& - <br>
\hline Mis 3 n rente- \& \& \& \& \& \& \& 1,50¢ \& 4,477 \& - \& <br>
\hline earailles.............. Et. en bofle............. calsses \& - \& - \& 32,411
195 \& 19,90
1,823 \& 2,90 \& 9,420 \& 1,0 \& - \& - \& <br>
\hline Total, valeur marchande. \& - \& - \& - \& 81,619 \& - \& 9,426 \& - \& 4,47\% \& - \& <br>
\hline \& - \& - \& - \& - \& - \& - \& - \& - \& 1,578 \& 18,458 <br>
\hline Misesen ventefralches qta. \& - \& - \& - \& - \& - \& - \& - \& - \& 1,578 \& 20.426 <br>
\hline Langues et notues, marinces et séchces... qtx \& 52 \& 624 \& 876 \& 3,114 \& 590 \& 1,765 \& 37 \& 335 \& - \& - <br>
\hline Blarneau (ou litiorines), pris........ qtx Mis en vente, frais.... qtx \& - \& - \& 492 \& 864
864 \& 86
86 \& 244 \& - \& - \& - \& - <br>

\hline | Alsue, verte, prise.... qtx |
| :--- |
| Mise en vente, sichée. quts | \& - \& - \& 58

45 \& 440

1,100 \& $$
\begin{array}{r}
5,050 \\
720
\end{array}
$$ \& \[

$$
\begin{aligned}
& 9,906 \\
& 9,205
\end{aligned}
$$
\] \& - \& $-$ \& - \& - <br>

\hline Phoque â fourrure, pris. ..................nomb. Peaur vendues ........nomb. \& - \& - \& - \& - \& - \& - \& - \& - \& 2,291

2,291 \& $$
\begin{aligned}
& 13,746 \\
& 13,746
\end{aligned}
$$ <br>

\hline Phoque, commun, prls................. . лomb. \& 398 \& 994 \& 3,170 \& 4,683 \& 606 \& 1,348 \& 6,361 \& 16,805 \& 9 \& 23 <br>
\hline Mis en vento- \& \& \& \& \& 606 \& \& \& 10,889 \& 9 \& 23 <br>
\hline peaux. . . . . . . . . . . . .nomb. \& 398 \& 994 \& 3,170 \& $\begin{array}{r}4,936 \\ +953 \\ \hline\end{array}$ \& - \&  \& 20,001 \& 10,883 \& - \& - <br>
\hline Total, valeur marchande. \& - \& 994 \& $-1$ \& 5,889 \& - \& 1,348 \& \& 19,722 \& - \& 23 <br>
\hline
\end{tabular}

[^31]${ }^{2}$ Utilise dans la production de l'huile de poisson et comme engrais.
13. Quantité et valeur de tout le poisson pêché et mis en vente durant l'année 1930 par provinces-suite

| Espèces | Pêcheries maritimes |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | IIe du PrinceEdouard |  | NouvelleEcosse |  | NouveauBrunswick ${ }^{1}$ |  | Québec ${ }^{\text {d }}$ |  | Colombie Britannique |  |
|  | $\begin{aligned} & \text { Quan- } \\ & \text { tité } \end{aligned}$ | Valeur | $\begin{aligned} & \text { Quan- } \\ & \text { tité } \end{aligned}$ | Valeur | Quan- | Valewr | Quan- | Valeur | Quantite | Valeur |
|  |  | S |  | S |  | \$ |  | \$ |  | \% |
| Marsouins, pris.......nomb. <br> Mis en vente- | - | - | - | - | - | - | 9 | 200 | - | - |
| Mis en vente- <br> peaux. ............... .nomb. | - | - | - | - | - | - | 9 | 76 | - | - |
| huile...............g.gal. | - | - | - | - | - | - | 300 | 152 | - | - |
| Total, valeur marchande. | - | - | - | - | - | - | - | 228 | - | - |
| Baleines, prises........nomb. Mises en vente- | - | - | - | - | - | - | - | - | 320 | 227, 993 |
| Mises en ventelanons, sous- |  |  |  |  |  |  |  |  |  |  |
| produits.........tonnes | - | - | - | - | - | - | - | - | 273 | 6.775 |
| huile............... gal. | - | - | - | - | - | - | - | - | 525,533 | 192,163 |
| engrais.. $\qquad$ tonnes Total voleur marchande | - | - | - | - | - | - | - | $-$ | 581 | -39,050 |
| Total, valeur marchande. | - | - | - |  | - | - | - | - | - | 227.093 |
| Produits divers: |  |  |  |  |  |  |  |  |  |  |
| Huile de poisson (au- <br> tre), n.a.e.......... gal. | - | - |  |  |  |  | 365 |  |  |  |
| Colle de poisson...... | - | - | 19,839 4,465 | 7,402 | 10,848 | 32,794 | $\stackrel{365}{-}$ | 138 | 68,078 | 21,898 |
| Poudra de poisson, <br> n. n.e. . . . . . . . . . . . . . tonnes | - | - | 3,218 | 207,920 | -63 | 2,435 | 198 | 12,488 | - 362 | 10, ${ }^{-}$ |
| Engrais...........tonnes | - | - |  | 2,870 | - | - - | - | 12,488 | 300 | 11,250 |
| Peaux et os de poisson. qtx | - | - | 30,067 | 29,478 | 1,067 | 596 | 440 | 710 | - | 1, |
| Issues de poisson.. . . .tonnes | - | - | 11,015 | 30.899 | 40 | 160 | - | - | - | - |
| Autres produits............. | - | - | - | 985 | - | 3,491 | - | - | - | 6.000 |
| Valeur totale, pêcheries maritimes- |  |  |  |  |  |  |  |  |  |  |
| Valeurs des prises......... | - | 843,618 | - | 6,842,953 |  | 2,486,101 | - | 1,673,074 |  | 12,873,351 |
| Valeur marchande. | - | 1,141,279 | - | 10,411,202 | - | 4,810,396 | - | 1,976,798 |  | 23,103,302 |

