## S U P PLEMENT No. 5.

TO THE TENTH ANNUAL REPORT OF THE MINISTEROFMARINEANDFISHERIES, FOR THE YEAR, 1877.

## REPORT

of the

## COMMISSIONER OF FISHERIES

FOR THE YEAR ENDING 31st DECEMBER,

1877. 



OTTAWA:
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1878.


## CONTENTS.

## REPORT OF THE COMMISSIONER OF FISHERIES.

Introduction-Exportation of Fish-Importation of Fish-Fresh Fish Trade-Comparative Statement of the Produce and Value of the Canadian Fisheries for the years 1876 and 1877-General Recapitulation of the Yield and Value of Canadian Fisheries for the year 1877-Yield and Value of Canadian Fisheries from 1869 to 1877-Exports of Fish into Canada during the year ending 31st December, 1877-Imports of do. for same period-Exports of Fish into Canada for the six months ending 31st December, 1877-Imports of do. for same period-Expenditure and Receipts-Licenses Issued-Staff of Fishery Officers-Reports of Fishery Officers-Salmon Angling-Fish CultareExtension of Fish-Hatching-Objectionable Modes of Fishing—Shell-Fish Fishery—British Columbia and Manitoba-Sawdust and Mill-Rubbish—Fisheries Staff.

## THE FISHERIES OF CANADA.

## ANNUAL REPORT

0 F

W. F. WHITCHER, Esq.,<br>Commissioner of Fisheries.

> Department of Marine and Fisileries, Fisheries Branch,
> Otrawa, 31st December, 1877.

To the Hon. A. J. Smith,
Minister of Marine and Fisheries.
Sir,- The next following tables show the quantity and value of various kinds of fish caught in the different Provinces of the Dominion during the past year. It is satisfactory to note that in yield and value the Canodian fisheries are still improving. Compared with last year their produce is valued at above half a million of dollars more. In 1876 it was worth $\$ 11,147,590$; and in 1877 it is valued at $\$ 12,029,957$. This exceeds the previous year by $\$ 882,367$. Succeeding tables, extending over a serics of years, establish the gratifying fact that this improvement is not casual or spasmodic, but is gradual and permanent. When it is considered that fisheries in all parts of the world are subject to serions and various fluctuations which injuriously affect their average productiveness whilst those of Canada, although exposed to like
changes, have stcadily progressed of late years, we may congratulate ourselves on their being re-established as a sourco of great and lasting wealth to the whole country. It was the unfortunate custom formerly to chronicle the yearly decline of the fisheries, relieved somewhat by occasional signs of recorery. The reverse is now most fortunately the case. This improvement is certainly not altogether due to measures adopted for their protection and development; but it is remarkably coincident with those endeavours to preserve the fisheries from further deterioration. There are, doubtless, many things still required to perfect the service. The encouragemert afforded by the actual condition of the fisheries will, it is hoped, remove anj obstacles to remedying existing defects.

## EXPORTATION OF FISH.

Other statements herewith show the extent of the fish trade of Canada. These statements are obligingly furuished by the Department of Customs. Corresponding with increased production, there is an increased foreign trade in the produce of the fisheries. The value of fish exported in 1877 was $\$ 7,000,402$; being $\$ 1,462,381$ over the exports of 1876. The value of fish exported during the last six months of this year exceeds that of last year's exports by $\$ 1,118,521$. About fifty por cent of all these exports went to United States markets.

## IMPORTATION OF FISH.

The value of fish imported into Canada during the year 1877 is $\$ 1,329,530$. About seventy per cent of these imports came from the United Statos.

## FRESH FISH TRADE.

Increasing facilities for the conveyance of fish in a fresh state lead to a consider able increase in this branch of the fishing business, both between the Provinces and Jetween the Dominion and Great Britain.

## COMPARATIVE STATEMENT

Of Production in each Branch of Fishing within the respective Provinces of the Dominion of Canada, in 1876 and 1877.

PROVINCE OF NOVA SCOTIA.


PRUYINCE OF NEW BRUNSWICK.

| Codfish........................ | 66,374 | cwt. | 331,870 00 | 68,209 cwt. | 289,888 25 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Herrings ...................... | 133,117 | brls. | 532,463 00 | 120,158 brls. | 480,632 00 |
| do smoked............. | 497,008 | boxes. | 124,252 00 | 519,725 boxes. | 129,931 25 |
| Mackerel ................ ..... | 3,034 | brls. | 30,340 00 | 4,472 brls. | 44,720 00 |
| do preserved......... | 1,800 | cans. | 27000 | 65,040 cans. | 9,756 00 |
| Haddock...................... | 1,393,550 | lbs. | 83,613 00 | 14,690 $3^{3}{ }^{\circ} \mathrm{O} \mathrm{cWt}$. | 61,416 05 |
| Pollack | 13,154 | cwt. | 46,039 00 | 24,926 " | 87,241 00 |
| Hake ........................... | 32,415 | " | 113,452 50 | 40,590 | 142,065 00 |
| Halibut.... ...... ........... | 73,300 | lbs. | 4,398 00 | 121,200 lbs. | 14,272 00 |
| Salmon, pickled............ | ${ }_{6} 861$ | brls. | 15,49800 | 355 brls. - | 5,340 00 |
| do fresh, in ice...... | 671,027 | lbs. | 100,654 05 | 1,348,007 lb3. | 202,202 05 |
| do smoked........... | 49,000 | " | 7,350 00 | 62,350 " | 9,352 50 |
| do preserved......... | 113,200 | cans. | 16,980 00 | 111,740 cans.- | 16,761 00 |
| Alewives..................... | 19,229 | brls. | 67,30150 | 9,135 brls. | 45,675 00 |
| Trout.......................... | 62,180 | lbs. | 3,730 83 | 56,338 lbs. | 3,380 28 |
| Smelts.............. ......... | 1,550,200 | ، | 33,552 00 | 1,950,700 " | 117,042 0is |
| Shad........ ................... | 4,870 1,096 | brls. | 38,960 $9,86 \pm$ 17 | 4,838 ${ }^{\text {brls. }}$ | 38,704 00 |
| Bas3. | 1,096 288,859 | lbs. | $9,86 \pm$ 17,331 $\mathbf{5 4}$ |  | 12,307 50 |
| Oysters........ ...... ........ | 7,911 | brls. | 23,733 00 | 228,734 liss. | 13,737 24 |
| Lobsters, preserved ........ | J,416,357 | cans. | 212,453 55 | 1,988,974 cans. | 23,214 00 |
| Fish Guano................... | 869 | tons. | 13,035 00 | 890 tons. | 13,350 00 |
| Fish used as manure ...... | 5,196 | brls. | 2,598 00 | 5,951 brls. | 2,975 50 |
| Cod Tongues and Sounds | 97,107 |  | 52500 | 1,2947 ${ }^{\text {a }}$ | 9,061 50 |
| Fish Oils ...................... |  | galls. | 63,119 55 | 121,335 galls. | 78,867 75 |
|  |  |  | 1,953,388 49 |  | 2,133,236 97 |

## COMPARATIVE STATEMENT-Continued.

province of queged.

| Kinds of Fish. | $18: 6$. |  | 1877. |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Quantities. | Value. | Quantities. | Value. |
|  |  | \$ ets. |  | \$ ct |
| Summer Cod-fishing...... | 185, 165 qntls. | 925,825 00 | 225,816 qntls. | 1,129,080 00 |
| Autumn do ....... | 40,931 do | 204,655 00 | 37,626 do | 188,130 0 |
| Herrings, pickled ........... | 105,454 brls. | 421,816 00 | 73,924 brls. | 358,925 59 |
| do smoked .......... | 832 boxes. | 20800 | 700 boxes. | 17500 |
| do tresh-water..... | $6 \frac{2}{2}$ brls. | 3250 | 25 brls. | 12506 |
| Mackerel ............... ... | 4,975 do | 49,750 00 | 5,343 ${ }^{\frac{1}{2}}$ do | 53,435 \%) |
| do preserved in cans' |  |  | 960 lbs. | 144 im; |
| Haddock ........... .......... | 347 qntls. | 1,735 00 | 248 qutls. | 1,240 om |
| Ling ........ . .............. | 1,149 do | 5,745 00 | 99 do | 49500 |
| Halibut .-.................. | 183 brls. | 1,098 00 | $227 \frac{1}{2}$ brls. | 1,365 00 |
| Salmon, pickled ........... | 2,216 do | 35,456 00 | 2,232 ${ }^{2}$ do | 26,790 00 |
| do fresh in ice ....... | 267,27632 lbs. | 13,363 83 | 326,548 lbs | 16,327 4) |
| do .... ......... ....... | 8,421 pieees. | 8,421 00 | 8,806 pieces. | 8,806 00 |
| do smoked...... ..... | 1 bux. | 400 | 1 box. | 401 |
| do preserved in cans | 50,901 lbs. | 7,635 15 | 100,605 lbs. - | 15,090 7.5 |
| Vinnonish............ . . . . | 3,000 pleces. | 750 00 | 3,290 pieces. | 832511 |
| Trout (sea) . ................ | $163 \frac{1}{2}$ brls. | 1,308 00 | $276 \frac{1}{2}$ brls. | 2,21700 |
| do speckled and grey. | 447,200 lbs. | 35,566 00 | 458,740 lbs. | 36,687 9 |
| Sturgeon. ................... | 5592 bris. | 4,4i; 00 | 6172 brls . | 4,94000 |
| Bar gnd Whitefish......... | 10,209 ${ }^{-}$doz. | 20,418 00 | 10,539 doz. | 21,078 00 |
| Bar Fish |  |  | 2,642 pieces. | 1,321 0u |
| Shad.... | 142,405 pieces. | 14,240 50 | 52,647 do | 5,264 70 |
| Sardines | 1,830 $\frac{1}{2}$ brls. | 9,152 50 | 8,130 brls. | $40,6 \% 00$ |
| Eels.. | 47 do | 47000 | 23 do | 23000 |
| do | 291,737 pieces. | 29,173 70 | 282,744 pieces. | 28,274 40 |
| Bass. |  |  | 535 brls. | 5,250 00 |
| Pike........................... | 400 bris. | 4,000 00 | 775 do | 7,750 09 |
| Pickerel ............. ........ | 695 do | 6,950 00 | 1,8703 do | 18,705 00 |
| Tom Cod ..................... | 22,000 bush. | 11,000 00 | 20,000 bush. | 10,000 00 |
| Tunny ........................ |  |  | 2 brls. | 1000 |
| Small and mixed .Fish .... | 3,015 brls. | 1,567 50 | 6,313 do | 3,156 50 |
| Mixed Fish .....................\| |  | 50000 |  |  |
|  | 19,530 brls. | 97.65000 | 16,778 brls. | 83,890 00. |
| Maskinonge ...... .....w.... | 617 pieces. | 1,234 00 | 707 pieces. | 1,534 00 |
| Shark .......................... |  |  | 40 do | 24000 |
| Seal Skins | 9,915 pieces. | 12,393 75 | 14,612 do | 18,265 00 |
| Lobstere, preserved in <br> cans $\qquad$ | 212 do | 84800 | $1 \grave{7}$ do | 54800 |
|  | 245,335 lbs. | 36,800 25 | 450,669 lbs: | 67,600 3. |
| Lobsters, fresh .............. Fish and Clams used as bait, and manure $\qquad$ |  |  | 5,000 do | $\begin{array}{r} 25000 \\ \hline \end{array}$ |
|  | 74,640 brls. | 32,700 00 | $\begin{gathered} 4 \sqrt{5369} \\ 206,649 \text { brls. } \end{gathered}$ | $\begin{array}{r} 78503 \\ 78,85025 \end{array}$ |
| Fish need for local consumption. $\qquad$ | $\qquad$ |  | 11,5542 do | 46,218 06 |
| Cod Tongues and Sounds | 177 brls. | 1,593 00 | 234 do | 2,106 00 |
| Seal Oil........ ............. | 55,126 galls. | 27,563 00 | 73,560 galls. | 36,780 06 |
| Whale Oil.. ........... .....\| | 9,618 do | 4,809 00 | 13,716 do | 6,858 00 |
| Porpoise Uil ................ | 9,610 do | 7,684 00 | 11,183 do | 8,950 49 |
| Cod Oil ........................ | 118,271 do | 59,135 50 | 225,129 do | 112,564 5 |
|  |  | 2,097,067 18 |  | 2,560,247 45 |

## COMPARATIVE STATEMENT-Continued.

province of ontario.

| Kinds of Fish. | 1976. |  |  | 1877. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantities. |  | Value. | Quantities. | Value. |
| Whitefisu. | $\begin{aligned} 11,999 & \text { brls. } \\ 1,052,490 & \text { lbs. } \\ 471,402 & \text { pieces. } \end{aligned}$ |  | 119,990 00 | $\begin{array}{rll}7,776 & \text { brls. } \\ \text { 1,876,300 } & \text { lbs. } \\ 301,050 & \text { pieces. }\end{array}$ | 「7,760 00 |
| do ..................... |  |  | 52,62450 |  | 93,815 30,105 |
| do .................... |  |  | $\begin{array}{r}47,140 \\ 117440 \\ \hline\end{array}$ | 301,050 12,526 pieces. brls. | 125,260 00 |
| Trout ....... ................. | 11,744 | brls. | $\begin{array}{r}117,440 \\ 5390 \\ \hline\end{array}$ | 12,526 $\begin{aligned} & \text { bris. } \\ & 10,288 \\ & \text { do }\end{aligned}$ | 131,440 00 |
| Herrings...................... | 10,781 ${ }^{2}$ |  | $\begin{array}{r}53,90750 \\ 1,580 \\ \hline\end{array}$ | $\begin{array}{rr}10,288 & \text { do } \\ 1,505 & \text { do }\end{array}$ | 7,525 00 |
| Sciscos....... ....... ........ |  |  | 1,580 00 | 1,586 do | 3,932 50 |
| Maskinonge ..... ............ |  |  | 3,20750 4,39750 | 1,624 ${ }^{\frac{1}{2}}$ do | 8,122 50 |
| Bass ............................ 1 | 879 |  | 4,39750 | 1,624 ${ }^{\text {d }}$ do | 8,12250 4,97750 |
| Pike ......................... | 6807 | do | 3,402 50 | 2,931 ${ }^{995}$ do | 4,97750 |
| Pickerel .. .................... | 2,300 5,510 |  | 11,500 22,040 00 | ${ }_{\text {2,931 }}^{2,157}$ do ${ }^{\text {do }}$ | 14,657 <br> 20,628 <br> 100 |
|  |  |  | 437,229 70 |  | 438,223 00 |

PROVINCA OF PRINCE EDWARD ISLAND.

|  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |

PROVINCE OF MANITOBA.

| Whitefish..... ............... | 73,535 | pieces. | 3,676 75 | 111,820 | piecos. | 8,945 60 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sturgeon...................... | 600 | do | 3,000 00 | 670 | do | 3,350 00 |
| Gold liyes ................... | 481,200 | do | 9,624 00. | 73,000 | do | 1,450 00 |
| Perch, Bass and Suckers. | 46,500 |  | 1,395 00 |  |  |  |
| Pike....... .................... | 37,900 | do | 1,895 00 | 5,750 | pieces. | 28750 |
| Catlish....................... | 55,000 | do | 11,000 00 |  |  |  |
| Catish and Suckers |  |  |  | 45,000 | pieces. | 9,000 00 |
| Course fist... ............... |  |  | ...... ..... | 19,600 | do | 980 00 |
|  |  |  | 30,090 75 |  |  | 24,023 10 |

## COMPARATIVE STATEMENT-Continued.

PROYINCE OF BRITISH COLUMRIA.

*These figures are taken from Custom House Returas of Exports.

General Recapitulation of the Yield and Value of the Fisheries

| Kinds of Fisb. | Nova Scotia. |  | New brunswick. |  | Quebec. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\stackrel{\text { g }}{\text { g }}$ |  | $\stackrel{\text { E }}{5}$ |  | $\stackrel{\text { ® }}{\stackrel{\text { ® }}{\stackrel{-}{E}}}$ |
|  |  | \$ cts. |  | \$ cts. |  | \$ cts. |
| Codfish.................. ......... cwit. do | 469,723 | 1,996,314 00 | 63,209 | 289,888 25 | 263,442 | 1,317,210 00 |
| Herrings, pickled ............ brls. | 113,098 | 452,39200 | 120,158 | 480,63200 | 73,924 | $\text { -358,925 } 50$ |
| do smoked............. boxes. | 28,780 | 7,195 00 | 519,725 | 129,931 25 | 700 | 17500 |
| do fresh mater....... ${ }^{\text {do }}$ drls. |  |  |  |  | 25 | 12500 |
| Sciscos Mackerel..................... " | 113,6383, | 1,136,385 00 |  | 44,720 00, | 5,343 ${ }^{2}$ | 53,435 00 |
| do preserved in cans lbs. | 125,036 | 1,136, 18,55040 | 65,040 | 44,756 9 | ${ }^{5,360}$ | ${ }^{5344} 100$ |
| Haddock ..................... cwi. | 118,635 $\frac{1}{2}$ | 415,224 25 | 14,619 ${ }^{300}$ | 51,416 05 |  |  |
| do ...................... qnuls. |  |  |  |  | 248 | 1,240 00 |
| do smoked.............. value. |  |  | .... | ... |  | ................... |
| Ling ........ ................. quils. |  |  |  |  | 99 | 49500 |
| Polack...................... C Cwt. | 33,820 | 118,370 00 | 24,926 | 87,241 00 |  |  |
| Hake ........ ................ " ${ }^{\text {H }}$ | 29,43512 | 103,024 25 | $\begin{array}{r}49,590 \\ \hline 12,200\end{array}$ | 142,065 00 |  |  |
|  | 663,060 | 40,083 60 | 121,200 | 7,272 00 | 2272 | 1,365 00 |
| Salmon, pickled ............. ${ }^{\text {a }}$ " | 9504 | 14,261 25 | 356 | 5,340 00 | 2,232 ${ }^{2}$ | 26,790 00 |
| do fresb, in ice....... libs. | 420,919 | 63,137 85 | 1,348,007 | 202,201 05 | 326,548 ${ }^{\text {a }}$ | 16,327 40 |
| do mo...................pieces. | 17,910 | 2,686 50 | 62,350 | 9,352 50 | 8,806 |  |
| do do ..............value. |  |  |  |  |  |  |
| do do ................boxes. |  |  |  |  |  | 400 |
| do preserred in cans lbs. | 48,715 | 7,307 25 | 111,740 | 16,761 00 | 100,605 | 15,090 75 |
| Alewives ........ ............. brls. | 5,433 | 19,015 50 | 9,135 | 45,675 00 |  |  |
|  | 65,645 | 3,938 70 | 56,338 | 3,380 28 |  |  |
|  | ...... | .......... ...... | ... | ...... | ${ }_{458,740}^{2762}$ | $\begin{array}{rl} 2,212 \\ 36,687 & 00 \end{array}$ |
|  |  |  |  |  |  |  |
|  | ........ .... |  |  |  | 3,290 | 82250 |
|  | ............ |  | .......... |  | $617 \frac{1}{2}$ | 4,940 00 |
|  |  | ............... | ... | ........... |  |  |
|  | -.............. |  |  |  | 10,539 | 21,078 00 |
| Bar Fish .................... pieces | ............. | ...... .. ...... |  | \|........ ....... | 2,6+2 | 1,321 00 |
| Whitefish . .................... brls.dodo | . | ....... ....... | .............. | . ...... ........ | .......... |  |
|  |  |  |  |  |  |  |
| Shad ............................. brls. | 4,536 | 35,283 00 | 4,838 | 39,704 00 |  |  |
| do ...... .............. ..... pieces | ....... .... |  |  |  | 52,647 | 5,26+ 70 |
| Sardines ......... ............... brls. |  |  |  |  | 8,130 | 40,650 00 |
| Gold Eyes. ............................................................................ | 1,501 | 13,559 00 | 1,3672 | 12,307 50 | 23 | 3300 |
| do ........................... pieces |  |  |  |  | 282,744 | 28,274 40 |
|  |  |  |  | .............. | 775 | 7,750 00 |
| Pickerel. ................ .......... pieces |  |  |  |  |  |  |
| Bass...... ........................ ${ }_{\text {do }}$ b |  |  |  |  | 535 | $\begin{array}{r} 8,70500 \\ 5,25000 \end{array}$ |
|  | 1,275 | 7650 | 228,954 | 13,737 24 |  |  |
| do ........................... libs. Maskinonge. .............. brls. do do |  | ........ | .... | ...... ........ | 767 | $1,53400$ |
| Crarse Fish.................... brls. ${ }_{\text {do }}$.... |  |  |  |  |  | 1,534 |
|  |  |  |  |  |  |  |
| lbs. Small and Mized Fish....... brls. | 313,302 | 18,793 12 | 1,950,700 | 117,042 00 |  |  |
|  |  |  |  |  | 6,313 | 3,156 50 |

within the Dominion of Canada for the Year 1877.