[^32]13. Quantité et valeur de tout le poisson pêché et mis en vente durant l'année 1930 par provinces-suite


[^33]13. Quantité et valeur de tout le poisson pêché et mis en vente durant l'année 1930 par provinces-fin

14. Valeur totale du poisson, par comtés et districts, 1930

15. Proportion de poisson de mer pris en haute mer par les chalutiers à vapeur et autres navires de 40 tonnes ou plus, pêchant sur les bancs, 1930

15. Proportion de poisson de mer pris en haute mer par les chalutiers à vapeur et autres navires de 40 tonnes ou plus, pêchant sur les bancs, 1930 -suite

15. Proportion de poisson de mer pris en haute mer par les chalutiers à vapeur et autres navires de 40 tonnes ou plus, pêchant sur les bancs, 1930-suite

15. Proportion de poisson de mer pris en haute mer par les chalutiers à vapeur et autres navires de 40 tonnes ou plus, pêchant sur les bancs, 1930 -suite

15. Proportion de poisson de mer pris en haute mer par les chalutiers à vapeur et autres navires de 40 tonnes ou plus, pêchant sur les bancs, 1930-suite

15. Proportion de poisson de mer pris en haute mer par les chalutiers à vapeur et autres navires de 40 tonnes ou plus, pêchant sur les bancs, 1930 -fin

| Poissons divers |  |  | Baleines |  |  | Tous autres | Totale ${ }^{1}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Prise } \\ & \text { au } \\ & \text { large } \end{aligned}$ | Prise sur les côtes | Prise totale | $\begin{aligned} & \text { Prise } \\ & \text { auu } \\ & \text { large } \end{aligned}$ | Prise sur les côtes | Prise totale | Prise sur les côtes | Prise aurge large | Prise sur les côtes | $\underset{\text { Prise }}{\text { totale }}$ |  |
| qtx | qti | qts | nomb. | nomb. | nomb. | qtx | qtx | qtx | qty |  |
| 79,512 | 3.919 | 85,431 | 320 | - | 320 | 1,171,826 | 2,102,396 | 8,216,219 | 10,318,615 | 1 |
| - |  |  | - |  | - | 111,821 | - | 256,710 | 256,710 |  |
| - | - | - | - | - | - | 32,514 <br> 36605 <br> 62,602 | - | 66,421 89,296 | $\begin{aligned} & 66,421 \\ & 89,296 \end{aligned}$ |  |
| 79,512 | - | 79,512 | - | - | - - | 323,887 | 1,157,011 | 1,420,845 | 2, $\mathbf{5 7 7 , 8 5 6}$ | 6 |
| - | - | - | - | - | - | 8,566 12,812 | 2,105 | $67.598$ | $67,598$ | 8 |
| - | - | - | - | - | - | 8 8,038 |  | 121,092 | 121,092 |  |
| - | - | - | - | - | - | 10,035 | 16,892 | 86,781 | 103,673 | 10 |
| - | - | - | - | - | - | 3, 113 | - | 3,560 | 3,560 | 12 |
| - | - | - | - | - | - | 24,418 | - | 28,881 | 28,881 |  |
| - | - |  | - | - | - | 14,664 |  | 28,537 | 28,537 | 14 |
| 70, 512 | - | 79,512 | - | - | - | -36,058 | 451, $\begin{array}{r}1,106 \\ \hline\end{array}$ | 154,387 | 1554,493 | $1{ }^{16}$ |
|  | - |  | - | - | - | 1,490 | 45, | 1,660 | 1,660 | 17 |
| - | - | - | - | - | - | 11,858 | 562,187 | 65,777 | 627,964 | 18 |
| - | - | - | - | - | - | 10,407 | 67,478 | 45,416 | 112,894 |  |
| - | - | - | - | - | - | 28,285 | 25,620 | 199, 671 | 225, 291 |  |
| - | - | - | - | - | - | 42,264 | 29,947 | 98,140 | 128,087 | 21 |
| - | - | - | - | - | - | 37,993 |  | 237,606 | 237,606 |  |
| - | - | - | - | - |  | 11,328 4,826 | - | 44,027 13,543 | 44,027 13,543 | 24 |
| - | 42 | 42 | - | - | - | 525,846 | 12,186 | 1,233,427 | 1,345,613 | 25 |
| - | - | - | - | - | : - | 276,325 | - | 568,758 |  | 26 |
| - | - | - | - | - | - | 63,479 | - | 88,904 | 88,904 | ${ }^{27}$ |
| - | - | - | - | - | - | 26. 103 | - | 118,379 |  | 29 |
| - | - | - | - | - | - | 26,716 5 | 577 | 118,379 131,159 | 118,379 131,736 | 29 |
| - | - | - | - | - | - | 60,914 | 11,609 | 69,666 | 81,27 | 31 |
| - | - | $\overline{4}$ | - | - | - | 39,116 | - |  | 242,966 | 33 |
| - | 42 | 42 | - | - |  | 4.161 | - | 13,420 | 13,420 | 33 |
| - | 5,877 | 5,879 | - | - | - | 45,042 | - | 714,052 | 714,052 | 32 |
|  |  |  | - | - | ! |  | - | 62,448 |  |  |
|  |  | - | - | - |  | $\cdot 5,147$ | - | 268,543 | 268,54 | 36 |
| - | - |  | - | - |  | 30.509 | - | 274,885 | 274,885 | 38 |
| - | 17 |  | - | - | - | 4, 659 | - | 88,248 | 88,248 |  |
| - |  | 5,860 | - | - | - - | 1,440 | - | 15.524 | 15,52 | 40 |
| - | - | - | 320 | - | 320 | 185.230 | 933;199 | 4,591,185 | 5,524,384 4 |  |
|  |  |  | - |  |  |  | - | 513,481 |  | 42 |
| - |  | - | 320 | - | 320 | 24,766 | 249,442 | 1,623; 666 | 1,873,108 | 43 |
| - | - | - |  | - |  | 125,040 | 683,757 | 2,454,038 | 3,137,79 | 44 |