## General Recapitulation of the Yield and Value of the Fisheries


within the Dominion of Canada, for the Year 1877.-Concluded.


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3+0,305
$$

Table of the Aggregate Quantities and Values of Fish, the Produce of Canadian Fisheries, in the Provinces of Nova Scotia, New Brunswick, Quebec and Ontario, from 1869 to 1877, and in Prince Edward Island, since its entry into Confederation in 1874.

Compiled from Departmental Fishery Reports for the above-named Years.



Table of the Aggregate Quantities and Values of Fish, the Produce of Canadian Fisheries, \&c.-Continued. Compiled from Departmental Fishery Reports for the above-named Years-Continued.

| Kinds of Fish. | 1869. |  | 1870. |  | 1871. |  | 1872. |  | 1873. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity | Value. | Quantity. | Value. | Quantity. | Value. | Quantity | Value. | Quantity. | Value. |
|  |  | \$ cts. |  | \$ cts. |  | \$ ets. |  | $\$$ cts. |  | \$ cts. |
| Tunny .......... ............. Brls.... | [ $\begin{array}{r}\text { 2 } \\ 1,269\end{array}$ | 1000 7,614 | 4,726 ${ }^{2}$ | 28,359 00 | 47 <br> 785 | 235 4,713 4 | 2,325 | 9,51301 | 2,806 | 11,224 (m) |
| 2 Lobsters, prsvd. in cansLbs.... | 61,100 | 15,275 00 | 591,500 ${ }^{4}$ | 92,575 00 | 1,130,000 ${ }^{2}$ | 282,500 00 | 3,565,863 | 882,633 00 | 4,864,4,494 | 1,214,7+9 50 |
| do fresh.............. ${ }_{\text {do }}$ "........................... |  |  | ... .... | ............. | . | ................ | .... ......... | ........... .. |  | .......... ....... |
| Cod Tongues and SoundsBrls... | 287 | 2,009 00 | 135 | 94500 | 335 | 2,43700 | 7,433 | 52,031 00 | 6,275 | 43,925 00 |
| - Fish Roes.................... " .\| | 443 | 5,316 00 | 230 | 1,380 00 | 2,198 | 22,652 00 | .............. | .............. |  |  |
| - Pumice $\qquad$ $\qquad$ Tons. <br> - Fish Guano | 453 | 9,060 00 | 970 - | 9,700 00. | 900 | 18,000 00 | 138 | 11,070 00 | 804 | 12,06i 50 |
| Fish and Clams used as bait and manure. ..... Brls. | 41,612 | 10,410 50 | 32, 190 | 8,122 50 | 14,372 | 3,593 00 | 38,033 | 9,507 75 | 30,561 | $\begin{array}{r}\text { 9,852 } \\ \hline 0\end{array}$ |
| - Sea-fish, fresh ....... ..... Tons .. | ......... | ..... ........ | ........... | ... | ..... |  |  | .................. | ............... | ........... ..... |
|  |  |  |  |  |  |  |  |  |  |  |
| - Fish used fresh.. .... ...... Value |  |  |  | ............ | -.............. | 146,700 00 |  |  |  | …................ |
| - Fish used fresh.. .... ........ Value | 53,811 | 43,048 80 | 89,762 |  | 18,525 |  | 46,116 | $36,89280$ | 58,645 | 46,916 00 |
| Whale Oil .................. "، .. | 373 | ${ }^{298} 40$ । | $2+, 200$ 2888 | 19,360 1,708 80 | $18,000 \dagger$ 2,122 | 14,400 1,001 00 | 16,937 1,075 | 13,549 60 | 400 143 | 2000 7100 |
| Corpoise Oil .............. ${ }^{\text {Cod }}$ | [ $\begin{array}{r}2,029 \\ 103,018\end{array}$ | 51,509 00 | 2,848 119,093 | 1,76880 69 | 160,055 | 1,061 80,027 50 | 136.529 | 68,264 50 | 91,627 | 7100 45,813 |
| Fish Oils <br> Total Value | 33,460 | 21,751 25 | 298,826 | 131,771 00 | 417,662 | 251,490 00 | 496,131 | 322,487 00 | 523,340 | 340,171 00 |
|  |  | 4,376,526 56 | .......... ${ }^{\text {\| }}$ | 6,577,391 72 | ...... ........ | 7,573,199 85 | $\cdots$ | 9,570,116 05 | --- ....... | 10,547,402 44 |

Table of the Aggregate Quantities and Values of Fish, the Produce of Canadian Fisheries, \&c.-Continued.
Compiled from Departmental Fishery Reports for the above-named Years-Continued.

| Kinds of Fish. | 1874. |  | 1875. |  | 1876. |  | 1877. |  | Total. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity. | Value. | Quantity. | Value. | Quantity. | Value. | Quantity. | Value. | Quantity. | Value. |
|  |  | \$ cts. |  | \$ cts. |  | \$ cts. |  | $\$ \mathrm{cts}$ |  | $\$ \mathrm{cts}$ |
| Codfish.. ........Cwt. and Qntls. do .......................Brls. .. | 797,847 ${ }^{3}$ | 3,502,012 25 | 748,755 | 13,256,877 63 | 829,711 y | 4,128,100 25 | 814,969 - | 3,661,199 75 | 6,650,9723 ${ }^{3}$ | 28,28, ${ }^{2}, 48853$ |
| -Herring ....................... " .. | 398,089. | 1,235,607 00 | 300,258 | (1,250,002 64- | 418,586 - | 1,652,051 50 | 316,673 | 1:329,921 50 | 2,937,984 | $\begin{array}{r}8,982 \\ 11,103,45964 \\ \hline 1\end{array}$ |
| - do smoked ............Boxes. | 454,209. | 113,552 25 | 642,000 | 160,500 00 | 549,150 | 137,287 50 | 549,205 - | 137,301 25 | 3,578,414 | 986,970 00 |
| do fresh................ ${ }^{\text {dorls. }}$.. | 20 | 100 |  |  |  |  |  |  | 1,600 | 6,400 00 |
| do fresh water ...... " .. | 7,959 | 39,795 00 | 9,400 | 56,400 00- | 10,781 ${ }^{\text {a }}$ | 53,907 50 | 10,313 | 51,565 00 | 70,2564 | 10000 355,25350 |
| Mackerel ................... " .. | 161,096. | 1,559,551 00 | 123,6512. | 1,236,545 00 | 104,356 | 992,794 00 | 163,916 | 1,639,160 00 | 1,106,364 | 11,569,630 00 |
| do ................... Lbs. ... | 69,000 | 8,850 00 | 39,980 - | 1, 5,997 00 | 10135 | -3920 | 163, | 1,63,160 0 | 177,938 | 1, 25,680 00 |
| do presrvd. in cans. " .. | 80,460. | 12,069 00 | 21,400- | 3,210 00 | 32,620 | 4,893 00 | 191,036 | 28,655 40 | 386,858 | 56.51370 |
|  |  |  |  |  | 347. | 1,73500 | $133,325{ }_{10}{ }^{80} 0$ | 466,640 30 | $140,7611_{1001}^{801}$ | 492,026 30 |
|  | 241 | 00 | 126 |  | ......... |  | 248 | 1,240 00 | 248 | 1,240 00 |
| do do .................. Lbs... | 4,104,532 | 246,271 92 | 4,695,928 - | 281,755 68 | 15,073,100 | 904,8600 | 129,048 | 7, 74288 | 26,014, $\begin{array}{r}4,414 \\ \hline\end{array}$ | $\begin{array}{r}21,230 \\ 1,563,020 \\ \hline 124\end{array}$ |
| do $\mathrm{Halibut............................}$.Cowt .... |  |  |  |  |  |  |  |  | $2+009$ | $\begin{array}{r}1,563,020 \\ 12,000 \\ \hline 00\end{array}$ |
| Halibut......................Cwt... |  |  |  |  |  |  |  |  | 1:3,600 | 28,000 00 |
| do ....... ........ ...... Brls. .. | 312 | 1,872 00 | 201 | 1,206 00 | 183 | 1,048 00 | $227 \frac{1}{2}$ | 1,365 01 | 12,561? | 195,855 on |
| do ..................... Lbs. .. | 589,275 | 35,356 50 | 573,015 | 31,410 90 | 1,014,500 | 60,870 00 | 789,460 ${ }^{\text {a }}$ | 47,365 ${ }^{6}$ | : $: 6,088,685^{\circ}$ | 217,751 10 |
| Pollack .-................... Cwt. | 10,539 | 36,886 50 | 5,980- | $20,93) 00$ | 48,006 | 163,031 00 | 58,746 | 205,611 00 | 171,978 | 586,769 00 |
| do Hake ............................... Ontls. Ow | 24,255 | 84,892 50 | 38,771 | 135,698 50 |  |  |  |  | 111,475 | 381,613 00 |
|  | 28,925 42,852 | 101,237 50 | 29,817 | 104,359 50 | 73,232 | 256,312 00 | 77,454 $\frac{1}{2}$ | 271,090 75- | 291,523. | 1,001,856 25 |
| Flounders ...................... Qris. ${ }^{\text {do }}$. . | 42,852 | 149,982 00 | 16,685 | 58,397 50 | .... |  | ......... |  | 193,072 | 631,145 00 |
| Saimon ..... .................. ${ }_{\text {a }}$ |  | 130,34600 | 5,026 |  | 4.509, |  | :1,5691+ | 46,841 25 | -1, 1,2066 | 2,000 998,158 75 |
| do in ice ...... ....... Lls.... | $2,501,246$ | 321,987 70 | 1,786,894 | $238,04580$ | 1,415,607? | 185,613 48 | 2,10-1,914-1 | -83,04: 30 | $1.4,840,582 \frac{1}{2}$ | 1,45,099 93 |
| do fresh ..... .......... No. ... |  |  |  |  | 8,421 | 8,421 70 | 8,806 | $8, \times 0600$ | 36, 688 | [16,568 00 |
| do smoked ............Boxes. | 137,320 | 20,598 00 | 57,880 | 8,682 00 | 1. | 401 |  | 100 | 323,727 | 51,079 50 |
| $\begin{array}{ll} \text { do } \\ \text { do } & \text { do } . . . . . . . . . . . . . N o . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ~ \end{array}$ |  |  |  |  |  |  |  |  | 852 | 85201 |
| do presrrd. in cans. | 1,940,006 | 493,14600 |  | 144,253 43 | 105, 918 | 11,913 010 | 80, 260 | 12,039 00 | 159,378 | 23,906 70 |
| Trout........... .............Brls... |  | 1,072 00 |  | 144, 2,07200 | 105, 1631 | 29,358 1.5 | 201,06i) | :9,159 00 | 6,294,504 | 1,468,492 08 |
| do .........................Lbs.... | 112,815 | 6,768 90 | 117,120. | 7,027 20 | 147, $720^{-1}$ | 8,863 20 | ${ }^{155,6883^{3}}$ | -2,312 00 | 1,941 ${ }_{745}$ | 17,241 <br> 44,727 |
| Alewives ........... ........ Brls. .. | 56,830_1 | 195,405 00 | 46,253 | 161,885 50 | 27,500, | 96,25000 | 16,313 | 67,29800 | 308,850 | 17,218 $1,027,822$ |

Table of the Aggregate Quantities and Values of Fish, the Produce of Canadian Fisheries, \&c.-Concluded.

## Compiled from Departmental Fishery Reports for the above-named Years-Concluded.

| Kinds of Fish. | 1874. |  | 1875. |  | 1876. |  | 1877. |  | Total. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quentitg. | Value. | Quantity. | Value. | Quantity | Value. | Quantity. | Value. | Quantity. | Value. |
|  |  | \$ cts. |  | \$ cts. |  | \$ cts |  | $\$$ cts. |  | \$ cts. |
| -Sbad do $\qquad$ | $\begin{aligned} & 12,342 \\ & 66.873 \end{aligned}$ | $\begin{array}{r} 98,736 \\ 6,687 \end{array}$ | 14,395 134,992 | 115,164 13,499 | 10,4478 142,405 | 83,580 14,240 | 9,374 $\mathbf{6 2 , 6 4 7}$ | $\begin{array}{r}7.1,992 \\ 5,964 \\ \hline 00\end{array}$ | $94,553-1$ 552,780 | $\begin{array}{r}657,120 \\ 53,413 \\ \hline 60\end{array}$ |
| Finnan Haddies..... .... . Brls.... |  |  |  | $\begin{gathered} 15,499 \\ \ldots \ldots . . . . . . . . . . . . . ~ \end{gathered}$ | 1........... | . $14.1 . . .1 . . .$. |  |  | 55-,180 | $\begin{array}{r}\cdot 3,413 \\ 6,000 \\ \hline\end{array}$ |
| - Eels ......................... ${ }^{\text {a }}$.. | 3,520 | 31,680 00 | 2,972 - | 26,748 00 | 2,866 | 25,841 00 | 2,908 ${ }^{2}$ | 26,199 50 | 32,634 ${ }^{\frac{1}{2}}$ | 397,653 50 |
| do ......................... No..... | 374,187 | 37,418 70 | 266,619 | 26,661 90 | 291,737- | 29,173 70 | 28,744 | 28,274 40 | 1,86.1,415 | 186,441 20 |
| Scslefish ..... .... ........ Cwt.. |  |  | ........... | ............. | ........ | ............ |  |  | 239,191 | 817,024 97 |
| Bass ............... ........ Brls. .. | 1,576 | 6,304 00 | 823 , | 4,115 00 | 8792 | 4,39750 | 2, 1.492 | 13,37250 | 7,5i4 | 30,497 00 |
| do ....................... Lbs ... | 439,423 | 26,365 ${ }^{\text {d }}$ | 126,786, | 7,607 16 | 302,914 | 18,17484 | 232,429 | 13,945 74 | 1,69\%,405 | 101,542 94 |
| do and Perch........... Brls... Smelts.................. Tuns.. | ............... |  | ... ....... | - | ... | .. .......... .. | ............. | - | 484 | 2,420 00 |
| - Smelts...................... Tuns.. | $\cdot$ | ............ |  |  |  | ....... ........ |  | . | 62 | 7,440 00 |
| do ......... .... ........ Brls. .. | .............. | -0 3 ........ |  | $87 . . . . . . . .$. | 1........... | 11941150 |  |  | 4,090 | 17,440 00 |
| do .....................Lbs.... | 1,156,350 | 69,381 00 | 1,451,580 | 87,094 80 | 1,990,825. | 119,44:150 | 2,266,202 | 135,972 12 | 8, 160,45i; | 479,627 35 |
| - Oysters ............. ....... Brls. .. | 14,318 | 42,772 00 | 11,716 | 35,107 00 | 16,856 | 50,568 00 | 29,568 | 88,704 00 | 180,316 | 540,72500 |
| Mixed Fish ............. .... Lbs.... | 20,353 | 101,76500 | 23,407 | 117,035 00 | 19,530 | 9765000 | 16,778 | 83,89000 | 1,120,000 | ? 2,03830 |
| do .......... ........ Bris.... | 20,353 | 101,765 00 | 23,407 | 117,035 00 | 19,630 | 97,650 00 | 16,778 | 83,890 00 | 144,0223 <br> $7,500^{3}$ | 467,75400 8,76700 |
| - Ling .. ....................... Qntls. | ..... | $\cdots$ |  |  | 1,149 | 5,745 00 | 99 | 49500 | 1,248 | 6,24000 |
| do ........ ............... Brls.... | 43 | 21500 | 33 | 16500 |  |  |  |  | :, 220 | 16,1C0 00 |
| Lunge .......... ........... " .. | 430 | 10,750 00 | 250 | 6,250 00 | - ......... |  |  |  | 680 | 17,1000 010 |
| Winnoniche ....... . ...... No. ... | 7,500 | 1,875 00 | 9,050 ${ }^{\prime}$ | 2,262 50 | 3,000- | 75000 | 3,290 | 82250 | 22,840 | 5,710 00 |
| - Touladi...... ....... ........ Brls... |  |  | 150 | 1,200 00 | ........ | 1.......... | …… |  | 150 | 1,200 00 |
| - Sciseos ............ ........ " .. | 293 | 1,904 50 | 1961 | 1,274 00 | 316 | 1,580 00 | 1,505 | 7,525 00 | 3,5712 | 18,220 00 |
| . Trout, speckled and grey Lbs. .. | 10,000 | 1,000 00 | 11,000 | 1,100 10 | 447,200 | 35,560 00 | 458,740 | 36,687 20 | 926,940 | 74,35320 |
| do do Brls. .. | 13,951-1 | 139,510 00 | 8,965 | 89,65000 | 11,744 | 117:40000 | 12,520 | 125,260 00 | 89,086 | 8)7,060 00 |
| Sturgeon ................... ". | 559 | 4,472 00 | 279 , | 2,232 00 | 5592 ${ }^{2}$ | 4, 700 | $1817 \frac{1}{2}$ | 4,940 00 | -1,335 | 32,720 00 |
| Bar and Whitefish ........ Doz.... | 11,360. | 22,720 00 | 3,735- | 7,470 00 | 10,209 | 20,418 00 | 10,539 | 21,078 00 | 7.1,802 ${ }^{\circ}$ | ] 49,00560 |
| Bar Fish ................... No.... |  |  |  |  |  |  | 2,642 | 1,321 00 | 2,642 | 1,321 00 |
| - Sardines .................... Brls. .. | 902 | 4,510 00 | 1,037 | 5,185 00 | 1,830 ${ }_{2}$ | 9,152 50 | 8,130 | 40,650 00 | 33,817 | 10, 1,08500 |
| Whitefish .................. ${ }^{\text {a }}$.- | 17,134, | 171,340 00 | 25,573 | 255,730 00 | 11,999 | 119,990 00 | 7,776 | 77,760 00 | 138, 885.1 | $1,1513,33750$ |
| do ....... ...........Lbbs.... | 84,611 | 4,23000 | ............. | .......... ....... | 1,052,490 | 52,624 50 | 1,876,300 | 93,815 00 | $4,443,915$ | 178,08350 |
| do .............. ... No. ... | 569,112- | 56,910 00 | $\cdots$ | 5.7........ | 471,402 4 | + 47,14020 | 301,050 | 30,105 00 | 1,385,150 | 1,96,335 20 |
| Pike.............. ..... . .... Brls. .. | $936 \frac{1}{2}$ | 4,11200 | 948 | 5,740 00 | 1,080 $\frac{1}{2}$ | 7,402 50 | 1,7702 | 12,727 50 | 6,983] | 36,222 00 |
| Pickerel ............. ........ ${ }^{\text {a }}$., | 2,240 ${ }^{\prime}$ | 10,076 00 | 4,185. | 22,44500 | 2,995 | - 18,450 00 | 4,802 | 33,362 50 | 18,4847 | 107,434 50 |



Statement showing the Quantity and Value of Fish and Products of Fish Exported from the Dominion of Canada during the Year ending the 31st December, 1877.


Statement showing the Quantity and Value of Fish, \&c.-Dominion of Canada-Continued.


## Statement showing the Quantity and Value of Fish, \&c.-Dominion of Canada-Continued.

| Articles. | Countries. | Goods, the Produce of Canada. |  | Goods, not tee <br> Produce of Canada. |  | Total Exports, Prodoce and not Prodices. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Quantity. | Value. | Quantity. | Value. | Quantity. | Value. |
| Herring Smoked... |  | Lbs. | \$ |  | \$ | Lbs. | \$ |
|  | Great Britain .... | 268,551 | 13,241 | .............. |  | 268,551 | 13,241 |
|  | United States .... | 3,431,448 | 43,463 | ......... ..... | ............ | 3,431,448 | 43,463 |
|  | British W. Indies: | 234, 867 | 7,892 | ............. | ............. | 239,867 | 7,892 |
|  | Spanish W.Indies | :4, 724 | 1,265 | .............. |  | 34, 724 | 1,265 |
|  | French W. Indies | 6is,486 | 2,438 | ... .. ......... | .............. | 65,486 | 2,438 |
|  | Danish IV. Indies | 12,994 | 473 | ............. | .............. | 12,994 | 473 |
|  | Dutch W. Indies | 4,000 | 100 | , | , | 4,000 | 100 |
|  | Hayti. ............. | 38,000 | 1,241 |  | ......... | 38,000 | 1,241 |
|  | British Guiana ... | 17,200 | 807 | ........... .. |  | 17,200 | 807 |
|  | South America | 12,0,2 | 364 | ..... ........ |  | 12,042 | 364 |
|  | St. Pierre et Miquelon........... | ${ }^{776}$ | 41 |  | ..... | 776 | 41 |
|  | Madeira........... | 11,000 | 422 |  | , | 11,000 | 422 |
|  | Atrica............. | 2,500 | 50 | ....... ...... | ........... . | 2,500 | 50 |
|  |  | 4,138,588 | 71,797 | ..... ....... | ............... | 4,138,588 | 71,797 |
| Sez Fish, other, Fresh. $\qquad$ | United States..... | ............ | 76,500 | ............... |  | .......... | 76,500 |
|  |  | Brls. |  |  |  | Brls. |  |
| do Pickled ......... | Great Britain .... 'nited States.... | $\begin{array}{r}503 \\ 5,488 \\ \hline\end{array}$ | 1,4489 37361 | ……...... | . ............ | 503 | 1,468 |
|  | British W. Indies | 5,488 1.440 | 1,361 6,327 | ..................... | ..... ........ | 5,488 | 37,361 |
|  | SpanishW.Indies | 140 | 2,105 | ................. | .............. | 1,440 | 6,327 |
|  | French W. Indies | 370 | 1,852 | ….............. | ... | 440 370 | 2,105 |
|  | Danish W. Indies | $\stackrel{7}{2}$ | 1153 | .............. | .................. | 370 27 | 1,852 |
|  | Hayti. .............. | 462 | 2,978 |  |  | 462 | 2,978 |
|  | British Guiana ... <br> St. Pierre et Mi- | 42 | 207 | ....... . .... | .............. | 42 | 2,907 |
|  | quelon. | 56 | 216 | .............. | ............... | 56 | 216 |
|  |  | 8,828 | 52,667 | .............. | .............. | 8,828 | 52,667 |
| do Preserved ......' |  | Lbs. |  |  |  | Lbs |  |
|  | United States..... | 1,160 | 116 | ............... | ............. | 1,160 | 115 |
| Oysters, Fresh ...... | Great Rritain .... | Bris. 182 |  | Brls. |  | Brls. |  |
|  | United States..... | 188 | 176 | ............... | .............. | 182 | 282 |
|  | Newfoundland ... | 220 | 414 |  |  | 88 | 176 |
|  | British W. Indies | 2 | 5 |  |  | 220 2 | 414 5 |
|  | quelon........... | 89 | 239 | 12 | 90 | 101 | 329 |
|  |  | 681 | 1,116 | 12 | 90 | 593 | 1,206 |
| Lobsters, Fresh .... | United States..... | Brls. 137 | 654 |  |  | Brls. |  |

Statement showing the Quantity and Value of Fish, \&c.-Dominion of Canada-Continued.


Statement showing the Quantity and Value of Fish, \&c.-Dominion of Canada-Continued.


Statement showing the Quantity and Value of Fish, \&e.-Dominion of Canada-Concluded.


RECAPITULATION.

| Countries. |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Great Britain. |  | 1,052,180 |  | 40,546 |  | 1,092,726 |
| United States |  | 2,339,383 |  | 21,774 |  | 2,361,157 |
| Newfoundland............................ |  | 5,419 |  |  | $\cdot$ | 5,419 |
| British West Indies......... ............. | ..... ........ | 1,527,454 | ............... | 150 | ........ | 1,527,604 |
| Spanish Weat Indies ..................... | . | 898,858 |  |  | ............... | 898,858 |
| French West Indies.................. ..... |  | 189,576 | ............. | 8 | .............. | 189,576 |
| Danish West Indies. |  | 25,531 | .............. | 84 | ............. | 25,615 |
| Dutch West Indi | ........ ...... | 1,083 |  |  | . | 1,083 |
| Hayti....... .......... ...................... |  | 45,774 |  |  |  | 45,774 |
| British Guiana ............................ |  | 148,620 |  | .............. |  | 148,620 |
| South America |  | 354,490 |  |  |  | 354,490 |
| St. Pierre et Miquelon ........ .... ...... |  | 1,570 | ..... ........ | 90 | ............. | 1,660 |
| Portugal..................................... |  | 58,080 |  |  |  | 58,080 |
| Italy......................................... |  | 149,102 | ............. |  | ... | 149,202 |
| Norway.................................... |  | 13,592 | ............. | 4,308 |  | 17,900 |
| Sweden |  | 28,580 |  |  |  | 28,580 |
| Madeira |  | 24,890 |  |  |  | 24,890 |
| $\Delta$ frica |  | 590 |  |  |  | 590 |
| Australia |  | 68,328 |  |  |  | 68,328 |
| Sandwich Islands. |  | 350 |  |  |  | 350 |
| Total |  | 6,933,450 |  | 66,952 |  | 7,000,402 |
|  |  |  |  | $21,7 i 4$ |  |  |
| do other Countries |  | $4,594,067$ |  | $45,178$ |  | $4,639,245$ |
| Grand Total . |  | 6,933,450 |  | 66,952 | .... ......... | 7,000,402 |

Statement showing the Value of Fish and Product of Fish, Imported and Entered for Consumption in the Dominion of Canada; also the Daty collected thereon during the Year ending 31st December, 1877.


Statement showing the Quantity and Value of Fish Imported, \&e. Dominion of Canada.-Continued.

| Articles. | Countiezs whence Importad. | Imported. |  | Entered for Home Conscmption. |  | Duty. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Quantity. | Value. | Quantity. | Value. | Amount Received. |
| FREE. <br> Fish, including Cod, HadJcek, Ling and Pollock, Fresh..... | United States..... | Lbs. | \$ | Lbs. | \$ | \$ |
|  |  | 2,675,060 | 81,589 | 2,675,060 | 81,589 ${ }^{\text {' }}$ | . |
| do do Dry salted........' | United States..... <br> Newfoundland... | Cw ${ }^{1}$. <br> 29,395 | 106,329 | $\begin{aligned} & \text { Cwt. } \\ & 29,395 \end{aligned}$ | 106,329 |  |
|  |  | 2, 3,010 | 11,926 | 3,010 | 11,926 | .................. |
|  |  | 32,405 | 118,255 | 32,405 | 118,255 | .............. |
| do do Wet salted.. ....... | United States..... Newfoundland... | Cwt. | 1,380 | Cwt. ${ }_{493}$ | 1,380 | ...... ........ |
|  |  | 893 | 1,980 | 893 | ,980 | .............. |
| do do Pickled............... | Tnited States.... | Brls. 18 | 83 | Brls. 18 | 83 |  |
| do do Smoked .............. | Onited States..... | $\begin{gathered} \text { Lbs. } \\ 720,721 \end{gathered}$ | 52,449 | $\begin{gathered} \text { Lbs. } \\ 920,721 \end{gathered}$ | 52,449 |  |
| do Mackerel, Fresh.......... | United States.... | $\underset{156,537}{\text { Lbs. }}$ | 3,290 | $\underset{156,537}{\text { Lbs. }}$ | 3,290 | .............. |
| do do | United States..... Newfoundland... British W. Indies | Brls. 998 | 7,688 | Brls. <br> 998 | 7,688 | ............... |
|  |  | 47 | 354 | 47 | 354 | .............. |
|  |  | 164 | 820 | 164 | 820 | ...... ........ |
|  |  | 1,209 | 8,862 | 1,209 | 8,862 | .. ... |
| do Halibut, Fresh. | Onited States.... | $\begin{aligned} & \text { Lbs. } \\ & 26,127 \end{aligned}$ | 1,378 | $\begin{gathered} \text { Lbs. } \\ 26.127 \end{gathered}$ | ${ }^{-7} 1,378$ | .............. |
| do do Pickled ........ | United States..... | Brls. 29 | 153 | Brls. 29 | 153 | ............... |
| do Herring, Fresh........... | United States..... | Lbs. $170,403$ | 3,194 | Lbs. $170,403$ | 3,194 | $\ldots$ |
| do do Pickled ......... | Onited States..... Newfonndland .. <br> St. Pierre et Mi- <br> quelon $\qquad$ | Brls. |  | Brls. |  |  |
|  |  | 2,341 | 8,082 | 2,341 | 8,082 | ............. |
|  |  | 2,660 | 10,786 | 2,660 | 10,786 | .- |
|  |  | 785 | 1,775 | 785 | 1,775 | ............... |
|  |  | 5,786 | 20,643 | 5,786 | 20,643 | ....... ..... |

Statement showing the Quantity and Value of Fish Imported, \&c.Dominion of Canada-Continued.

| Abticles. | Countries whence Imported. | Imported. |  | Extered for Home Consemption. |  | Duty. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Quantity. | Value. | Quantity. | Value. | Amount Received. |
| FREE-Continued. |  | Lbs. | \$ | Lbs. | \$ |  |
| Fish, Berring, Smoked ........ | Onited States....' | 470,082 | 14,124 | 470,082 | 14,124 | ..... ........ |
| do Sia Fish, Other, Fresh...'United States.... |  | Lbs. <br> 24,127 | 1,083 | Lbs. 24,127 | 1,083 | - |
| do do Pickled | United States . . | Brls. ${ }_{68}$ | 309 | Brls. 68 | 309 | ..... |
| do do Preserved, | United States..... | Lbs. 2,458 | 309 | Lbs. $2,458$ | 309 | ............... |
| Oysters, Fresh, in shell ........ | United States.... | Brla. 2,756 | 9,622 | Brls. 2,756 | 9,622 | ..... ......... |
| do do in cans .........ic | Great Britain ... <br> United States..... | Lbs. ${ }_{96}$ |  | Lbs. ${ }_{96}$ |  |  |
|  |  | 1,192,663 | 107,730 | 1,192,662 | 107,730 |  |
|  |  | 1,192,758 | 107,740 | 1,192,758 | 107,740 | ......... |
| do Shelled, in bulk . | United States..... | $\begin{aligned} & \text { Galls. } \\ & 98,689 \end{aligned}$ | 93,293 | Galls. 98,689 | 93,293 |  |
| Lobsters, Fresh, in barrels ... | ULited States..... | Brls. 373 | 2,256 | Brls. 373 | 2,256 |  |
| do Preserved, in cans .. | United States..... | Lbs. <br> 45,399 | 5,938 | Lbs. <br> 45,399 | 5,938 | ..... ......... |
| do Fresb, in cans | United States. ... <br> St. Pierre et Miquelon........... | Lbs. 11,544 | 1,560 | Lbs. 11,544 | 1,560 |  |
|  |  | 4,704 | 392 | 4,704 | 392 | ...... |
|  |  | 16,248 | 1,952 | 16,248 | 1,952 | ............... |
| Fish, Bait ............ ............. | United States.... | Brls. 1,190 | 5,160 | Brls. 1,190 | 5,160 |  |
| do Clams, or Other........... | United States.... | Brls. 342 | 1,833 | Brls. 342 | 1,833 | ............... |
| do Salmon, Fresh .............. | United States..... Newfound land... | $\begin{aligned} & \text { Lbs. } \\ & 26,698 \\ & 20 \end{aligned}$ | 1,499 3 | $\begin{aligned} & \text { Lbs. } \\ & 26,698 \\ & 20 \end{aligned}$ | 1,499 3 | ................ |
|  |  | 26,718 | 1,502 | 26,718 | 1,502 | ............... |

Statement showiug the Quantity and Value of Fish Imported, \&c.Dominion of Canada--Continued.

| Articles. | Countrirs whence Imported. | \mported. |  | Entened ror Home Consumption. |  | Duty. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Quantity | Value. | Quantity. | Value. | Amount Received. |
| FREE-Continued. | United States..... | Lbs. | \$ | Lbs. | \$ | ,............. |
| Fish, Salmon, Smoked ......... |  | 1,651 | 234 | 1,651 | 231 |  |
| do do Canned ........... | United States..... | Lhs. $119,013$ | 18,839 | $\begin{aligned} & \text { Lbs. } \\ & 119,013 \end{aligned}$ | 18,839 |  |
| do do Pickled .......... | Great Britain ...United States.... | Brla. 15 51 | $150$ | Bris. ${ }^{15}$ | $150$ |  |
|  |  |  |  |  |  |  |
| do all other, Fresh ........... | United States..... | .............. | 4,160 | $\ldots$ | 4,160 | .............. |
| do do Pickled........ | United States..... | Brls. 798 | 3,553 | Brls. 798 | 3,553 | ............... |
| do Oil, Whale.......... ........ | United States..... | Galls. <br> 4,347 | 3,095 | Galls. 4,347 | 3,095 | .............. |
| do do Cod.................... | United States..... Newfoundland ... | Galls. | $\begin{array}{r} 26,011 \\ 704 \end{array}$ | Galls. <br> 59,348 <br> 1,547 | 26,011 | ......... ...... |
|  |  | 60,895 | 26,715 | 60,895 | 26,715 | ..... ... |
| do do Other.................. | Great Britain .... | Galls. | 199 | Galls. 458 | 199 | ................ |
|  |  |  | 35,266 | 89,191 | 35,266 |  |
| Furs or Skins, the produce of Fish or Marine Animals..... | United States..... Newfoundland .. St. Pierre et Miquelon $\qquad$ |  |  |  |  |  |
|  |  | ......... | 1,989 | .............. | 1,989 | ............. |
|  |  | ...... ........ | 3,231 | .............. | 3,231 |  |
|  |  |  | 880 | ............... | 880 |  |
| Fish and products of Fish and Fish Oil, the produce of Newfoundland. |  | -........ | 6,100 | ............ | 6,100 | $\ldots$ |
|  | Newfoundland... |  |  |  |  |  |
|  |  |  | 120,343 |  | 120,343 | ..... ........ |
| do do Fish ..... | Newfoundland ... | . | 443,757 | .............. | 443,757 |  |
| do do Fish Oil.. | Newfoundland ... | Galls. <br> 136,754 | 75,427 | Galls. <br> 136,754 | 75,427 | .............. |

Statement showing the Quantity and Value of Fish Imported, \&c.Dominion of Canada-Continued.

## RECAPITULATION.

| Countries whence Imponted. | Imported. |  | Entered for Home Consumption. |  | Dutr. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dutiable. | Free. | Dutiahle. | Free. | Amount Collected. |
|  | \$ | \$ | S | \$ | \$ cts. |
| Great Britain | 24,129 | 359 | 24,986 | 359 | 4,313 66 |
| United States........................................... | 24,302 | 603,874 | 23,085 | 603,874 | 3,979 87 |
| Newfoundland................................... ......... | 5,646 | 667,131 | 4.7.1.. | 667,131 | 84378 |
| Germany ............... ........... ................................. | , 9 |  | 4, 9 |  | 157 |
| China ..................... ..... .... ................. .... | 68 |  | 174 |  | 3067 |
| St. Pierre et Miquelon.................................. | 145 | 3,047 | 16 | 3,047 | 280 |
| British West Indies....................................... |  | 820 |  | $8 \div 0$ | ............ |
| Total ................................ | 54,299 | 1,275,231 | 53,095 | 1,275,231 | 9.17335 |
| Total Dutiable............ ........................ | 54,299 | .............. | 53,095 | ............. | 9,172 35 |
| do Free........................................... | 1,275,231 | ............. | 1,275,231 | ............. |  |
| Total Imports of Fish and Products of Fish, for the year ending 31st December, 1877 | 1,329,530 | ..... ......... | 1,328,326 | ......... .... | 9,172 35 |
| Total Imports from United States ...... ...... | 24,302 | 603,874 | 23,085 | 603,874 | 3,979 87 |
| do Other Countries ......... | 29,997 | 671,357 | 30,010 | 671,357 | 5,192 48 |
| Grand Total........................ | 54,299 | 1,275,231 | 53,095 | 1,275,231 | 9,172 35 |

Statement showing the Quantity and Value of Fish and Products of Fish Exported from the Dominion of Canada during the Six Months ending the 31st December, 1877.