[^34]16. Résumé des capitaux engagés par provinces, 1930

16. Résumé des capitaux engagés par provinces, 1930 -suite

16. Résumé des capitaux engagés par provinces, 1930-suite

| Etablissements industriels |
| :--- | :--- | :--- | :--- |

17. Résumé du personnel, par provinces, 1930

|  |  | Ile du PrinceEdouard | Nourelle-Ecosse | Noureau-Erunsplick |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Maritimes | Interieures |
|  |  | Nombre | Nombre | Nombre | Nombre |
| 8 | Hommés amployes sur les bateaux, embarcations, etc.. Saurisseries. | $\begin{aligned} & 2,283 \\ & 1,214 \end{aligned}$ | $\begin{array}{r} 15,265 \\ 3,885 \end{array}$ | $\begin{array}{r} 11,599 \\ 2,269 \end{array}$ | 44 |
| 10 | Total. | 3,495 | 19,150 | 13,868 | 44 |

16. Résumé des capitaux engagés par provinces, 1930-fin

17. Résumé du personnel, par provinces, 1930-fin

| Québec |  | Ontario | Manitoba | Saskatchewan | Alberta | Colomble Britannique | Yukon |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Maritimes | Intérieures |  |  |  |  |  |  |  |
| Nombre | Nombre | Nombre | Nombre | Nombre | Nombre | Nombre | Nombre |  |
| 9,736 1.007 | 1.490 | 4,074 | 4,781 | 945 | 1,179 | $\begin{array}{r}12,000 \\ 7,347 \\ \hline\end{array}$ |  | 8 |
| 10,743 | 1,490 | 4,074 | 4,781 | 945 | 1,179 | 19,347 |  | 8 |

## Primes

En vertu d'une "Loi pour encourager le développement des pêcheries maritimes et la construction des navires de pêcher, une somme de $\$ 160,000$ est donnée en primes chaque année, par le Gouverneur en conseil. Sous le nom de primes de pêche, elles sont distribuées par le ministère de la Marine et des Pêcheries parmi les pêcheurs et propriétaires de navires de pêche et de barques de pêche du littoral de l'Atlantique selon les règlements édictés de temps â autre par le Gouverneur en conseil.

Les versements en 1930 ont été effectués sr les bases ci-après:
Aux propriétaires de navires de pêche ayant le droit à cette prime- $\$ 1$ par tonne enregistrée; avec un maximum de $\$ 80$ par navire;

A chaque membre de l'équipage ayant droit à la prime- $\$ 7.20$;
Aux propriétaires de barques mesurant au moins 12 pieds de quille, $\$ 1$ par embarcation.

A chaque pêcheur d'une barque ayant droit à une prime, $\$ 6.35$;
Il a été payé 10,308 réclamations de prime; l'année précédente le chiffre des réclamations s'élevait à 9,546 .

La somme totale payée en 1930 est de $\$ 159,773.55$ répartie comme suit:
A 567 vaisseaux et leurs équipages, $\$ 39,447.60$.
A 9,741 barques et leurs équipages, $\$ 120,325.95$.