## Statement showing the Quantity and Value of Fish, \&c.-Dominion of Canada-Continued.



Statement showing the Quantity and Value of Fish, \&c.-Dominion of Canada - Continued.


Statement showing the Quantity and Value of Fish, \&c.-Dominion of Canada-Continued.


Statement showing the Quantity and Value of Fish, \&c.--Dominion of Canada-Continued.

| Articles. | Countries. | Goods, the Prodoce of Canada. |  | Goods, not the Prodoce of Canada. |  | Total Exports, Prodice and not Produce. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Quantity. | Valué. | Quantity. | Value. | Quantity | Value. |
|  |  | Galls. | 8 |  | \$ | Galls. | 8 |
| Fish Oil, Other.... | Great Britain..... United States..... | $\begin{array}{r} 1,274 \\ 22,767 \end{array}$ | $\begin{array}{r} 619 \\ 9,094 \end{array}$ | ................. | ................. | $\begin{array}{r} 1,374 \\ 22,767 \end{array}$ | $\begin{array}{r} 6: 9 \\ 9,094 \end{array}$ |
|  |  | 24,141 | 9,713 | .............. | ..... ........ | 24,141 | 9,713 |
| Furs or Skins of Marine Animals.. | Great Britain..... | .......... | 8,924 | . | 2,667 | .... | 11,591 |
| Other Articles..... | Great Britain.... |  | 270 | ....... ..... | 263 |  | 533 |
|  | United Staies..... |  | 42,345 | .............. | 1,577 | .............. | 43,922 |
|  | British W. Indies | ............ | 357 | ...... ........ | 30 | ............. | 387 4 |
|  | Danish W. Indies | ................... | 20 | .................. |  | ................. | 20 |
|  | Hayti............... | ............... | 1,120 | ............. |  | ............. | 1,120 |
|  |  | ...... | 44,116 | .............. | 1,870 | .............. | 45,986 |

RECAPITULATION.

| Countries. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Great Britain... .... ...................... | 889,870 | ............. | 40,546 | .......... | 930,416 |
| United Stateg. | 1,798,396 | ............. | 21,774 | ......... | 1,820,170 |
| Newfoundland. | 2,446 | ............. |  | .............. | 2,446 |
|  | 713,190 | .............. | 150 | ............. | 713,340 |
| Spanish West Indies. .................... | 439, 109 | .............. | .............. | ...... ........ | 439,109 |
| French West Indies ...................... | 109,653 | .............. |  |  | 109,653 |
| Danish West Indies. .... ................ | 18,624 | ............. | 84 |  | 18,708 |
| Dutch West Indies................. ...... | 1,083 | ............. | ......... |  | 1,083 |
| Hayti .................... ..................\| .............. | 16,333 | ... | ............. |  | 16,333 |
| British Guianq ...... ....... .............. | 55,959 |  |  |  | 55,959 |
| South America............................. ............. | 261,432 |  |  |  | 261,432 |
| Portugal ............................... ..... ..... ......... | 42,153 | $\cdots$ | ..... ........ |  | 42,153 |
| Italy ........................*.......... .....\|............. | 144,181 |  |  |  | 144,181 |
| St. Pierre et Miquelon... ............... - ...... ......... | 1,157 | .............. | 90 |  | 1,247 |
| Norway ............................. ........ .............. | 13,592 | ..... ........ | 4,308 |  | 17,900 |
| Madeira.. .... ........... ..................\|. ............ | 14,713 | .............. | .............. |  | 14,713 |
| Australia.. ...................... .......... | 68,328 |  | ......... ..... |  | 68,328 |
| Sandwich Islands................. ...... | 350 |  |  |  | 350 |
| Total ....... ............... .. .............. | 4,590,569 |  | 66,952 | . .. ......... | 4,657,521 |
| Total Exports of Fish to United, <br> States | 1,798,396 | .....e ..... | 21,774 |  | 1,820,170 |
| Total Exports of Fish to other, Countries. | 2,792,173 |  | 45,178 |  | 2,837,351 |
| Grand Total......... .... ............. | 4.590,569 | ..... | 66,952 | .......... | 4,657,521 |

Statement shewing the Value of Fish and Products of Fish Imported and Entered for Consumption in the Dominion of Canada, also the Duty Collected thereon during the Six Months ending 31st December, 1877.


Statement showing the Quantity and Value of Fish, \&c.-Dominion of Canada-Continued.


Statement showing the Quantity and Value of Fish, \&c.-Dominion of Canada-Continued.


Statement showing the Quantity and Value of Fish, \&c.--Dominion of Canada-Coutinued.


Statement showing the Quantity and Value of Fish, \&ce.-Dominion of Canada--Continued.

ABSTRACT

| Countries weenoe Imported. | Entered for Home Constmption. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Dutiable. | Free. | Total. | Duty. <br> Collected. |
|  | \$ | \$ | \$ | $\$$ cts. |
| Great Britain....................... ......................... | 17,531 |  | 17,531 | 3,008 96 |
| United States...................................... ........ | 13,710 | 308,460 | 322,170 | 2,365 33 |
| Newfoundiand ................................................ | ........ | 538,606 | 538,606 | 619 95 |
| France...... ........................ ........................... | 3,542 | ... ..... ...... | 3,542 | 61985 157 |
| Germany.................................................................... | 9 60 | ................. | 60 | 157 1059 |
| St. Pierre et Miquelon......... ............................ |  | 1,272 | 1,272 | ............ |
| British West Indies.................................... ..... |  | 820 | 820 |  |
| Total. | 34,852 | 849,158 | 884,010 | 6,006 30 |
|  | \$ | \$ | $\$$ | \$ cts. |
|  | $13,710$ |  |  | 2,365 33 |
| do Other Countries......... | $21,142$ | $540,698$ | 561,840 | 3,640 97 |
| Total................. ......... ................. | 34,852 | 849,158 | 884,010 | 6,006 30 |

## EXPENDITURE AND RECEIPTS.

The following statements exhibit the respective amoants expended and collected during the fiscal year ended 30th June, 1877, and the current expenses from 1st July to 31st December, 1877. The expenditure for the period first above named is subdivided for the several Provinces and services as follows :-

## ontario.

| Fish-breeding.................................................... | $\begin{array}{r} \$ 13,185 \quad 76 \\ 12,641 \quad 46 \end{array}$ |
| :---: | :---: |
|  | \$25,827 22 |
| quebec. |  |
| Fishery Overseers' salaries and disbursements........... | \$12,909 66 |
| Fish-breeding.. | 6,203 94 |
| Fisheries protection vessel.................................. | 17,059 21 |
|  | \$36,172 81 |

NOVA SCOTIA.
Fishery Overseers' salaries and disbursements........... \$15,12 49
Fish-breeding....................................................... 3,803 53
\$18,931 02

NEW BRUNSWICK.
Fishery Overseers' and Inspector of Fisheries' salaries
and disbur'sements.................................................. $\$ 11,16853$
Fish-breeding... ................................ . ................. 1,388 80
\$12,557 33

PRINOE EDWARD ISLAND.
Fishery Overseers' salaries and disbursements............ \$1,974 70

BRITISH COLUMBIA.
Inspector of Fisheries' salary and disbursements......... $\$ 63.500$
MANITOBA.
Fishery Overseer's salary
$\$ 25000$

[^0]And for the sulsequent half-year as follows:-
Ontario, Fishery Overseers' salaries and disbursements. \$6,386 05
Quebec do do ... 9,65986
Nova Scotia do do ... 7,607 92
New Brunswick do do ... 4,654 00
Fisheries Protection Steamer "Lady Head "............... 15, 69996
Fish-breeding................................................ .......... 12,539 89
Prince Edward Island............................................... 87500
Manitoba............................................................... . 20000
British Columbia..................................................... 6C0 00
Total........... ........................................ 858,22268
The collections daring the fiscal year are arranged under the following heads:ontario.

> Reuts, license fees, fines and confiscations $\$ 4,48325$

> QUEBEC.

Rents, license fees, fines and confiscations.................. 6,071 72
nova scotia.
Taxes on nets, fines and forfeitures......................... 1,52071
NEW BRUNSWICK.
Rents, taxes on nets, fines and forfeitures.
$1,289 \quad 17$

Total....................... ...................... ......... \$13,364 85

## LICENSES ISSUED.

The number of Fishery Licenses issued during the season of 1877 are 28 follows:-

Ontario. ..... 720
Quebec ..... 675
Now Brunswick. ..... 756
Nova Scotia ..... 44

Also thirty-two permits were issucd for salmon angling on the "Rough Waters" of the Nepissiguit River, N.B., and 1, 185 season permits for angling and trolling on Rice Lake, Lake Scugog, and other inland waters set apart in the Province of Ontario; thus making the total number of Fishery Licenses issued during the present season 3,412.

Licenses for smelt and bass fishing in the Province of New Brunswick, ${ }^{\text {, expiring }}$ respectively on the 15 th February and 1st March, no returns of the same can yet be given.

## STAFF OF FISHERY OFFICERS.

In 1876 the staff of fishery officers consisted of the following :-
Ontario-Fishery Overseers (ex-officio Magistratea) and Finher $\delta$ Guardians. ..... 83
Quebec-Fishery Overseers (ex-officio Magistrates) and Fishery Guardians ..... 90
Nova Scotia-Inspector, Fishery Overseers (ex-officio Magis- trate) and Fishery Wardens ..... 239
New Brunswick-Inspector, Fishery Overseers (ex-officio Magistrates) and Fishery Wardens ..... 110
Prince Edward Island-Fishery Overseers (ex-officio Magis- trates) and Fishery Wardens. ..... 32
British Coldmbia-Inspector of Fisheries ..... 1
Manitoba-Fishery Overbeer (ex-affeio Magistrate) ..... 1
Gdlf of St. Lafrence-Commander and crew of Fisheries Protection Steamer "Lady Head " ..... 26
582
Additions were made during the year 1877 as follons:-
Ontario. ..... 4
Quebec. ..... 5
Nova Scotia ..... 4
New Brunswick ..... 4
Prince Edward Island ..... 2
Malaing the number of Fishery Officers now employed in the Outside Service ..... 601

This regular Staff receives occasional aid from lock-masters on the Government canals and lighthouse keepers, which arrangement saves employing in certain places other Fishery Officers at separate salaries.

## REPORT OF FISHERY OFFICERS.

Detailed Reports of the various Fishery Officers engaged in the service are printed in the Appendices. They embrace particular's of the year's business in each fishery district; and also give details respecting the quantity and value of fish caught in sub-divisions of the respective fishery districts. They also refer to the condition of different fishings, the state of the rivers, the obvervance of fishery laws, and proceedings taken for the violations of the same.

## SALMON ANGLING.

The total sum accruing as rents under leases of angling privileges amounts to about $\$ 5,000$.

The salmon caught by anglers numbered 2,637, a slight decrease as compared with the catch of last year. The continued and extremely hot weather of the past season, and the lowness of the water, interfered with the sport of angling, although most of the streams contained plenty of fish. The local Fishery Overseers and Wardens report that during the autumn months the spawning beds were covered with breeding fish, and young salmon were very abundant.

## FISH CULTURE.

The total expenditure on account of this service for the fiscal year ended 30th June, $\mathbf{1 8 7 7}$, amounts to $\$ 2 \mathbf{4}, \mathbf{0 3 7 . 7 3}$, divided as follows among the seven establishments devoted to the artiacial reproduction of fish :-

At Newcastle, Ontario.................................. .... ...... \$7:958 16
Sandwich do ................ ............................ 4,374 54
Tadousac, Quebec .................................................. 8,19818
Gaspe Basin do ............................................. 1,518 66
Rostigouche do .............................................. 954 (12
Bedford Basin, Nova Scotia................................... 3,488 97
Miramichi, New Brunswick.................................. 1,388 80
licneral disbursements....................................... 1,4ă7 10
$\$ 24,03773$
A statement in detail of this expenditure will be found among the Appendices No new establishments were opened during the past season, but indispensible repairs and necessary improvements were made at Sandwich, Bedford, Miramichi and Gaspe

The whole number of young fish distributed during the Spring of 187 , from the hatching of 1876 , was $13,489,000$, apportioned as follows:-
newCastle establishment, ontario.


## SANDWICH ESTABLISHMENT, ONTARIO.

Name of Rivers or places where Fry were placed.

BEDFORD ESTABLISHMENT, NOFA SCOTIA.

| Sackville River, County Halifax, N.S...... .......................... | 150,000 | .... |
| :---: | :---: | :---: |
| Shubenacauie River do | 50,000 | ................. ............... |
| Musquodoboit do do | 50,000 | ......... ........ |
| Gays do do ............................... | 20,000 | . $\cdot$ |
| Indian do do | 20,000 | .............. .. ................. |
| Ingraham do do ..... ............................ | 20,000 | ..... ............................. |
| North East do do ................................ | 10,000 | , |
| Little Salmon do do ........ . ................. ..... | 10,000 | ... |
| Moshers do do ........... ............. ..... | 10,000 | . |
| Nine Miles do do ................................ | 20,000 | ............... \|................ |
| Meander do County Hants, N.S................................ | 20,000 | ..... ............ ......... |
| Windsor do do ..................... .. | 20,000 | ................................ |
| Gaspereaux do County Kings, N.S................................ | 20,000 | ................ ......... ........ |
| Cornwallis do do .................... .......... | 20,000 | ........ ......... ................. |
| Pbilip do Co.nty Cumberland, N.S..................... | 100,000 |  |
| Wallace do do | 40,000 | ......... ......... '. |
| Pugwash do do .......... ........ .... | 25,000 | . ... ......... ................. |
| Annapolis do County Annapolis, N.S ........................ | 50,000 | ...\|..... .... ..... |
| Salmon do County Colchester, N.S ....................... | 60,000 | ........... .... ................. |
| Stewiacke do County Colchester, N.S | 25,000 |  |
| North do do | 25,000 |  |
| Debert do do | 20,000 |  |
| West do County Pictou, N.S ... . .......... ............. | 50,000 | .................. ....... . .......... |
| East do do ........................ | 60,600 | . |
| Middle do do ......................... | 60,000 | $\cdot 1$ |
| Sutherland'a do do ......................... | 20,000 | . $\cdot$........... ..... |

## BEDFORD ESTABLISHMENT, NOVA SCOTIA.-Concluded.

| Name of Rivers where Fry were placed. | Kinds of Fish. |  |  |
| :---: | :---: | :---: | :---: |
|  | Salmo Salar. | Speckled Trout. | Whitefish. |
| Martin's River, County Lunenburg, N.S............................... | 6,000 | ........... |  |
| Gold do do .............................. | 4,500 | ............. | ............ |
| Middle do do | 4,500 |  |  |
| Tracadie do County Guysboro', N.S.............. ................ | 20,000 | -. $\cdot$........... |  |
| Total...... n.............. ...... .... . .......... | 990,000 |  |  |

TADOUSAC ESTABLISHMENT, QUEBEC.

| River St. Thomas, Quebec................... ............ ............... | 150,000 |  |  |
| :---: | :---: | :---: | :---: |
| do Ouelle do ................................ ............... | 150,000 | . .... |  |
| do Du Loup do .............................. ................... | 60,000 |  |  |
| do Malbaie do | 60,000 | ................. |  |
| do A, Mars do ................ . ................. ............. | 200,000 | ........... ..... |  |
| do St. Jean do ............................................... | 200,000 | ................. |  |
| do Petit Saguenay do ................................................ | 60,000 | ................ |  |
| do Ste. Marguerite do .................... ............................. | 390,000 | ................. | ...... ...... ...... |
| do Escoumains do (California Salmon)........ ........ .... | 5,000 | ................. | .... ............ |
| Tutal..... ...... ..... .... ...... ................ | 1,185,000 | ...... .......... |  |

GASPÉ BASIN ESTABLISHMENT, QUEBEC.

| Dartmouth River, Quebec.............. ........ .... ...................... |  |  | 550,000! | ! ..................$\qquad$ | $\square$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| St. John | do | - | 313,000 |  |  |
| Malbay | do |  | 108,000 |  | - |
| Pabos | do | ................... ........ ............. ......... | 80,000 | ................ | ................. |
|  |  | Total ...... .................. . ...... .......... | 1,051,000 | ................. | ................. |

RESTIGOUCHE ESTABLISHMENT, QUEBEC.


## RECAPITULATION.



The following number of vivified eggs were deposited in the hatchingrtroughs at the above named establishments in the fall of 1877:-

| Establishments. | Salmon. | Sea and Brook Trout | Whitefish. | Salmon Trout. |
| :---: | :---: | :---: | :---: | :---: |
|  | 750,000 $\cdots \ldots \ldots$ 40,000 | 50,000 | 1,000,000 | ....1, $1,300,000$ |
| Sandwick do........... ................................. |  |  | 30,000,000 | ................ |
| Gaspé, Quebec ..... ..... .............. ...................... | 750,000 | ................. | ................. |  |
| Tadousac, Quebec........... ............................... | 1,500,000 | 100,000 | ................. |  |
| Restigouche, Quehec.................................... .. | 1,200,000 |  |  | ........... |
| Bedford, N.S.............................. ................. ... | 1,400,000 | ........ .. ...... |  | ...... .... |
| Miramicki, N.B.............. . .................... ........ | 710,000 |  |  | ...... .......... |
| Total...... ........ ...... ................ | 6,350,000 | 150,000 | 31,000,000 | 1,300,000 |

Making a grand total of $38,800,000$ fish ova now in these establisnmerts, which will be hatched during the spring of 1878 , and be ready for diatribution during the month of June next.

## EXTENSION OF FISII HATCHING.

Enlarged experience in the cultiration of fish serves to convince us that the time has arrived to substiate in great part artificial methods of reproduction for the natural conditions. There can be no longer any doubt of the material advantages of this prolific system. An extensive scheme of fish culture should now be applied throughont the Deminion. The process is simple, the operations speedy, and the results certain. In these respects the artificial and natural courses are widely different. The latter, under prevailing circumstances, is slow and uncertain. Every attempt therefore to raise inland fisheries to a highly productive state must necessarily be attended with more or less of disappointment. It is impossible to conccal the fact that these attempts involve numerous difficulties of an almost insurmountable nature. The difficulty of dealing with the pressing neccesitics of our fishing communitics; the impossibility of restoring our breeding streams in settled districts to their normal capacity; climatic obstacles, and particularly the peculiar circumstances of our manufacturing industries; all these present hindrances to improvement which are most formidable, if not indced practically insuperable. The substitution of a powerful reproductive system would, in some measure, obviate the necessity for enforcing many of the obligations on fishermen and manufacturers which are considered burdensome and unpopular. If this change can be successfully worked, the probable and early effect will be to greatly increase fish food in our markets, and afford livelier occupation to fishermen. Such benefits would be more appreciable when unaccompanied by most of the drawbacks which attend the present restrictions on the precarious calling of fishermen necessarily imposed by the fishery laws.

## OBJECTIONABLE MODES OF FISHING.

The mocles of fishing most objectionable amongst the fishermen, and not provided against by our fishery laws, are purse scines and trawls. Their use has bcen petitioned against fiom several nea coast districts. It is not desirable to interfere with either until further enquiries and more particular observations can be made.

## SHELL FISH FISHERY.

There is an urgent necessity tor attending more strictly to the preservation of the lobster fishery and rentoration of the oyster fishery.

## BRITISH COLUMBIA AND MANITOBA.

Fishery regulations for these Provinces ought to be adopted before next season commences. There should bo as few restrictions applied as possible, and only such parts of the fishery laws enforced as the urgency of the case requires.

## SAWDUST AND MILL RUBBISH.

Remarks made in last year's report are equally applicable at present. Mr. Mather's report on the Ottawa mills, published herewith, explains what was done respecting these establishments. The principal recommendations made have since been carried out. Although this examination applies especially to manufactories in the vicinity of Ottawa, it affects similar cases in other sections of the Dominion. Where like conditions exist it is desirable to adopt the same suggestions.

## FISHERIES STAFF.

Although the outside staff of fishery officers has been considerably enlarged in the course of last year, it is necessary to provide Overseers and Wardens in several other places where the importance of protecting fish hiss become bettor known. The inside staff, though very efficient, is insufficient for the largely increasing duties which devolve on the Fisheries Branch of your Department.

I have the honour to be, Sir, Your obediont servant, W. F. WHITCHER, Commissioner of Fisheries.

## LIST OF APPENDICES.

No. 1.-FISHERY OFFICERS' REPORTS.
No. 2.-FISH-BREEDING.
No. 3.-REPORI ON SAWDUST AND MILL OFFALS.

# APPENDIX No. 1 <br> то тнL 

REPORT of the COMMISSIONER of FISHERIES.

## REPORTS

# FISHERY OFFICERS 

IN THE

DOMINION OF CANADA,

1877. 

Printed by ordex of Pertiament.


OTTAWA:
printed by maclean, loger \& Co., Wellington street. 1878.

## [ N DEX

TO THE

## REP0RTS 0F FISHERY 0FFICERS

## IN THE DOMINION OF CANADA.

For the Year 1877.Appendix No. 1-Report of N. Livoie, Eeg., Fishery Officer, in chargeof the Government stewner employed in the protec-tion of the Fisheries in the (iulf and Lower St. Law-rence, with statistics of iisheries.1- 99

No. 2-Detailed Statistics of Fisheries on the South Shore, from Quebec to Cape Chatte ..... 100-103" No. 5-General Recapitulation of the Yield and Value of theFisheries in the Province of Quebec111
" No. 6-Synopis of Fishery Overseer:' Reports in the Province oi Quebec ..... 112-132
""* No. 9-Report of W. H. Rogers, Fishery Officer, on the Fish-ways and Fisheries of Nova Scotia$154-159$
" No. 10-Statistics of Fisheries in Nova Scotia. ..... 1;0-207
" No. 11-Repor't of W. H. Venning, Esq., Inspector of Fîsherie,for New Brunsw:ck20 )-2ロー 6
" No. 12-Statistics of Fisheries in New Brunswick ..... 22 -240
" No. 13-Synopsis of Fishery Overseers' Reports in Prince Edwand Inland ..... $241-245$
Appendix No. 14-Statistics of Fisheries in Prince Edward Island ..... 246-252
" No. 15-Detailed Statistics of Fisheries in Ontario. ..... 254-272
" No. 16-Synopsis of Fishery Orerseers' Reports in the Pro- vince of Ontario ..... 273-286
No. 17-Report of Alex. C. Anderson, E×c., Inspector ofFisheries for the Province of $\mathrm{B}_{1}$ itish Columbia . . . . $287-305$
No. 18-Statistics of Firheries in British Columbia ..... 306-307
No. 19-Repor't of D. Gunn, Esq., on the Fishe:ies of Manitoba ..... 209-310
No. 20—Statistics of Fisheries in Manitoba ..... 311-312
" No. 21—Schedule of Fishery Officers in the Dominion of Canada. " No. 22-Statement of Expenditure on account of Fisheries for the Fiscal Year ending 30th June, 1877.

No. 1.
REPORT GN THE CRELSE OE TLE GOVEINYYENT STEAMER "LAV HEAD," IN THE PROTELTION OF THE RASHERIES OF THE GULF AND RIVER ST. LAWRENCE, DURING THE SEASON OF 1sit, CNDER COMMAND OF NAPOLEON LAYOIE, Eqq, FISHERY OFFICER.

Lilslet, 31st December, 1877.
To the Honourable A. J. Smith. Minister of Marine and Fisheries, Ottawa.
Sir,-I have the honmur to transmit herewith my Ninth Annual Jeport on the result of the cruise of the Steamship "Lady Hear" in the waters of the Gulf and Lower St. Lawrence, for the past season.
date of the departure of the fisheries protection steaner fron quebec.
The necessary repairs being completed, we left Quebec on the 15th May, but having met with a strong breaze of easterly wind, accompanied by for and rain, we were compelled to lay over for two clays and two nights at Brandy Pots. This unavoidable delay enabled us to fix everything on board, which could not be done in the hurry of departure.

On the 19th, the fog having cleared, we steamed out, and about the cvening anchored at Trinity Bay, where we landed the Local Fishery Guarlian. Having gone ashore and ascertained how things stood in this locality we heaver anchor, and on the morning of the 21 st reached Magdalen Islands, the first object of our destination.

Oar cruise lasted a little over five months and a half. During that period we visited Magdalen Islands three times, Anticosti three times, the coast of Labrador once; the north shore, from Kegashka to Point des Monts, three times; Bay des Chaleurs four times, and the sbores of Gaspe tbree times. Besides these official visits, our vessel was engaged for a period of about five weeks in the performance of duties connected with the Fisheries Commission then sitting at Halifax.

I need not repeat what I have already said in my last annual report respecting the employment of a suitable vessel in the Fishories protection serrice. The advantages of a steamer over a sailing vessel are so apparent that I merely allude to the matter in order to have an occasion to again thank you on behalf of the Gulf and Lower St. Lawience population for this mark of attention on the part of the Government.

## GENERAL REMARKN ON THE GUlF FISIIERIES DURING THE SEASON OF $187 \pi$.

## COD FISHERY.

Although the arrival of cod was somewhat delayed in the spring, the fish came in abundance; but had it not been for a successful catch during the summer, our fishermen would fare very poorly. In 1876, fall fishing was carried on from August until November, whilst this season it amounted to almost nothing during the same period. The total catch is, however, superior to that of last fear. In 1876, the Gulf divisions under my charge yielded 222,096 quintals, including the fish caught by about one hundred foreign vessels. This season, the total catch amounts to $186, \geq 22$ quintals, without reckoning the catch of one hundred and fifty foreign schooners, which, being rated at five hundred quintals per veasel would give 75,000 quintals more. With respect to the ralue, it must be borne in mind that the price of cod fell at least one-fourth this season.
$1-e 1 \frac{1}{2}$

## SALMON fISHERY.

Salmon lishing wangoud the catch being even greater than that of hast year-
 caught by angke. Pickled tiol sold at about the same price as last vear. Init fresh salmon wa- rated at a lighere figure.

## Mackerel folshery.

Mackerel fishing is principally carried on at Magdalen Islands and Gaspé Bay. Although the catch at the former place may be somewhat below that of last season, fishermen agree in stating that the fish were more abundant than usual, and more gencrally scattered over the frulf shores; the catch amounting to $5,333 \frac{1}{2}$ barrels against 4,975 in 1876. On the eoasts of Labrador, Gaspe and Anticosti, it amounted to 410 barrels, when only six barrels were caught last year. The fish solel at prices ranging from $\$ 10$ to $\$ 14$.

HALIBLT FISHERY.
As our fishermen do not carry on this pursuit in a regular and practical manner, the yield cannot be expected to be very large. The eatch amounted to $297 \frac{1}{9}$ barrels this season, against 183 in 1876 . Two-thirds of the fish were canght in the neighborhood of the Island of Anticosti.

MERRING FISHERT.
Circumstances proved very unfavorable this spring for the successful carrying on of herring fishery at Magdalen Islands; the result being a falling off of over onethird. The same thing occurred on the north shore, where the weather also kept stormy. I was, however, informed that at Washeecootai, early in the spring, about twenty schooners secured full cargoes of fish. We have no reliable statistics from this part of the const, the local Fishery Overseer finding it impossible to be there so early in the season. Foreign ressels took 14,400 barrels of fish at Fox Bay.

The total catch amounts to 63,229 barrels, against 96,601 in 1876 .

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SEAL FISIING AND LICNTIN:
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Although fishing with nets was highly successful, soal hanting on the ice by schoonors was so poor that the total yield amounts to only 13,097 veats, against 24,369 killed in 155 , and $9,61 \%$ in 1576 .

WHALE FISHERY.
Our whalers having unfortunately failed to visit the favoured grounds this seanou, the whale tivery yiedded only $1 ;, 716$ gallons of oil, against 9,618 last year.

## LOBSTER FISHERY.

It will be sufticient to state here that $450, \mathrm{~d} 69$ pounds of lousters were put in cans this season, against 245,335 pounds last year, in order to enable you to understand the immense development of this indusiry, and the dangers to he guarded against for the future.

Taken as a whole, this season's fishing may be called good, at least so far as applies to the rield. With regard to the value, the results are not quite so satisfactory when compared with the quantity of fish caught.

The fullowing table will show at a glance the increase and decrease in the yield and value of cach particular firhery. For more ample details the statistics published at the end of each division may be consulted.

Comparative statement of the value of the eeveral finheries in the Gazpe, Bonaventure, Labrador, Magdalen Islands atorl Antionti [sland Divicions, during the years 1876 and $187 \%$.


## IMPORTINCE OF QUEBEC FISHERILS.

I make it my special duty on every possible occasion to draw the attention of the public to the importance of the Quebec fisheries.

The Gulf covers an immense area ; its waters, as well as those of tho shores and estuaries, are crowded with cod, herring, mackerel, salmon, lobsters aurl halibut; whilst seal and whale-hunting engage the attention of a large number of hardy seamen. The wealth of our gulf and river was known long before the discovery of Canada by Jaeques Cartier, in 1535, and seamen hailing from Biscay and LaRochelle used to repair to the coasts of Labrador and Newfonnclland for the purpose of codtishing. This great source of fortune did not fail to attract public notice. French and English weresoon engaged in quarrels about it postersion; the end of which was tbat each nation saccoeded in securing a share, and numerous foreign fleets now
repair every rear to our waters; their cargoes being sent to European and South American markets. The increasel aecommodation in shipping, as well as the construction of the Intercolonial Railway, have placed the products of our Gulf fisheries within the reach ot everyone.

We must not. thus far, rest satisnied with the progress made and be under the impression that the acquirel advantages are sufficient. In connection with this inatter, I shall take the liberty to make a suggestion, and to recommenil to our shiphuilders the advisability of fitting cout vessels provided with refrigerators, by means of which salmon, trout, Jobsters and rysters, may be shipped fiesh to European iearkets and reach them in all their natiral delicacy and flavour. A French company was lately starterl with this end in riew. They own a steamship called "Le Frigoritique," which carries fresh meat from the shores of La Plata to Rouen, in France. Complete success appears, so far, to have crowned this venture. Why could we not do the same with our nalmon, halibut, trout, lobsters, aysters, \&e., \&c.? At any rate, the experiment is worth thying, and this is why I take the liberty to bring it under the notice of shipbuilders and capitalist.

## (iASPÉ ANI BONAVENTURE DIVISION.

Having already, in previous reporls, drawn the attention of jour Department to the wealth and abundance of our decp sea and inshore fisheries, 1 need not repeat these remarks here.

The Division of Gante and Bomaventure covers an extent of coast of tro hundred and twenty-four miles. It was frequented in the remotest times by the people who tirst settled in our colony. It is mnecessary to allude here to the hardships and aifficulties which these intrepid pioneers must have experienced at the outset. Remoteness from the civilized world ; long winters; internal dissensions; want of auccor, when needed; attack lof filibunteers and pirates, were some of the difficulties which they had to overcome. But what did all this matter to them? Their mission ras to open these countrie to faith and cirilization, and boldy and learlessly they pushed on their way, in order to acomplish tho work which Proriden e had assigned to them. Their labours were fruitful. Rich harvests, magnificent furms, colonization roads and telegraph line sprung up as by enchantment where nothing but wolitude existed at first ; mol let us hope that a railway line stirting the coasta of Bay des Chaleurs will soon onable this regign wecome one of the richest and most productive in our Dominion.

In the midst of these improvements which, it will be readily understood, were mowly realized, owing to jeculiar reasons, commeree also progressed rapidly, the tish trade, especially, which is pursued on a large scale through the whole of that casist. Amongst the most recent additions made in that branch of business, is the opening of salmon and lobster canneries, for the carrying on of which this coast ofters special inducements.

Although eol fishong, which is the industry upon which inhabitants of this Divinion mostly rely upon fir a living, wats more successfuI than last year, yielding vary satisfactory resulta ; fishermen were evidently not in such desirable circamstances this fall as in 1576 . This i.y due to a decline in the price of fish, as well as to a failure in the fall fishery, which is the means upon which fishermen mostly rely upon for their winter supplits.

The most successful portion of this Division was from Gaspe to Restigouche. It must, however, be borne in mind that on that part of tho coast of Gaspe the catch of salmon, which was unprecedently successful, must be added to the yield of the cod fishery. The canning establishments also help to improve the position of the inhabitants, by causing a circulation of money among them. The prices of all fish, other than herring and cod, will always be good on that part of the coast, owing to re:idy markets, easy communications and increased competition.

When speaking of each fishery in particular, I shall enter into mure detailed statements.

## COD FISHERY.

The Gulf of St. Lawrence is at various period; of the year frequented, in greater or lesser numbers, by varioun specimens of fish and different kinds of amphibious animals. This fact greatly adds to its natural woalth. and causos an increase of floating population towards its shores during the time when fivhing pursuits aro carried on. It is in accordance with this rule, I presume, that reals and whales are mot with when herring and mackered frequent other parts of the coast; but a period arrivos when the fish either disappear or retire. Such, bowever, is not the case with cod. It can be found in the waters of the Gulf during the whole yearround ; thus giving employment to a large numbor of the tishing population of this divison.

The great extent of the Canadian fishing grounds, and above all, their inexhaustible wealth, are not sufficiently apprcciated by our own people; men of education who visit the coast of Gaspe for the first time, cannot sufficiently express their wonder at seeing such abundance, and are compelled to own that its shores might afford a comfortable living to thousands of adrenturers who would find thero sources of wealth more accessible than the gold minos of California, and secure more prosperity than couldafford wages paid fir working in unhealthy manufactories of the United States.

No less than $6,7 \geq 9$ men and sailors were engaged this season in fishing for cod, without taking into account about as many people employed ashore in the preparation of fish. The catch amounted to 110.494 quintals, to which must be :udded the fish used for local consumption. The yield in 1876 amounted to 99,626 quintals.

Cod fishing in this division is practised along shore and on the banks, situated at distances varying from two to three miles from shore. Fisherinen, fiom Cape Cove to Newport boldly repair to the Green, Orphan and Miscou banks, whist those of Bonaventure Island and Percé, also undertake dingerous voyages, which seldom prove unsuccessful, should fair wind allow them to crose over in their hail boats.

Hardly any season passes without our having to doplore the loss of some lives. Several fishermen were again wrecked this season; a stearner having, in one iustance, run over a boat, and in others the men were carried to sea by strest of weather. How numerous are the tales of sorrow and hardships related during the long winternighte, and how painful the record of wrenks and losses of life which bring distress rud aftliction amongst such a large number of families in a village!

Gaspe fishermen now undersiand the advantagos to be derived firom having vessels of a larger tonnage which would enable them to go out on the banks, and carry on fishing in the same manner as is done by fishermen from the States, Fiance and the Maritime Provinces; but want of capital has thas far prevented them from doing so ; and the system of trade pursued on the coast is not such av t., encourage the development of an industry which might onable fishermen to choose their own market and give them greater independence. I do not, however, lespant of seeing some cay an arrangement of this kind inaugurated on our coasts, when fishermen will club together for the purpose of establishing tishing and buidding societies, and thus become as independent as their neighbours.

I mentioned in my report of last year that Newfoundland tishormen bal for a long tume given up bank-tishing to engage wholly in shote-tishing; but col being sometimes scarce on the shores of that Island, as well as on those of Gaspe, owing either to their being over-fished or not finding their usual food, the people soon understood that their best interests consisted in titting out vessels for the bank tishery where cod never fails by reason of its alwafs finding there an abundance of fiod. The first ventures cannot certainly be called a perfect succoss, but preparations are being made on a larger scale this season, and proper vessels will be built.

I need not say any thingfurther on this point, but simply remark that, whatever chuses may influence the migration of cod, thousands of physical reiruns nueli in the temperature of the water, winds, currents, tides and rain may also have something
to do with the motions of the fish, and either basten or delay their appearance on our whoros. Thus does it happen that sometimes they will strike at Gaspe as early as May, whilat at other seasons their arrival is delayed until the month of June. Cod-fishing usually begine in May. Still, for two neasons past, no fish were caught before Juve; although capelin and herring arrived at their proper time. This fact might be adduced as a proof that the migration of cod from deep water towards the fishing grounds is not influenced simply by the motions of food fishes, but that the above mentioned causes may possibly have something to do with their migrations. The cold temperature of the water undoubtedly delayed the arrival of cod during the past two seasons; the ice having remained till the end of May on the shores of Gaspé and Bay des Chalcurs. On the coast of Labrador, which were free from ice in March, tish struek one month carlier thar usual.

Cod formerly used to ascend as high as Rimonski, in the River St. Lawrence and Magnasha, in the Bay des Chaleurs. I have, however, nome reason to apprehend that the inconsiderate destruction of small fish upon which they used to feed and which are employed as bait, may have been the principal canse of their abandoning the localities. Similar remults are being experienced on the shores of the United Stater, and at several places on the coast of the Maritime Provinces. A few fish may le caught now and then at Matane, and they are very seldom found higher up than Carleton.