## Importations et exportations

La valeur des exportations canadiennes de poisson en 1930 est de $\$ 31,869,350$, comparativement à $\$ 37,546,393$ en 1929 et $\$ 38,096,245$ en 1928 . Les principales exportations en 1930, par ordre de valeur, sont: saumon en boite, $\$ 6,479,255$; morue sèche, $\$ 3,774,333$; homard en boîte, $\$ 3,234,892$; homard frais, $\$ 2,279,238$; hareng de mer, salé à sec, $\$ 1,567,974$; saumon frais et gclé, $\$ 1,514,429$; et poisson blanc, frais et gelé, $\$ 1,215,118$. Le saumon en boîte a été expédié à 81 pays differents, le homard en boîte à 27 , et la morue sèche à 26 . T.c hareng de mer salé à sec a été expédié notamment à la Chine et au Japon, cependant que le saumon frais et gclé a été expédié principalement au Royaume-Uini et aux Etats-Unis, quoique l'on en ait aussi expédié en petites quantités à d'autres pays. Le poisson importé au Canadla en 1930 a été évalué à $\$ 3,446,601$, comparativement à $\$ 4,233,906$ en 1929 et $\$ 4,068,074$ en 1928 . Les sardines et les huîtres ont été les principaux item importés.

## Revue rétrospective

Les cinq tablcaux suivants présentent une revue rétrospective de l'industric de la pêche au Canada dans les années passées. En ce quí concerne la production, les données sont établies par provinces et par années et remontent jusqu'à 1870. Quant au nombrè et à la valeur des navires, barques, ctc., les chiffres partent de l'année 1880 ; le personnel occupé à cette industric nous cst révélé depuis 1895.
18. Revue rétrospective (a) Valeur totale des pêcheries dans les différentes provinces du Canada depuis 1870 jusqu'a 1930 inclusivement