Although the arrival of col was somewhat delayed this spring, the catch was far from being a bad one. Fixhermen had hardly been ahle to doanything last year, until the month of August; this season, however, the tish struck so early and in such abundance from Capo Chatte to Bonaventure that summer fishing was highly successful, especially from Grand Gréve to Paspebiac. The total yield is not, however, rery large. Had fall tishiog been equally good as in 1876 , the result would have been ditlerent; but bait either entirely failed towards the latter part of July or else becamw so searce that it could be procured only with great diticulty. Between Cape Rosier and Mont Louis, boats remained illo during whole weeks, being unable to go out, and when fall arrived they wore prevented from fishing by stormy weather, although fish were quite abundant on the grounds.

It is when bait becomos acares that one can better appreciate the lasting injury done to inshore mackerel fishery hy United States tishermen. When capelin anil herring had left the shore about the latter end of July, and before squid had arrived, our fishermen formerly relied on mackerel which is an excellent bait for cod at this, period of the year. Boats would leave their moorings without any bait on board, relying upon a sufficient catch before reaching the fishing grounds, so as to secure a grod day's fishing in a short time, and a sufficient quantity of mackerol besides for family use, and even for sale. These timos are unfortunately now gone, and one ca. hardly over estimate the injury thereby occasioned to our people when it is borne in mind that as many as from fifteen to eighteen hundred boats were compelled to lie idle during three ir four weeks of the best fishing time for want of that indispensable article, bait.

The localities where codtish struck in greater abundance were at Gaspé, Bomaventure Island, New Richmond and Port Daniel. Some of the boats canght as many as 2:5 drafts; the average catch being 100 drafts per boat. Fishermen on this part of the (riarpe Division usually repair to the Miscou Banks where fish were usually abundant this senson; inshore fishing was, however, good, and in no way inferior to bank fishing. From Anse au Gris Fond to Cape Chatte there are no banks to be met with as at Miscon. The currents are, moreover, so strong and the weather generally on stormy that fishing can hardly at times becarried on; thesummer catch was howevor good. It was onpucially so at Grand Etang. Bait also fails oftener on that part of the coast than eleewhere, and I am afiraid the people of these localities have nobody else to hlame but themselves for this state of things. They mostly all follow farming as well as tishing, and in order to improve their lands, use small fish for manure; this easily explains the reason why difficulty is sometimes experienced in procuring sutticient bait for codtishing. At Ste. Anne des Monte, especially, where
small fish have been destroyed by thousands of barrels, no bait could be found; and tishermen had to crose over to the other side, a distance of some fifty miles, to procure clams which thus became a very expensive article. With the exception of a few small trout nsed for that purpose, all the fishing done at Ste Anne des Monts and Cape Chatte was doue with clams.

The statistices annexed to this report show that the catch cod in this division amounted to $110,49+$ quintals more than in 1876, without reckoning fish used for home consumption. Fisherinen are, however, in poorer circumstances than last season, especially those who depend entirely upon tishing for a living. The fish realized only from three dollars to three dollary and a half, although later in the fall, prices went up to four dollars for choice lots.

Every one is aware of the fact that the summer catuh is always due beforeband to merchants, for goods and provisions; there remains, therefore, only the fall fishing to procure winter supplius. When this pursuit faile, as it did last season, owing to stormy weather or other causes, one can readily imagine the state of dismay in which people are placed. Joud cumplaints were therefore hearl trom fishermen who have nothing elso to depend upon but their fishing, especially among those residing between Cape Rosiers and Mont Louis.

The Gaspe fish is sent to foreign countries; to Italy when number one, and to the Western Islands and Brazil when of inferior quality. For a long time this fish, as well as that caught on the coast of Labrador, were the only kinds which fetched remunerative prices on the alwye markets; but I understand that Norway is now making a irisk competition to Canadian codfish.

Codfishing is practised on the colst of Gaspe by meall of hand-lines and bultows. There ir a good deal of outcry agairst the latter mode of fishing, and I am yearly besciged with complaints from fishermen urging that the dectease in their catch or the disappearance of the tish is due to these engias, by reason of their destroying the mother fish. These very people, however, who cry loudly against bultow fishing are engaged in pratices which I consider far more injurious. Take for instanco the destruction of bait or amali fish which are indiseriminately ased for the purpose of munuring lands, and which are destroved by thousands of barrels. At Ste. Anne des Monts alone, no loss than 24,016 barrels of capelin were used for this parpose during 1876 and 1877. If, as the thines is self-evident, fish are local in their habits, and always return, when not otherwist impeded, to their birth places, is it to be wondered that they will cease visiting certais localities where their usual food has been destroyed? Neither e n people bo made to understand the injurious effect of another practice which they follow; that of throwing the offals of fish along shore. They pay no attention whatever to the matter, although I am sure that the formation of deleterious gases resulting from decayed matter, must necessarily drive fish away from their furmer favourite haunts.

The fishery statistics, published every year, fail to show any appreciable decrease in the number of cod frequenting the waters of the Gulf; and no one can claim that fish of three or four years' growth cannot reproduce as well as larger ones. Were it alleged that bultors injure fishing with hook and line when both parsuits are carried on side by side, or upon the same grounds, I would readily believe it; the fish being possibly attracted by bait laid at a few inches from the bottom, would remain there and decline to look at hand lines. 'But, as both these modes of fishing are distinct, I cannot understand how one can possibly interfere with the other. Seine ishing, I should say, ought to have proved far more injurious, were not cod still most abundant on the coast of Labrador and in localities where these engines have been in use for huadreds of years.

Gaspé Basin and Paspebiac are the great fish emporiums of the coast of Gaspé. Besides these adrantages as sea ports, 1 hey also prove very attractive to pleasure seekers and invalids in search of health. Gaspe formorly enjoyed the advantage of a flourishing lamber trade, which brought abundance and activity to its door, but a succession of bad years has ruined this business. The increase in the fish trade is, however, held is a sort of compensation. Thirty vessels took cargoes of fish thin
season at the former place, consisting of 16,002 quintals of dry codfisb, and 30,628 tubs for the $W$ est Indies. A tub is reckoned as weighing one quintal and a fourth of dry cod, but of inferior quality. Paspebiac exhibits the following return: 33 vessels with cargoes of 65,221 quintals of cod; 2,357 quintals of haddock; 25 barrels of green codfish; 394 barrels of cod roes; 5,875 barrels of cod sounds; 30,862 gallons of oil, and 1,106 barrels of cod tongues-all sent to foreign markets.

Returs of Vessels engaged in the lish Trado which took Cargoos at Gaspé in $1877^{\circ}$

PORT OF GASPE.


Rettrn of Vessels ongaged in the Fish Trade which took Cargoes, dr.- (ominurd.

PORT OF PFRCÉ.


## OUT OF THL: DOMINION.

Retcra of all Ships and Fejsels that have Clearod Outwards with Fish only, Scasum 1877.

PORT OF NEW OARLISLE.


| do | 9. | Seaflower ........ ... ......... | 372 | 13 | Jersey .....4.................... | 3,835 |  |  | 97 | 324 | .......s. | 8,875 | 29,952 | 1,106 | 8 | $\underline{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| do |  | Firno.......... ......... ......... | 126 | 8 | Rio J8neiro.................... | 2,242 |  |  |  |  | ........ |  |  |  |  |  |
| do | 12..... | Adelina .............. ......... | 98 | 6 | Barbadoes ..... .... ......... | 1,308 |  |  |  |  |  |  |  |  |  |  |
| do | 12..... | M. Georgiana................ | 96 | 6 | Viana ................. ......... | 2,303 |  |  |  |  |  |  |  |  |  |  |
| do | 16..... | G. D. S.... ...... ...... ..... | 118 | 7 | Jersey ............................... | 2,136 | . |  |  |  |  |  |  |  |  | ............ |
| do | 16..... | Hebe | 236 | 9 | do. | 90 |  |  | 160 |  |  |  | 640 |  |  |  |
|  |  | Tutal, 33 Vessels..... | 5,572 | 285 |  | 65,221 | 2,357 | 493 | 257 | 324 | 692 | 5,875 | 30,862 | 1,116 | 8 | 2 |

PORT OF NEW OARLISLE.

|  |  | Names of Ships. | Tons. | Men. | From whence. |  | Cod Oil, in gallons. |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 7. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| May | 12.... | Ranger............ ........... ..... | 137 | 8 | Percé ...... ................. | 330 |  |  |  |  |  |  |  |  | ........! |
| do | 19.... | Century..................... ...... | 181 | 9 | Arichat ................. ........ | 1,152 | ........... |  |  |  |  |  | ...... |  | . |
| June |  | Swallow .......................... | 34 | 3 | do ........................ | 477 |  |  | ........ |  | . |  |  |  |  |
| do | 2.. | Dit-0n............. ................. | 78 | 5 | Percé ......................... | 259 |  |  |  |  |  |  |  |  | ........ |
| do | 11. | Веaver ............................. | 15 | 3 | Caraquet ............... ....... | 450 |  |  |  |  | ....... | ........ |  |  |  |
| do | 12.... | Epopt .............................. | 12 | 3 | do ....................... | 150 | .... | ........ | ......... | ........ | - |  |  |  |  |
| do | 13... | Replevin ....... .................. | 5 | 2 | do ........................ | 100 | ..... ...... | .. | ........ |  | ........ |  |  |  | ..... |
| do | 27.... | Replevin .................. ....... | 5 | 2 | do ........................ | 130 |  |  |  | ..... | ....... |  | ...... |  |  |
| July | 2.... | Homely .......... .... ...... ..... | 227 | 10 | Arichat ......................... | 976 | ..... ..... | 370 | 50 |  | ..... ... |  |  |  |  |
| do | 9.... | North Star ............ .......... | 16 | 3 | Caraquet...................... | ¢060 |  |  |  |  |  |  |  |  |  |
| do | 11.... | Star of the Sea | 59 | 3 |  | 786 | ... | …... | -....... |  | .... |  |  |  |  |
| do | 23.... | Geo. Pebody .................... | 63 | 5 | Cheticamp ................ .... | 775 | ......... |  |  | .... ... | . | ........ | ... | ........ |  |
| do | 31.... | Epopt............................. | 12 | 3 | Caraquet |  | 80 |  |  |  |  |  |  |  |  |
| Aug. | 4.... | Geo.j3Pebody..................... | $\begin{array}{r}63 \\ 118 \\ \hline\end{array}$ | 5 | Cheticamp..... ............ ... | 800 974 | ........... | ......... |  |  |  |  |  |  | ........ 1 |
| do | $9 . .$. | G. D. T...... ..................... | 118 | 7 | Magpie, N. Shore....... . .... | 974 | ........... |  |  |  |  | ....... |  | ........ | ........ 1 |
| do | 9.... | Hare ........... | 23 | 5 | Caraquet........................ | 100 | .......... |  | ........ |  |  | ........ |  | ... .... | ....... |
| do | 21.... | Geo. Pebody........... ........... | 63 | 6 | Cheticamp .....................! | 802 |  |  |  | ........ |  |  |  |  |  |
| do | 21.... | Dit-on...................... ........ | 78 | 6 | Arichat ....................... . | 542 |  | 20 |  |  |  |  |  |  |  |
| Sept. | 3.... | Hematope ........... ............. | 76 | 6 |  | $\begin{array}{r} 35 \\ 915 \end{array}$ | ……...... |  | .......... | ..... | ... .... |  |  |  |  |
| do | 3..... | Diton ... . . . . . . . . . . . . . . . . . . . <br> Adelina | 78 91 | 7 | Caraquet $\qquad$ <br> Perce | 915 900 | ........... | . | .......... |  |  |  |  |  |  |
| do | 7..... |  | $\begin{array}{r}91 \\ 150 \\ \hline\end{array}$ | 9 |  | 705 | . |  |  |  |  |  |  |  |  |
| do | 17..... | Hematope ............................. | 76 | 6 | Caraquet........................ | 1,719 |  |  |  |  |  |  |  |  |  |
| do | 21.... | Replevin .................. ....... | 5 | 2 | do .................. .... | ........ |  |  |  |  | 33 | ......... |  |  | .... ... |
| do | 21..... | Providence........................ | 48 | 4 | do ...... .................. | ......... | 4,339 |  | ........ |  | ...... . | .... |  | ..... |  |
| do | 28.... | Adelina........... ......... ........ | 91 | 4 | Magpie ........................ 1 | 1,361 | 2,105 |  | , |  |  |  |  |  | ...... |
| do | 23.... | Firm. | 126 | 6 | Green Island ............ ..... | 512 | ......... |  |  |  |  | …… |  |  |  |
| do | 28..... | Replevin........................... | 5 | 2 | Caraquet ...... ................. |  | ...... |  |  |  | 15 | ......... |  |  |  |
| do | 29..... | Replevid ............ ............. | 5 9 | 2 |  | 148 5 |  |  |  |  | ......... | $\stackrel{7}{7}$ |  | ....... | ....... |


| do |  | 15 | 3 | do ............ ............ | 571 | ........ |  |  |  | 3 | ..... |  | 1 | $\ldots$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| do | 20..... Fly .......... ....... ............. | 9 | 2 | do .......................... | 125 | ...... |  |  |  |  | ..... | 5 |  | .. |
| do | 20.... Epopt ...... ........................ | 15 | 3 | do .......................... | 176 |  |  |  |  | 5 |  |  |  |  |
| do | 24..... Epopt ............................ .. | 15 | 3 | do .................... $\cdot$. | 160 |  |  |  |  |  | …...... | ........ |  |  |
| do | 26.... Epopt................................ | 15 | 3 | do .......................... | 1721 | 377 |  |  |  |  |  |  |  |  |
| do | 31.... Adelina..... ............. ...... | 91 | 6 | Green Island ..................... | …' | 688 | ......... |  |  | 11 | 1 |  | 76 | 71 |
| Nov. | 2..... Eppopt .................................. | -15 | 3 | Caraquet ............................ | 190 | 400 |  |  |  |  |  | 35 | .... ... |  |
| do |  | 15 | 3 | do $\qquad$ |  |  |  |  |  |  |  |  |  | .........\| |
| do | 10..... Hebe | 236 | 9 | Percé ........ ........... ........ | 7 ! | 2,750 |  |  |  |  |  |  |  |  |
| do | 13..... Epopt $\qquad$ | 15 | 3 | Caraquet..... .... ........... |  |  |  |  |  |  |  | 23 |  |  |
|  | Total 40 vessels.. ....... | 2,390 | 177 |  | 16,014 | 10,739 | 390 | 50 | 9 | 74 | 8 | 68 | 76 | 71 $\qquad$ |

Recurn of all Ship and Viestels that have cleared Ontwards, coastway, with Fish unly, Season of 1877.

| PORT OF NEW CARLISLE. |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Date } \\ \text { of } \\ \text { Report. } \end{gathered}$ | $\begin{gathered} \text { Name } \\ \text { of } \\ \text { Vessels. } \end{gathered}$ | Tons. | Men. | To Where. | 垵 <br> .․ㅡㅁ <br>  |  |  |  |  |  |
| 1877. |  |  |  |  |  |  |  |  |  |  |
| June 23...... | Wallace | 5 | 2 | Dalhousie.......... |  |  |  | 288 |  |  |
| do 28...... | A. W. C .............. | 60 | 5 | Quebec............. | ... | ........ | ......... | .. | 980 | ... |
| July 3...... | Mary................... | 19 | 2 | Pictou.............. | ........ | ........ | ......... | ......... | ,...... | i; |
| do 21..... | Mary.. ................ | 19 | 2 | do ............. | ........ |  | ....... | ........ | -... | 1 |
| do 21...... | Ripple................. | 22 | 2 | do ............. | - |  | ...... |  | ....... | 2 |
| do $29 . .$. | Guide ................. | 60 | 5 | P. E. Island ...... |  | 120 | ......... |  |  | - |
| Aug. 13...... | Wallace ............... | 5 | 2 | Dalhousie. | .... |  |  |  | 1,284 | ...... |
| Sept. 17...... | Mary .................. | 19 | 2 | Pictou.............. |  | 200 |  |  |  | . |
| do 17..... | Ripple................ | 22 | 2 | do ............ |  | 200 |  |  | ..... | ...... |
| $\begin{array}{cc}\text { Oct. } & 4 . . . . \\ \text { do } & 20 . . .\end{array}$ | Louise... ........ .. ... | 16 | 3 5 | Dalhousie.......... | 600 | .......... |  | 620 | ........ | $\ldots$ |
|  | Comalo. ., ............ | 95 | 5 | Quebec....... ..... | 600 | ........ | 520 |  | -... | ..... |
|  | Total 11 Vessels. | 342 | 32 |  | 600 | 520 | 520 | 908 | 2,264 | 4 |

Retbrs of all Ships and Vessels that have entered Inwards, with Fish only, Season of 1877.

PAORTOF NEW CARLISLE.


Return showing the Value of Ships and Tessels employed in the Fish Trade, in the County of Bonaventure, from Paspebiac Point to Maguasha Point, season of 187.


## Bait.

In order to be enabled to successfully carry on codfishing on our shores as well as everywhere else, one must necessarily be supplied with that indispensable article called bait. Professor Hind, whose statements are seldom challenged, alleges that bait enters for a seventh in the production of cod or halibut. When Americans carried on fishing on our shores bait was an exceedingly valuable article; but who will deny that the disappearanco of cod and halibut from several places on our littoral is not due to an indiscriminate destruction of this article of absolute necessity? In Newfoundland, for instance, since United States schooners resumed bank fishing, the trade in capelin and herring has taken such proportions, that experienced fishorman hold strong apprehensions that a decrease in small fish may speedily follow; and I am, moreover, informed that people would hail with pleasure the enactment of prohibitory measures to prerent such injurious results.
('od is known to be an exceedingly voracious fish, which preys upon the young of its own species as well as upon crustaceans and other litcle animals frequenting the sea-board. The bait most commonly used in tho Gaspe Division is herring, capelin, mackerel, launce, squid, smelt, trout and clams. A sort of mussel known as bourgaud is also employed in certain localitics for the same purpose. It is canght in the same manner as lobeters.

The following statement shows what an enormous quantity of bait is used on the shores of the Gulf:-

| Capelin and Launce. | 148,316 barrels. |  |
| :---: | :---: | :---: |
| Herring | 9,127 |  |
| Smelts. | 309 | " |
| Clams | 2,533 | " |
| Squid. | 4,700 | " |

I have every reason to believe that these figures are under rated, it being impossible to procure correct returns this scason from schooners fishing on the north coast.