| Année | He du PrinceEdouard | Nourelle- Ecosse | NouveauBrunswick | Quêbec | Ontario | $\begin{aligned} & \text { Colombie } \\ & \text { Britan- } \\ & \text { nique } \end{aligned}$ | Manitoba, Saskatchewan, Alberta et Yukon | $\begin{aligned} & \text { Total } \\ & \text { pour tout } \\ & \text { le Canada } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | § | s | § | § | § | \% | \$ | \$ |
| 1870. | Inconnu | 4,019.425 | 1,131.433 | 1,161,551 | 264,982 | Inconnu | Inconn |  |
| 1871 | "، | 5,101,030 | 1,185,033 | 1.093,612 | 193,524. | , | , | 7,573,191 |
| 1872 | 307595 | 6,016, 835 | 1,965, 459 | 1.320, 189 | 267, 633 | " | " | 9,570, 116 |
| 1878 | 207.595 288,863 | 6, 5777,085 $6,652,302$ | - 2.285 , 2002 | 1,391,564 | 293,091 |  |  | 10,754,997 |
| 1874 | 288,803 | 6,652,302 | 2.685,794 | 1,608,660 | 446,267 |  |  | 11.681, 886 |
| 1875. | 298.027 | 5,573,851 | 2.427,654 | 1.596,759 | 453,194 |  | ، | 10,350,385 |
| 1876 | 494,906 | 6, 029,050 | 1.953,389 | 2,097,668 | 437,229 | 104, 697 | " | 11,117, 000 |
|  | 763,036 | 5, $5.27,858$ | 2.133,237 | $\stackrel{2}{2} 560,147$ | 438,223 | 583,433 | ' | 12,005,934 |
| 1878 | 840,344 | 6, 131,600 | 2,305,790 | $2,604,055$ | 348, 122 | 925,767 | " | 13,215,678 |
| 1879. | 1,402.301 | 5,752.937 | 2.554,722 | 2,820,395 | 367,133 | 631,766 | " | 13.529,254 |
| 1880. | 1,675,089 | 0,291, 063 | 2,744,447 | 2,031,556 | 444,491 | 713,335 | - ${ }^{\text {a }}$ | 14,499,979 |
| 1881 | 1,955,290 | 6,214,782 | 2,830,904 | 2,751,962 | 509,903 | 1,454,321 |  | 15,817,162 |
| 1882 | 1,655,687 | 7, 131,418 | 3,192,339 | 1,976,516 | 825,457 | 1,842,675 |  | 16;824,092 |
| 1883 | 1.272.468 | 7,689,374 | 3,185, 674 | 2,138,997 | 1,027,033 | 1,644,646 | " | 16,958,192 |
| 1884 | 1,085,619 | 8, $763,7 \mathrm{TG}$ | 3,730, 454 | 1,694,561 | 1,133,724 | 1,358,267 | " | 17,766,404 |
| 1885. | 1,293,430 | 8,283,922 | 4,005,431 | 1,719,460 | 1,342,692 | 1,078,038 | " | 17,722,973 |
| 1886 | 1.141,991 | 8,415,362 | 4,180,227 | 1,741,382 | 1,435,998 | 1,577,348 | 186,980 | 18,679,288 |
| 1887 | 1,037.420 | 8,379,782 | 3,559,507 | 1,773, 267 | 1,531,850 | 1,974,887 | 129,084 | 18,386, 103 |
| 1888 | 876,862 | 7.817,030 | $2,941,863$ | 1,860,012 | 1,839,869 | 1,002,195 | 180,677 | 17,418,508. |
| 1889. | 886,430 | 6,346,722 | 3,067,039 | 1,876, 194 | 1,963,123 | 3,348,067 | 167,679 | 17,655,254 |
| 1890. | 1.041,109 | 6.636,4-4 | 2,699,055 | 1,615,119 | 2,009,637 | 3,481,432 | 232,104 | 17,714,900 |
| 1891 | 1.238,733 | 7,011,300 | 3,571,050 | 2,008,678 | 1,806,389 | 3,008,755 | 332,969 | 18,977, 874 |
| 1892. | 1,179,856 | 6,340, 72 4 | 3,203,922 | 2,236,732 | 2,042,198 | 2,849,483 | 1,088,254 | 18,941,169 |
| 1893. | 1,133,368 | 6,407,279 | 3,746, 121 | 2,218,905 | 1,694,930 | $4,443,963$ | 1,042,093 | 20,686,659 |
| 1894. | 1,119,738 | $6.547 .38 i$ | 4,351,526 | 2,303,386 | 1,659,968 | 3,950,478 | 787,087 | 20,719,570 |
| 1895. | 976,836 | 6,213,131 | 4, 403,158 | 1,867,920 | 1,584,473 | 4,401,354 | 752,466 | 20,199,338 |
| 1896. | 970.126 | 6.070, 895 | 4,799,433 | 2,025,704 | 1,625,674 | 4,183,999 | 745,543 | 20,407,424 |
| 1897 | 954,949 | 8,090,346 | 3,934,135 | 1,737,011 | 1,289,822 | 6, 138,865 | 638,46 | 22,783,544 |
| 1898. | 1,070,202 | 7,226,033 | 3,849,357 | 1,761,440 | 1,433,632 | $3,713,101$ | 613,355 | 19,667,121 |
| 1899. | 1,043, 4-45 | 7,347,604 | 4,119,891 | 1,953,134 | 1,590,447 | 5,214,074 | 622,911 | 21,891,706 |
| 1000 | 1,059,193 | 7.809,152 | 3,769,792 | 1,989.279 | 1,333,294 | 4,878,820 | 718,159 | 21,557,639 |
| 1901 | 1,050,623 | 7,989.548 | 4,193,264 | 2,174,459 | 1,428,078 | 7,942,781 | 958,410 | 25,737,153 |
| 1902 | 887,024 | 7,351,753 | 3,912,514 | 2,059,175 | 1,205,706 | 5,284, 824 | 1,198,437 | 21,959,433 |
| 1903. | 1,099,510 | 7,841,602 | +. 186,800 | 2,211.792 | 1,535,144 | 4,747,365 | 1,478,665 | $23,100.878$ |
| 1905 | 1, (17\% 514 | 7, 28 ¢', 009 | 4,671,084 | 1,751,397 | 1,793,226 | 5,219,107 | 1,716,977 | 23,516,439 |
| 1905. | 998,922 | 8; 259,085 | 4,817,090 | 2,003,716 | 1,708,963 | 9,850, 216 | 1,811,570 | 29,479,562 |
| 1006. | 1,168,939 | 7.799,160 | $\pm, 905,225$ | 2,173,035 | 1,734,856 | 7,003,347 | 1,492,923 | 26,279,485 |
| 1907. | 1.492,695 | 7.632,330 | 5,300,564 | 2,047,390 | 1,935,025 | 6,122,923 | 968.422 | 25,499,349 |
| 1808. | 1,378,624 | 8,009,838 | 4,754,298 | 1,881,817 | 2, 100, 078 | 6,465;038 | 861,392 | 25,451,085 |
| 1909 | 1,197, 557 | 8,081,11] | 4, 676,315 | 1,808,437 | 2,177,813 | 10,314,755 | 1,373;181 | 29,629,169 |
| 1910 | 1,153,708 | 10, 119, 243 | 4,134,144 | 1,682, 475 | 2,026,121 | 9,163,235 | 1,676,216 | 29,965,142 |
| 1911. | 1,196,396 | 9,367,556 | 4,886, 157 | 1,868,136 | 2,205,436 | 13,677,125 | 1,467,072 | 34,667,872 |
| 1912 | 1.379.905 | 7,384,055 | $4,264,054$ | 1,988,241 | 2,842,878 | 14,455,488 | 1,074,845 | 33,389,464 |
| 1013. | 1,280, 447 | 8,297,626 | 4,318, 707 | 1,850.427 | 2,674; 685 | 13, 591,398 | -904,458 | 33,207,748 |
| 1914. | 1,261,666 | 7,730,191 | $4,940,083$ | 1,924,430 | 2,755, 291 | 11,515,086 | 1,137,88i | 31,264,631 |
| 1915. | 933,682 | 9,166, 851 | 4,737,145 | 2,076, 851 | 3,341,182 | 14,538,320 | 1.060,677 | 35,860,708 |
| 1916 | $1.344,173$ | 10,082,902 | 5,656,859 | 2, 391.624 | 2,658,993 | ${ }^{14,637,346}$ | 1.826,475 | 39,208,378 |
| 1917 | 1,786,316 | 14,468,319 | 6.143,088 | $3.414,378$ $4,574,973$ | 2, 317506,119 | 21,518, ${ }^{2893}$ | 2,143, 2185 | -32,312, 64 |
| 1918 | 1,148,201 | 15, 1713,926 | $6,298.990$ $4,979.54$ | $4,258,731$ | 3 3,410,75v | 25,301,607 | 1,849,044 | 56,508.479 |
| 1919. | 1.536 .814 |  |  |  |  |  |  |  |
| 1920. | 1,708,723 | 12,742,659 | 4,423,745 | 2,592,382 | 3,336, 712 | 22,329, 161 | 2,108,257 | 49,241,339 |
| 1921 | -924,520 | 9,778,623 | 3,690,720 | 1,815, 284 | 3, $1055.04{ }^{\text {a }}$ | 18,953,670 | - $\begin{aligned} & 1,704,061 \\ & 1,455,499\end{aligned}$ | $34,931,935$ $41,800,210$ |
| 1922 | 1,612,599 | 10,209,238 | +4, $4.650,650$ | 2. 2800.412 | ${ }_{3,159,427}$ | - $20,795,914$ | 1,757,892 | 42,565,545 |
| 1923. | 1,754,980 | 8,774,251 | 5, 383,809 | 2,283.314 | 3,557,587 | 21,257,567 | 2,072,935 | 44,534,235 |
| 1924 | 1,201,772 |  |  |  |  |  |  |  |
| 1925. | 1.598,119 | 10,213,779 | 4,798,589 | $3,044,919$ <br> $3,110,964$ | $\begin{aligned} & 3,436,412 \\ & 3,152,193 \end{aligned}$ |  | $\text { , 4, } 540,033$ | 56,360, 633 |
| 1926 | $1,358,931$ | $12,505,922$ $10.783,631$ | $5,325,478$ $4,406,673$ | 3, 110,964 | 3,167,229 | 22,890,913 | 3,267,906 | 49,123,609 |
| 1927 | 1,367,808 | 11,681,995 | 5,001,641 | 2,996,614 | 4,030,753 | 26,562,727 | 3,580,562 | 55,050,973 |
| 029 | 1,297,125 | 11,427,491 | 5,935,635 | 2.933,339 | 3,919,144 | 23,930,692 | 4,075,0 | 53,518,521 |
| - | 1,141,279 | 10,411,202 | 4,853.575 | 2,502,908 | 3,294,629 | 23,103,302 | 2,497,23 | 47, 804,216 |

18. Revue rétrospective (b) Nombre et valeur des navires et barques de pêche du Canada et valeur des agrès de pêche et du matériel de l'industrie poissonnière pour les années 1880 , 1885, 1890,1895 et de 1900 à 1930


[^35]18. Revue rétrospective (c) Nombre de personnes employees dans l'industrie poissonnière en 1895 et depuis 1900 jusqu'à 1930

|  | Annéa | Employés dans les fahriques poissonnières | Pecheurs sur navires | Pécheurs en barques | Pecheurs sans bateau ${ }^{1}$ | Total de pecheurs | Total des employes dans l'industrie poissonnière |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | nombre | nombre | nombre | nombre | nombre | nombre |
| 1895. |  | 13,030 | 9,804 | 61,530 | - | 71,334 |  |
| 1900. |  | 18,205 | 9,205 | 71,859 | - | 81,064 | $\begin{aligned} & 84,364 \\ & 99,269 \end{aligned}$ |
| 1905. |  | 14,037 | 9,366 | 73,505 | - | 82,871 | 96,908 |
| 1906. |  | 12,317 | 8,458 | 67,646 | - | 76,104 | 89,021 |
| 1907. |  | 11,442 | 8,089 | 63,165 | - | 71,254 | 82,696 |
| 1008. |  | 13,753 | 8,550 | 62,520 | - | 71,070 | 84,823 |
| 1909. |  | 21,694 | 7,931 | 60,732 | - | 68, 663 | 90,357 |
| 1910. |  | 24,978 | 8,521 | 60,089 | - | 68,610 |  |
| 1911. |  | 25,206 | 9,056 | 56,870 | - | 65,926 | 91,132 |
| 1912. |  | 23,327 | 9,076 | 56,005 | - | 65,081 | 88,408 |
| 1913. |  | 26,893 | 10,525 | 61,251 | - | 71,776 | 98,669 |
| 1914. |  | 24,559 | 9,400 | 60,554 | - | 69,954 | 94,513 |
| 1915. |  | 27,320 | 9,541 | 65,321 | - | 74,862 | 102, 182 |
| 1916. |  | 25,680 | 9,192 | 60,432 | - | 69,624 | 95,304 |
| 1917. |  | 22,732 | 8,946 | 62,700 | 744 | 72,390 | 95,122 |
| 1918. |  | 18,554 | 8,668 | 58,110 | 1,738 | 68,516 | 87,070 |
| 1919. |  | 18,356 | 8,908 | 56,280 | 2,616 | 67,804 | 86.160 |
| 1920. |  | 18,499 | 7,918 | - 47,418 | 1,861 | 57,197 | 75,696 |
| 1921. |  | 14, 104 | 6,899 | - 46,580 | 1,751 | 55,230 | 69,384 |
| 1922. |  | 16,577 | 7,503 | 48,480 | 1,897 | 57.880 | 74,457 |
| 1923. |  | 15,447 | 6,694 | 44,482 | 2,341 | 53,517 | 68,964 |
| 1924. |  | 15,536 | 6.663 | 44,326 | 2,925 | 53,914 | 69,450 |
| 1925. |  | 16,272 | 7,566 | 47,531 | 3,176 | - 58,273 | 74,545 |
| 1926. |  | 17,408 | 8,638 | 49,058 | 3,675 | -61,371 | 78,779 |
| 1927. |  | 16,697 | 8,851 | 48,800 | 5,764 | 63,415 | 80,112 |
| 1928. |  | 15,434 | 8.560 | 46,784 | 7,441 | -62,785 | 78,219 |
| 1929. |  | 16.367 | 7.979 | 48,247 | 7,857 | 64,083 | 80,450 |
| 1930. |  | 15.722 | 7.545 | 48,691 | 7,600 | 63,836 | 79,558 |