Along the eastern portion of the north coast codfishing is mostly carricd on with capelin and launce, whilst above that point, as high up as Seven lislands, clams are generally used; fishermen in these localities being unprovided with capelin as well as with launcoseinos. On the coast of Gaspe,from Bonavonture to Mont Louis, herring, ‘apelin, squid, smelts, trout and mackerel are used for bait; from Mont Louis above, clams taken from the north shore are mostly employed. Largequantities of this bait used formerly to bo lost in the transfer, but they can now be kept fresh for two months by being placed in bags immersed at low tide.

## Salmon Fishing.

Salmon fishing is the pursuit which, after codrishing, undoubtedly creates the greatest enthnsiasm amongst the population of the coast of Gaspè. Rich as well as poor, who are unprovided with a salmon fishing station, look with jealous eyes upon those who are so fortunate as to have one. Each day's catch appears to them to be a source of untold wealth, and they will movo beaven and earth to secure the privilege of setting $a$ stand alongside their neighbours. When one considers the splondid results obtained since the passing of our fishery regulations; the enormous increase of fish which immediately followed the appointment of active and intelligent Overseers, and the profits derived from the sale of salmon at remunorative prices, owing to the facilitios with which the fish can be sent fresh to the United States and Canadian markets; it is not to be wondered at that thcse who occupy salmon stands on the coasts of this division sbould realize considerable profits. They expect to do better still when our hatching houses are in full operation, and it will thus be easily understood how those who have no stands should do crerything they can to try and secure them.

It must have requirod hours and nights of labour and meditation to secure results which astonish fishermen themselves; but now that the intelligence displayed in these arrangements, and the advantages derived therefrom are apparent to all, every one is satistied. The usefulness of protection is fully understood, and slight violations of the law are seldom reported in such a large and important division.

Although the yiold of salmon was not much largor than that of last scason, parties who visited the rivers of this division stato that they seldom noticed them so well stocked with breeding fish. It will easily be understood how the success of salmon fishing as well as that of other fisbing pursuits does not altogether depend on the larger or smaller number of fish frequenting the coast or entering the rivers, but also upon certain physical causes which make fishing an easy or a difficult operation. For instance, should the fish enter a stream by thousands and nets cannot be maintained in position owing to the ice, freshets, drift timber or other causea, it will at once be apparent that the catch must be influenced thereby. This explains why it was not larger this season. In sheltered localities, salmon tishing was very good, and indeed better than that of last year, but in exposed places where storms are felt, such as on the coast of Gaspé, from Cape Chatte to Cape Losiers, and from New Richmond to Maguasha, a slight decrease is noticeable.

Salmon again appeared this spring to wait for the breaking of the ice before entering our rivers, and during the latter part of May they were caught at Gaspé, Maria and Restigouche. Owing to reasons stated in a previous paragraph, salmon fishing at Magdalen and Ste. Anne des Monts yielded but 52 barrels against 75 in 1876. At the latter place, where 14 barrels were caught in 1876 , none were taken this scason; it being found impossible to set the uets. The reports of the local Fishery Guardians, however, state that the rivers are full of breeding fish. About fifty salmon and five barrels of trout were caught with the fly in Magdalen River. The angling record at Ste. Anne des Monts River gives 76 fish, against 116 in 1876 . The local Fishery Oversecr states that the reason of this decrease is due to the fact that most of the anglers were inexperienced, and the waters kept so low that, for a long time it was almost impossible to fisl?.

Ste. Anne des Monts River is one of those where the results of protection are better illustrated :-


This stream was always considered a favorite resort for poachers. Numerous prosecutions as well as exemplary punishmont inflicted in previous years had, to a certain extent, been sufficient to curb their temper. The local Fishery Overseer, however, informs me that, during the past summer, he brought to light several new violations of the law, which will have to be attended to next scason.

Trout is so abundant in Ste. Anne River that some fishermen sold $\$ 50$ worth of them and others made ample provisions of fish for their winter supply. The average weight of these fish is about five pounds, and the local Overseer valuos at twenty barrels the quantity used for bait, and at twenty-two barrels the number caught in licensed stations.

Salmon fishing began at Gaspe Basin about a fortnight earlier than last season, and yiclded 223 barrels of fisl, against 203 in 1876 . These figures comprise only the catch within the estuaries of rivers and in Gaspé Bay. It nust also be remembered that there were four stations less this season than last year. The nets set in the estuaries did better than the outside ones.

At Malbaie and Barachois a slight decrease is noticed; but there is an increase at Grand River and Pabos; so that on the whole the eatch for the Gaspe Division reads as follows: 418 barrels in 1877, against 391 in 1876.

Only three violations of the law occurred during the season, as may be ascertained on 1 eferring to my statement of fines and forfeitures.

Gaspé was agrain this season honored with the visit of Their Excellencies, Lord and Lady Dufferin. Their stay was but of short duration, and His Excellency's atch amounted to about 55 fish, of a total weight of 628 pounds.

Dartmouth River yielded 64 fish, against 57 ; and Grand River 92 fish, against 155, in 1876. It must, bowever, be borne in mind that there were not so many anglers on these streams, and that the water kept too low for good sport. Grand Pabos River is steadily improving, owing to the activity of private guardians, and the interest taken in its welfare by the local Fishery Overseer. Only teas salmon were caught in it this season; but the lessens would bare done much better had they stayed longer. They, however, appeared to be satisticd with their sport.

In addition to poachers, thie river, as well as other streams in Gaspe, was, for a long time, infested witn birds called shelldrakes and kingfishers. They are very voracious, and feed upon young salmon and trout, together with their numerous broods. In my humble opinion, these pests are as injurious to salmon as the sweeping of a seino over breeding pools, and I consider it of the utmost importance that thoy be destroyed as fast as possible. Angling lessecs could certainly do no better than follow the example set by Dr. Clerke, of Grand River, who employs his men during their leisure time in firing at them, and he las thus succeeded in destroying these inveterate enemies of salmon. A few dollars judiciously spent in purchasing powder and shot would certainly not be money thrown away.

In the divisions of Port Daniel and Cancapedia the catch was better than that of 1876 . Nets could not be set carly enough last fear at Port Daniel, owing to the ice, and only 55 barrels of fish were caught, whilst 146 barrels are reckoned this season. The fish sold fresh at four cents aud a half a pound, which pays better than barrelling it. Salmon fishing in the division of Cascapedia was highly successful, as usual; the catch being 31 barrels abovo that of last year, showing a total yield of 458 barrels. Most of the fish were sold fresh at five cents a pound. Fly-fishing in Grand Cascapedia River could not be surpassel during the latter end of June and the tirst part of July; after these dates the water became too clear for successful angling. Had it not been for this drawback, the cateb would have been unusually good. The total number of salmon calnght amounted to 331 fish, divided anong twenty rods. Bonaventure River was angled for only two days, the cateb being eil fish. Three fish were canght in Little Canrapedia Liver during ono day's fishing. The rivers yielded last ycar as fillows: Grand Cascapedia, 369 fish; Bonaventure, 43 ; and Littlo Cascapedia, 6. The Overseer reports them well stocked with breeding salmon.

The satisfactory results experienced in the rivers of the Cascapedia Division and the increase yourly noticed therein are, to a great extent, due to the intelligence and activity displayed by the Local Overseer, who pays great attention to the performance of his duties and cnforces strict complianco with the fishory laws and regulations. Fishermen have every reason to feel thankful to your Department for such beneficial enactments, as well as to an Overseer who understands his duties so well and fulfils thom in such a satisfactory manner. The rich harvest they are now reaping is duo to this prudent forethought.

The Division of Restigouche, as well as that of Cascapedia, shows a remarkable increase. The averare weight of fish is also reported to be seven pounds higher than that of last season. This goes far to show the great improvement brought by steady and energetic work on the part of the Local lishery Officers. I must, indeed, pay this compliment to Messrs. Dimock and Mowat, that the efficient guardianship of their rospective divisions has become a sort of passion for them. They perform their work with ploasure, without any regard to the hardships and troubles necessarily experiencorl in extensive fishery districts where interests are so variod and
the necessities of close supervision so urgent. They may indeed feel proud with the result of their labours; and contemplate with satisfaction the benefits bestowed upon fishermen and anglers. It may not be out of place to remark here that, salmon fishermen in the Restigouche livision are specially benefitted by the building of the Intercolonial Railway. Their stations hare increased one hundred per cent in value, and will become still more advantageons, owing to the convenience of their being able to sell their fish fresh without any other trouble than that of taking it out of the nets. Salmon caught in tle River Restigouche and in the neighbourbood is either sold on the spot or packed in snow for American or Canadian markets. At Campbellton and Charlot, on the New Brunswick side, there are two establishment: for freezing salinon by a simple and inexpensive process. The fish will thas keep for months. I saw some of them which had been frozen in twelve hours and were at hard as a stone.

The total yield of salmon net-fishing in the Restigouche Division amounted to 185 barrels this scason, leing 41 barrels more than list year. This is, however, much below the catch of 1973, which gave $27+$ barels. The great increase in the number of salmon stands on the New Brunswick side must undoubtedly inflience the eatch of the Revigrouche Division; but it is hoped that the hatching-house will, in some measure, compensate for the lows of breeding-fish caught lig nets.

Salmon angling in the Restigouche and Matapedia Rivers amounterl to 746 tish, against 518 in $187 i$ i.

The total catth of salmon for Craspe and Bonaventure amounts to 1,261 barre's against 1,22 in $1: 36$, without reckoning the fislo caught by anglers.

## FISII-BREEDING ESTABLISHMENTS.

The time has now arrired when we ought to be able to test the practical results of Jur endeavours to increase the stock of salmon by means of breeding establisliments. Should any reliance be placed on the suceess oltained in other countries, we should next reason record some improvement in the yield of fishing stations adjoining the hatching honses. The Gulf Division possesses but two establishments of this kind, one at Gaspe Basin and the other at Restigouche. Althongh no opportunity bas yet offered to visit the latter place, I am satisfied that it is in a prosperous condition, and that the placing of thousands of fly in the rivers emptying into the Bay des Chaleurs hats been conducted with great success by the officer in charge. I am, however, better posted with regard to the Gaspé Hatching House, having had sercral occusions to inspect it during the present and past seasons. Like all similar enterprises it met with its share of difficulties in its inception. Asalready remarked in previous reports, the officer in charge being a novice in the busincss, had everything to learn; his zeal and intelligence, however; soon enabled him to overcome all difficulties and the Giaspe establishment is no longer inferior to any other in this country. In 1876, Mr. Vibert succeeded, after much labour and hardships, in laying down 920,000 ova on the breeding troughs, more than ninety-five per cent of which came to maturity and produced young fish. which were subsequently distributed, when about one month yld, in the Rivers of Gaspé, Barachois and Pabos. In the timely and judicious distribution of fry lies the wholo success of these establishments; too much care cannot, therefore, be taken in handling them, especially when they have to bo transported at an early age. The present system might, I think, be improved upon by waiting until they are older and consequently more able to hold their own against the numerous enemies they have to encounter when first deposited in the rivers. Rearing ponds, located in close proximity to the hatching houses, might answer this purpose. The latest information received from Mr. Vibert states that he succeeded in gathering 050,000 ova, and my knowledge of the care and attention which he bestows on his business leads me to expect good results for next season.

The officers in charge of hatching houses being in the practice of sending their annual returns to your Dopartment, I presume it is unnecessary foe mo to enter into further details on this point; they being fully qualified to treat the question in a
satisfactory manner. Before dismissing this subject, I beg, however, to be excused if I again refer to a suggestion which I made in previous reports regarding the building of a similar establishment at Ste. Anve des Monts River, which offers great inducements for an undertaking of this kind. This part of the coast is not so favoured as Gaspé and Bonaventure', and would greatly benefit from the building of such an establishment.

## RESTIGOUCHE MISSION INDIANS.

(I again visited these Indians 'n the spring, and found them as usual, poor, dissatistied, and complaining of everybody and of everything. Most of them were kept employed during summer ly anglers, at remunerative prices. They made plenty of money, which was mostly spent in drink, and they finally indulged in such excesses that the local Fishery Overscer was compelled to warn fly fishermen not to hire them any more. Some of them even attempted spearing salmon; they were caught, and will be punished next season. Had they folt inclined to do so, they might have laid something bs, and could thus have procured winter supplies for their families; but they were just as poor as usual when autumn arrived. I cannot refrain from remarking here that it is indeed time the Government took the matter in hand, and try and improve the moral and physical position of these Indians through other means than those employed up to the present time. The country should certainly not be deprived from utilizing the splendid lands set apart for them, and which thruugh laziness and carelessocss remain unproductive and uncultivated.

Former experience has already demonstrated the advantages which would accrue to Indians generally were they taught not to rely upon Government grants for their support, surrounded as they are by settlements of white people, whose vices they are sure to adopt, taking, however, great care not to follow their good examples. The Restigouche Micmacs are not a hit better than other Indians in this respect. A change in their mode of living has now become an absolute necessity, and it is high time they should evince sume taste for the cultivation of their fine lands, when such material changes and improvements take place everywhere around their reserve. It is cortainly an anomalous state of things to seo this careless and lazy popalation, wedged as it is in the midst of another, which grows and prospers rapidly, and to notice these splendid but uncultivated farms where a hundred familics could live at ease, and make a fortune which would benefit the whole country.

Were I called upon to suggest a plan, I would humbly recommend the following, which, in my opinion, cenciliates as much as possible all the intorests concerned. Two-thirds of these Indians are anxious to dispose of their reserve; the Government might buy them out and sell the land again in lots of one hundred acres each to parties deviring to engage in farming. Those Indians who would desire to retain their farms might follow the example of their neighbours and soon become experienced cultivators. The remainder could return to the wilds of the forest, where they would undoubtedly recower their former strength and morality, or else be allowed to disporse among white people, where they would become cirilized; a state of things which most of them heartily desire.

The ralmon fishing station set apart for the Restigouche Indians was fished this season by Mr. Adams, and yielded 3,527 pounds of tish.)

## WIIALE FISITERY.

Whaling was not more successful this season than last year, although the crews displayed thoir usual courage and energy in combating the fury of the winds and the dangers of the sea in seareh of the cetaceous animals whose spoils formerly enriched Gaspé. They did not, unfortunately, happen to be in time on the ground frequented by whales. Presuming that they would bo more successful, they went to the Straits of Bello Isle and to the Lowior Labrador, where whales were scarce, although as many as thirty were seen together at times during the fall in the neighborhoods of Mingan and west of Anticnsti. For some seasons past it almost looked as if whales intended purposely to mislead fishermen who go in search of them in the Lower

St. Lawrence, when they are quite close to their own harbours. Having lost several weeks in fruitloss soarches on the coast of Labrador, the whalers returned to Mingan, where they succeeded in making enough to cover their cost of outfit. The crews of three schooners which went whale hunting killed four whales, but did not, unfortunately, secure them all. The quantity of oil amounted to 8,614 gallons, which sold for forty five cents. The procoeds of this fishery are divided as follows betwoen three schooners:-
"Admiration," Capt. Tripp, 160 barrels, "Lord Douglas," Capt. Baker, 70 barrels, "Violet," Capt. Suddard, 47 barrels. Total, 277 barrels, agaisst 290 in 1876.

During the latter period of the cruise, several whales were killed of an immense size. One of them subsequently grounded on the Island of Anticosti ; another at Mingan, and a third at Marpie. 'Iwo of these whales measured ninety-eight feet in length. An accident occurred to the crew of the "Admiration," which proved nearly fatal. Their boat having carelessly approached too near a whale presumed to be dead, was upset, and the men would undoubtedly hare been lost had it not been for timely assistance rendered them by another boat's crew which happened to be close by.

The bad success experienced during both soasons past is not an encouragement to our enterprising whalers, and I am unable yet to say what effect it will have upou next year's operations. I was told this fall that the owners of whaling vessols intended giving up their expeditions. I cannot say how far this may be true, but I hope that better counsels will prevail, and that another trial will be given to this venture, where a single strike of luck is all that is required to recover from a succession of failures, and that next season's operations will be more remunerative.

## HERRING FISHERY.

Of all the fish freqeenting our shores, herring is the first to arrive in the spring. During the latter part of April, or early in May, according to the disappoarance of ice from bays whore natural instinct impols them to enter for reproduction, the water is alive with these fish 10 such an extent even that it sometimes becomes discolored. The most trequented spots on the Gulf shores at this period of the year are the Magdalen Isliunds, Gaspé Bay, Bay des Chaleurs, Anticosti, Seven Islands, The Cawees, Washeccootai and Natashquan. Several of these places, such as Magdalen Tslands, Fox Bay, Anticosti and Washeecootai, are resorted to every spring by large fleets of foreign ressels, as will be shortly explained.

A brisk trade in spring herring used to be formerly carried on between Bay des Chaleurs and Norway; the owners of vessels appear, however, to have now gone to other localities, and this branch of commerce has become almost paralyzed, owing to a want of buyers and a market.

As already stated in previous reports, herring first strikes in large schools, but so soon as the work of re-production is completed, they veatter everywhere on the coast in search of food. At this period of the year they are caught with nets and used for baiting cod. Later in the season, during the month of August, herring are met with on the Banks of Caraquette, and on that part of the north coast extending from the Lower Labrador to Caribou Islets. This run of herring, which closely resembles those caught during the summer on the South Shore is much larger and fetches higher prices in our markets. These fish, however, do not pickle so easily, neither are those caught at both these dates exported to the same markets. The fish caught on the South Shore, with the exception of what is used for local consumption, is exported to United States markets and the West Indies; several cargoes having even during the past four or five years been sent to Norway, where they fetched romunerative prices. The fall catch is mostly all sent to Canadian markets and used at home.

Herring fishing is carried on in two ways; with seincs or nets, and in brush fisheries.

Spring fishing completely failed in Bay des Chaleurs this season, owing to floating ice which provented the setting of nets at the proper time. The eatch
amounted to only 2,756 barrels, against 6,391 in 1876. The decrease in herring used for bait is equally large; the quantity taken this season amounting to only 6,955 barrels, against 12,503 barrels last season.

## LOBSTER FISHERT.

The impoverishment of lobster fishing grounds on the shores of Massachusetts and Maine, as well as upon ccrtain portions of the Maritime Provinces, and the large protits derived from such an industry naturally impelled interested parties to seek other localities where they might continue their work, the value of which they knew so well how to appreciate. They thought of our shores which had yet been untried; experiments being made in small bays and coves of Bay des Chaleurs. The first establishments began in 1874, and meet with such success that there is now great competition among packers who desire to secure the most advantageous localities in Bay des Chaleurs and Gaspé. A fact worthy of notice is that, where canneries were first in operation, the result of their work is already apparent. At Carleton, for instance, packing had to bo abandoned for want of lobsters. Whilst 216,432 pounc's of lobster's were canned at Carleton and Maria in 1874, none were perserved in the former place this year, and the canneries of Maria, Bonarenture and Capelin put up only $3 \overline{5}, 200$ cans.