[^36]18. (d) Capital engagé dans l'industrie de la pêche, par provinces, 1880, 1885, 1890 , 1895 et de 1900 à 1930

18. (e) Personnel de l'industrie de la pêche au Canada, par provinces, 1895 et de 1900 a 1930

| Annee | Ile du PrinceEdouard | $\begin{gathered} \text { Nouvelle- } \\ \text { Ecosse } \end{gathered}$ | NoureauBrunswick | Québec | Ontario | Colombic Britannique | Manitolas, Saskatchewan, Alberta et Yukon | Canada |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | nomb. | nomb. | nomb. | nomb. | nomb. | nomb. | nomb. | nomb. |
| 1895. | 7,058 | 29,369 | 14. 489 | 14,119 | 3,259 | 1,585 | 14,485 | 84,364 |
| 1900. | 8.178 | 31,659 | 18.079 | 16,231 | 2,502 | 1,326 | 21,294 | 99,269 |
| 1901. | 7,041 | 29,529 | 17.713 | 13,252 | 2,802 | 2,914 | 20,354 | 93,605 |
| 1902. | 6,576 | 28,546 | 17,305 | 13,977 | 2,885 | 3,512 | 18,563 | 91,364 |
| 1903. | 6,318 | 28,260 | 17,383 | 16,528 | 3,003 | 2,573 | 19,137 | 93,152 |
| 1904. | 6,706 | 28,860 | 18,342 | 14,498 | 3,125 | 4,559 | 15,236 | 91,326 |
| $1005 .$. | 5,520 | 30,782 | 19,406 | 14,768 | 3,185 | 5,027 | 18,220 | 96,908 |
| 1906... | 5.788 | 27,864 | 19,502 | 13,316 | 3,085 | 3,931 | 15,535 | 89,021 |
| 1907. | 6,249 | 26,797 | 18,179 | 12,908 | - 3,180 | 2,549 | 12,834 | 82,696 |
| 1908. | 5,899 | 28,227 | 21.419 | 12,321, | 3,263 | 1,926 | 11,768 | 84,823 |
| 1909. | 5,832 | 26,633 | 20,427 | 12,054 | 3,601 | 2,270 | 19,500 | 90,357 |
| 1910. | 7,975 | 26,568 | 22,660 | 12,052 | 3,767 | 3,458 | 17,108 | 93,588 |
| 1911. | 5,888 | 28.368 | 22,157 | 12,582 | 3,831 | 3,139 | 15, 167 | 91,132 |
| 1912. | 5,703 | 26,538 | 21,675 | 11,386 | 3,604 | 3,874 | 15,628 | 88,408 |
| 1913. | 6,264 | 28,879 | 21, 876 | 10,973 | 3,511 | 6,459 | 20,707 | 98,669. |
| 1914. | 5,832 | 29,304 | 22,034 | 11,012 | 4,076 | 3,867 | 18,328 | 94,51 |
| 1915. | 5,643 | 29.062 | 23,373 | 13,797 | 4.114 | 8,373 | 17,820 | 102,182 |
| 1916. | 6,235 | 28, 682 | 21,799 | 12,158 | 3,592 | 4,483 | 18,355 | 95,304 |
| 1917. | 5.888 | 26.557 | 21,030 | 11,721 | 3,705 | 5.338 | 20,883 | 95, 122 |
| 1918. | 5,684 | 25,368 | 15,712 | 12,180 | 3,918 | 4,051 | 20,157 | 87,070 |
| 1919. | 5, 360 | 26,133 | 13,789 | 12,210 | 4,156 | 3,700 | 20,803 | 86,160 |
| 1920. | 4,793 | 23,574 | 11,325 | 10,460 | 3,693 | 2,970 | 18,881 | 75,696 |
| 1921. | 3,644 | 23, 238 | 10,542 | 9,635 | 3,600 | 3,001 | 15,674 | 69,334 |
| 1922. | 4,204 | 23,977 | 12,130 | 11,127 | 4,003 | 3,203 | 15,813 | 74,457 |
| 1923. | 4,586 | 20.586 | 11,484 | 9,978 | 3,742 | 3,731 | 14,857 | 68,964 |
| 1924. | 4,205 | 19,192 | 11,119 | 10,023 | 4,267 | 4,464 | 16,180 | 69,450 |
| 1925. | 4,749 | 19,870 | 11,340 | 11,808 | 4,263 | 5,133 | 17,382 | 74,545 |
| 1926. | 4.480 | 20,19] | 11,438 | 12,010 | 4,145 | 5,917 | 20,598 | 78,779 |
| 1927. | 4,136 | 19,747 | 12,344 | 12,144 | 4,156 | 6,263 | 21,322 | 80,112 |
| 1928 | $3.60{ }^{-1}$ | 19,595 | 13.075 | 12.121 | 4,128 | 6,699 | 18,994 | 78,219 |
| 1929. | 3,466 | 19,833 | 14,055 | 11,066 | 4.043 | 7,552 | 20,435 | 80,450 |
| 1830. | 3,495 | 19,150 | 14,316 | 12,233 | 4,074 | 6,943 | 19,347 | 79,558 |


[^0]:    Note.-Licences issued 1920, 1927 and 1928 include transfers from other districts.
    *Pack of fish caught at Nas River regardless where canned. †Pack at Nans River tegardless where caught.
    For the years 1881 to 1884,1888 to 1901 and 1003, particulars of varicties not available-practically all sockeye.

[^1]:    Note.-During the season 1928 F. Millerd's cannery at Vancouver, the Cassiar Cannery on the Skeena and the Massett Cannery, Massett Inlet, operated without licences, and are not included in the number of cannery licences shown above.

[^2]:    Returns from Kamloops District include 2,000 spawned sockeye from Fish Cultural operations.
    Returns from Squamish District include 20,000 spawned sockeye from Fish Cultural operations.

[^3]:    Fraser Valley District-
    Nicomekl river-

[^4]:    *Includes Alberta.

[^5]:    ${ }^{1}$ Quantity caught. 2 Value marketed. 3 Included with cod prior to 1927.

[^6]:    ${ }^{1}$ In 1929 grayfish oil and meal were included with fish oil and fish meal, n.e.s.
    Includes $79,512 \mathrm{cwt}$. used in the preparation of fish oil and meal.

[^7]:    ${ }^{1}$ Previous to 1930 included with tubs of trawl.

[^8]:    ${ }^{1}$ See also Inlnnd Fisheries.

[^9]:    S See also Inland Fisheries

[^10]:    ISee also Inland Fisheries.

[^11]:    ${ }^{1}$ See also Sea Fisheries.

[^12]:    ${ }^{1}$ See also Sea Fisheries.

[^13]:    Exclusive of fur seals and whales.

[^14]:    ${ }^{1}$ Used in the production of fish oil and meal.

[^15]:    ${ }^{1}$ In the statistics for the inland fisheries of Quebec no distinction is made between value as caught and landed and value as marketed.

[^16]:    ${ }^{1}$ For the districts the values as marketed are given.

[^17]:    Note. - In addition to the quantities shown in the above table, there were taken in the province of Alberta, under

[^18]:    ${ }^{1}$ Comprises Fraser River and Howe Sound.

[^19]:    ${ }^{1}$ Comprises Fraser River and Howe Sound.

[^20]:    ${ }^{1}$ The province totals show the actual aggregate of the agencies of production in use. Figures for fishing districts show the agencies of production employed in each, and as such agencies in some cases were engaged in several districts, the total number shown in this table exceeds the provincial aggregate.

[^21]:    ${ }^{1}$ The statistics for Gloucester County include 2 lobster canneries in Restigouche County.

[^22]:    ${ }^{1}$ Information not available.

[^23]:    ${ }^{1}$ Standard cases of 48 pounds.
    2 Prior to 1028 included with Rivers Inlet:

[^24]:    ${ }^{1}$ Standard cases of 48 pounds.
    2 Prior to 1923 included with Skeena River. 32810-142

[^25]:    Mis en vente, frais
    ${ }^{1}$ En 1029 l'huile et la poudre de chien de mer étaient compris dans huile et poudre de poisson, n.a.e.
    ${ }^{2}$ Comprend 79,512 qtx ayant servi en 1930 a la preparation d'huile et poudre de poisson.

[^26]:    I Embrasse la valeur des terrains, batiments, aménagements, outillages, les matières premières en stock et les fonds de roulement.

[^27]:    1 Comprise avec la morue antérieurement a 1927.

[^28]:    ${ }^{1}$ Voir aussi pécheries intérieures.

[^29]:    ${ }^{1}$ Voir nussi pêcheries intérieures.

[^30]:    ${ }^{1}$ Voir anssi pêcheries intérieurs.
    2 Utiliee dans la production de l'huile de poisson et comme engrais.

[^31]:    - Voir aussi pecheries intéricures.

[^32]:    1 Voir aussi pêchcries intérieures.

[^33]:    1 Yoir aussi pécheries maritimes.

[^34]:    ${ }^{1}$ Excepté les phoques a fourrure et les baleines.

[^35]:    (1) Cela comprend toutes les conserveries et saurisseries, tes glacières, les moles et quais affectes à la peche, les casier, à homard, pièges à saumon et a crabe, les nasses, chaluts et autres agrés de pêche, a l'exception des "navires", des "barques" et des "filets et seines."

[^36]:    ${ }^{1}$ Non classifiés séparément, antérieurement d $191 \%$.