If, according to Professor Buckland, the disappearance of lobsters on the United States coast is due to inconsiderate fishing, and the improvement observed in the same fishery in England is owing to judicious modes of protection, it is evident that both examples should be a warning and satisfy every one of the necessity of extending to this industry the same amount of protection which is given to others. It becomes the duty of the Government to strictly enforce the judicious regulations adopted for the protection of this precions mine of wealth, and not to comply too readily with remonstrances or inconsiderate demands on the part of individuals who have no other interest at stake but to make a fortune in as little time as possible without any regard to the lasting injuries they may cause to those who will come after them, and to the ultimate destruction of an industry which, properly guarded, might have been made the nucleus of an important local trade.

I do not certainly desire to be understood as trying to insinuate anything which might possibly injure those who are now engaged in the lobster business, especially when their presence amongst our population is a source of abundunce and a blessing. Their liberal mode of dealing cannot be too highly praised, and, indeed, I might be inclined to think that after all they are not so much to blame for trying to get everything they can out of the precious mine they have in hand, were they allowed to do so. But I am aware that soveral owners of canning ostablishments in Bay des Chaleurs and Magdalen Islands are personally favourable to measures of protection, and to a proper close-season. All they want is that this close-season be so fixed as to afford re sonablo protection to lobsters, whilst at the same time securing packers against loss, without adequate advantages. Human nature being the same everywhere, it is quite evident that lobster packers would never stop unless compelled to do so by law. It thus beromes the duty of the Government to adopt proper measures for the protection of this aource of industiy, and to determine the period when such fishing should be carried on. But how to do this so as to conciliate all interests concerned, and at the eame time protect the fishing, is the difficulty. The time when lobsters spawn varies according to localities, even in adjoining places, and it differs each year. It is also known that the weather and the tempera. ture of the water more or less influence the period when they approach the shores to spawn. Their age has also something to do with the motions attending reproduction, and I may say that, in accordance with observations made during the past season as well as with those of others, lobsters spawn all the year round under the
influence of local causes; that is to say, that lobsters spawn in May, others in July, and some even as late as November. In order to enablo myself the botter to form an opinion of this point, I visited Port Daniel and Garpé Bay in 1876 , and became atistied that the spawning was over by September. When at Lobster Cove, in Garjé Bay, this season, on the 11th October, I noticed thousands of lobsters in two or three fect of water, and [ am sure that two-thirds of them had eggs attached. On the lat of the same month, when at Pleasant Bay, Magdalen Islands, Mr. Webb, of the firm of Stayner \& Co., gaffed about 100 lobsters, seventy-five of which had eggs. Without desiring to be understood as placing too much importance on these observations, I think that incomplete as they are, they, however, go far to prove the uncertainty of the period at which lobsters cast their egse, and that in such a cave, the close-ime now in forco can have but limited influence apon the protection of the species. In one of my progress reports I had the honour to call your attention to the fact that, in September last, at Port Daniel, when visiting trap-nets set in four or five fathoms of water, rery few lobsters with cags attached were found in them. I saw the lobstors with my own eyes and noticed several boat loads taken out of the traps without any eggs, whilst othere caught near shore had thousands of then. Mr. Webb made similar obervations at Magdalen Islands, and ho feols inclined, like myself, to think that, when impelled towards the shore by natural instinct, nothing will stop or delay lobsters from their parposo.

The above observations made at various places, by different jersons, in distinct years, and even at various montlis might, I daro say, enable your lepartment to choose some practical dates which would sufficiently protect the species, whilst being $\mathbf{m}$ re acceptable to packers and fishermen. Prohibitions of some kind are undoubtedly necessary, because oven supposing that no female lobsters were caught, an indiscriminate destruction of males or even fomales without cygs would certainly be injurious, but when is the proper time to be fixed: that is the difficulty? Howerer, were I permitted to offer a suggestion, I might sulumit that in the Province of Que. bee, from the 20th September to the 15 th Jane seems to be the most firnurable period; and Ifeel satisfied that these dates would please everybody. Before the middle of Jone and after the 20 th of September, the weather kecps rough or stormy, and fishermen can only with great difficulty attend to their traps. The dates which I submit would suit both interests; packers and fishermen could thus take adrantage of the three most favourable months in the season whilst it would afford ample time to lobsters to complete the work of reproduction without fear of being disturbed.

## J.OBSTER-PACKING.

Lobster-packing establishments increaso rapidly on our shores. In 1874 there was but one of these at Carleton, in 1875 two were built at Maria and Black Cape, and one at Bonaventure: whilst this season two additional ones bave been started at Port Daniel and Little River. It is intended to open two others at Newport next year.

The total number of pounds of lobster: canned this seasou amounted to 173,565 against 96,175 in 1876 , as follows :-

Pounds.
Maria, Bonarenture and Capelin............. ..................... 35,000
Port Daniel............................................................................ 65,000
Little Rirer.............................................................. 30,000

Mr. Holliday has a canning establishment at Barachois, Malbay, since 1873. Although he fished the place with care and moderation, his catel slightly decreased during the past three years:-


Return showing the number of Canning Establishments within the Cascapedia and Maria Divisions, and the quantity of Lobsters and Salmon canned, during the season of 1877.


## seinini: of smelits.

Up to the present time I omitted speaking of the practice of seining smelts in the estuarics of rivers for the purpose of procuring bait for codtishing. I now doem it my duty, however, to say that this practice, when carried on during the months of Septomber and October, cannot be but very injurious to young salmon which are then found near tho mouths of rivers and are caught in large numbers when seining fir smelts is carried on. Fishormon assert that they saw half a bushol of young salmon caught at a haul of thoso seines, and the matter had to be brought under the notice of the local Fishery Overseer for the Cascapedia Division. From conversations subsoquently had with tho practical and intelligent fishermen at Grand and Magdalen Rivors, I felt convinced that a large number of young salmon were also destroyed there by scinos. It is timo that a stop be put to this injurious practice; but, it being of the utmost importance that as little hinderance as possible be placed on codfishing, and as these fish are always most abundant near salmon streams, I would suggest that soining for smelts be allowed, but not nearer than one-quarter of a mile on each side of tho mouth of any salmon river.

## MAGDALEN RIVER DIVISIon.

With the exception of the above Division, all the others on the coast of caspe are amply provided with efficient Guardians; and the Fisheries Protection Service is consequently unsurpassed. The same state of things does not exist in the Mardalen River Division, although it is in no way inferior to others. It extends from Cape Gaspé to Claude River, a distance of about one hundred and twonty milos. There are within these limits no less than ten salmon stations, six or seven salmon streams and extensive codtishing establishments. A very efficient Guardian now attends to this division; but as he receives only fifty dollars pay, it will casily be understood bow be cannot devote his undivided attention to the work of guardianship. Indeod, this paltry sum is hardly sufficient to reimburse him for the loss of his time when collecting fishery statistics. It is of the utmost importance that this Guardian be place d on the same footing as others, so that he be enabled to perform his duties in a satisfactory manner to himself and the Department.

Return of Fishing Vessels, kinds of Vessels, number of Men,

COUNTY OF

kinds of Nets used, kinds of Fish and Fish Oils, \&c., \&c.

## GASPE DIVISION.

## Nets and Seines.



Return of Fishing Stations, kinds of Vessels, number of Men,

## COUNTY OF GASPÉ


kinds of Nets used, kinds of Fish and Fish Oils, \&c., \&c.-Continued.

DIVISION.-Continued.

Nrts and Seines.


## Return of Fishing Stations, kinds of Vebsels, number of Mes,

## $\ldots$ COUNTY OF GASPE


kinds of Nets used. kinds of Fish and Fish Oils, \&c., \&c.-Continued.

DI VISION.-Cortinued.


## Return of Fishing Stations, kinds of Vessels, number of Men,

COUNTY OF

| Namb or Prajou. |  |  |  |  | Summer <br> Fishing. <br> - вยุทupub 'poo | Fall Fishing - |  |  | 淢 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Jemachois River........ ...................... ........ | 6 | 4,904 | ...... | .. | 1,800 | 1,160 | .. |  | 20 |
| Corner of Beach ...................................... | 8 |  |  |  | 720 | 240 |  |  |  |
| Cпnиes de Roches ...... .............................. |  |  | ..... |  | 600 | 200 |  |  |  |
| 1'rex.................................................. |  | 80 | ..-... |  | 9,129 | 1,812 |  | 5.... | 76 |
| Lonaveuture Island |  |  | , |  | 3,851 | 389 |  | $9 \frac{1}{2}$ | 6 |
| Anse is Beau Fila |  |  |  |  | 1,891 | 1,040 | ...... | d | 9 |
| Cяpe Cove.................. ...... ..... ............... | 8 | .... ... | . |  | 3,387 | 1,280 | ..... | ... | 56 |
| Caj d'Espoir......................................... |  | ........ | ........ |  | 1,172 | 320 |  | ... | 5 |
| Little Rirer............... ........................... |  |  |  |  | 2,570 | 750 |  |  |  |
| Grand uiver ................ .. ................ ........ | 17 | 1,241 | 10,000 |  | 6,539 | 1,263 | ... | \|... |  |
| Little Palıos................. .. .......................... | 26 | ........... | .... | $\ldots$ | 4,950 | 1,975 | ... |  |  |
| Grand Pabos ..................... ........ ............. | 20 | 160 | ......... |  | 1,540 | 520 |  | 12... | 70 |
| Newnort......................................... ....... |  |  |  |  | 5,315 | 1,450 | 743 | 35. |  |
| Fly-fisling-York, St. John \& Dartmonth Riv's |  | 2,686 |  |  |  |  |  |  |  |
| Total . | 151 | 101,889 | 10,000 |  | 79,849 | 20,929 | 186 | 621 | 556 |


kinds of Nets used, ${ }^{\boldsymbol{7}}$ kinds of Fish and Fish Oils, \&c., \&c.-Concluded.

## GASPÉ DIVISION.-Concluded.



RECAPITULATION.
Yieid and Value of the different Fisheries of Gaspé Division in 1877.

| Kinds of Eish. | Quantities. |  | Prices. | Value. |
| :---: | :---: | :---: | :---: | :---: |
| Summer Cod fishing........................................ | 79,849 quintals, | at... | \$ ${ }_{5} \mathrm{cts}$ ct. | $\$ \text { cte }$ |
| Autumn do ................ ........ ................. | 20,929 do | ... | 500 | 104,645 00 |
| Herring | 556 barrels, | $\ldots$ | 500 | 2,780 00 |
| Haddock . ........ ..... ................... ................... | 186 quintals, | $\cdots$ | 500 | 98000 |
| Ling ........... ........... .................................... | 62 do | $\ldots$ | 500 | 31000 |
| Halibut ...... ..... ........................ ...................... | 1 barrel, | $\ldots$ | 600 | 600 |
| Mackerel ............... ..... ..................... ........... | 193 do | $\ldots$ | 1000 | 1,930 00 |
| Salmon, pickled............................. ................. | 151 do | $\ldots$ | 1200 | 1,812 00 |
| do fresh in ice.. ......................... ............... | 101,889 lbs., | $\ldots$ | 005 | 5,094 45 |
| do preserved in cans.. ............................... | 10,000 lbs., | ... | 015 | 1,500 00 |
| do smoked............ ................................... | 1 box, | $\ldots$ | 400 | 400 |
| Trout................. ... ..... ...................................\| | 61 barrels. | ... | 800 | 48800 |
| Sardines ........ ... | 60 do | $\ldots$ | 500 | 30000 |
| Lobsters, preserved in cans................................ | 73,000 lbs., | $\cdots$ | 015 | 10,950 00 |
| Cod Tongues and sounds .................................. | 181 barrels, | $\ldots$ | 900 | 1,629 00 |
| Seal Skins ........ ........ .................................. | 5 pieces, | $\ldots$ | 125 | 685 |
| Porpoises' Skins .......... .................................. | 1 do | $\cdots$ | 400 | 400 |
| Seal Uil................... ... .................................. | 60 gullons, | $\ldots$ | 050 | 3000 |
| Porpoise Oil......... ........................................... | 60 do | ... | 080 | 4300 |
| Whale Oil........................................... .............. | 8,614 do | $\cdots$ | 050 | 4,307 00 |
| Cod Oil........... ................. ........................... | 81,203 do | ... | 050 | 40,601 50 |
| Fish and Clams used as Bait and Manure ............. | 34,105 barrels, | $\ldots$ | 100 | 34,105 00 |
| Fish used for local consumption........................ | 1,396 do | $\cdots$ | 400 | 5,584 00 |
| Total value of the products of the Fisheries in 1877..... ... .........do do do 1876................... |  |  |  | $\begin{array}{r} \$ 616,30920 \\ 514,05065 \end{array}$ |
| Increase, |  |  |  | \$102,258 55 |

Return of Fiseing Stations, kind of Vessels, number of Men,

COUNTY OF BONA

kind of Nets used, kinds of Fish and Fish Oils, \&c., de.

VENTURE DIVISION.

Neth and Seineg.


## Retifn of Fismina Stations, kinds of Vessels, number

COUNTY OF BONAVENTURE


Men, kinds of Nets used, kinds of Fish and Fish Oils, \&c.

IIVISION-Continued.


## RECAPITULATION.

Yicld and Value of the different Fisheries of Bonaventure Division in 1877.


## LABRADOR DIVISION.

Without desiring in the least to cast any doubt on the assertions of Eughivb and French writers, who contend that the coast of Labrador was discovered in 149 ; 1,5 Sebastien Cabot, and that it was first explored by a Portuguese named Cortereal who, having noticed some indications of fertility on the southern portion, namod it Terra de Laborador (arable land) evidently a misnomer which, by corruption, ler:il:uLabrador; I must own that I am half melined to share the opinion of Mr. Samu. 1 Robertson, of Sparr Point, North coast, who, in a serics of notes read before the Quebec Literary and Historical Seciety in 1841 gave the following explanationrelative to the naming of that coast:-
"I sball not attempt to confute the clam of Cortcreal and others who are "supposed to have gire" the name of Labrador to that tract of country lying "betweer the St. Lawrence and Hudson's Bay, and shall merely give what I think if " the true account, and which is supported by the universal tradition of the coast, "viz: That one, Labrador; a Basque whaler, from the Kingdom of Navarre in "Spain, did penetrate through the Strait of Belle Isle ay far ay Labrador Bay some. " time about the middle of the fifteenth century; and eventually the whole con-t "took its name from that bay and harbour."
"The tradition of the coast at all times admitted that the Basqueq were "the first discoverers, and that they had long frequented the coast before the French. "whom we shall see had fisheries before the year 1500 . In all the early voyages, $: 1-$ " of Cabot \&e., the Busiucs are alwaysmentioned as met with, and the Basqle ressel" found on the coasi of Newfoundland by Cabot, in his tir"st royage, is elear evidenc". " of their prior acquaintance with the northern shores of America."
"As to the Basque whalers, there is good reason to believe that they had explored " the Gulf and part of the River St. Lawrence before the year 1490."

Having stated that thesc suggestions are not offered as establinhed points, but more tis objects of discussion to the antiquary and historians who may have access to manuscripts and oller sources of informations which he had not, Mr. Robertson cuntinues as follows :-
"There was nothing splendid in the coasts of Labrador and Newfoundland, "nothing to tempt avarice -a land of rock and ice did not invite settlement-the only "object of pursuit was either fish or oil, and these could only be procured by labour. "There was nothing to interest nobles and princes, who, with these principles were "the only objects of history at that day. Secondly, whaling partook of the mystery "attending every branch of industry, and which only the initiated were let into; this "spirit of mystery was so common in those times, that the court of Spain tbought to " keep the discovery of Southern America a secret even fifty years after the royage "of Columbus; aud were, says Hume, both surprised and alarmed to tind an English " merchant ship in these seas."

Labrador is an immense peninsula extending over an area of four hundred and fifty thousand superficial miles, and bounded by the Atlantic, the Gulf of St. Lawrence and Hudson's Bay. It is divided into three distinct regions; the middle one belongs to Canada and is bounded on the east by Blane Sation Bay, in the Straits of Bello Isle.
general remarks on tee fisheries of the coast of labraiob, durinf: the SEASON OF 187.
For two seasons past, the fishermen scattered on the birren and isolated coasts of ${ }^{-}$ Labrador had not much to complain of; their labours in the several industries carried on by them were crowded with success. It must be admitted that, in several places, provisions were dear during the present season and the price of fish wav low; but, on the other hand, it must also be borne in mind that fish were more than usually plentiful and that vegetables, which are more or less cultivated in every place where sufficient land can be found to use a spade or hoe, yielded one hundred per cent. Owing to this improved state of things, a large number of fishermen are thus enabled to derive part of their subsistance from agriculture. The late comers or new arrivals have
given the example. It Kegashca, for instance, where about ten families from Newfound land replaced the former Acadian settlers, they all have fine vegetable gardens. The few Acadian families permanently settled at Seven Islands also cultivate fine flats of land, the produce of which, added to their fishing, is sufficient for their winter supplies. Beautiful gardens are also met with at Sheldrake, Magpie, Thunder and St. John Rivers. The above named posts are occupied by people from the south shore, most of whom have good notions of the advantages to be derived from the cultivation of land when coupled with the pursuit of fishing.

In order to better illustrate the prosperous state and increasing importance of the north coast during the past few years, and esperially during the present reason, it will be sufficient to mention that the cod tishery yielded $5!; 246$ quincals, without reckoning fish used for local consumption nor those caught by foreign ressuls. Codfieh sold at $\$ 3.50$ In $1 \times 76$ it fetched $\$ 5.01$ a quintal, the yield being 42,907 quintals. The catch of salmon was 1,823 barrels in 1876 , and 2,404 this year. The hering tishery yielded 3,575 barrels in 1876, against 6,028 in 18.7 . Seal hunting, which gave 5,841 pelts in 1576. produced 7,898 this season. Only 188 barrels of mackerel were caught this season, reckoned at $\$ 10$ a barrel, whilst not a single barrel was taken in 1876 . The same increase is noticed in soal and cod oils; the vield of the former beins 41,800 gallons in 1877, against 33,577 in 1876, and of the latter 119,861 gallons in 1977, against 38,105 in 19: These figures are sufficient to show the amount of business transacted on the north coast. The price of tish did not unfortunately keep pace with the increase in the yield; but, takon all together, the catch will amply conpensate for the decreaso in value.

Although most of the settlemonts on the north shore were favoured with a rich harvent from the sea during the past season, some are, however, met with where fishermen were not so successful. Amongst these must be reckoned the settlement at Esquimaux Point, although it is a well-known fact that fishermen from this locality belong to the most industrious and intelligent. This little village, which is subsiantially and clegantly built, had, from its origin until two or three years ago, enjoyed a most astonishing run of success. Its inhabitunts succeeded in amassing cunsiderable wealth; but a time of trial has arrived, and in spite of their labours and energy constant fallure has attended their work since 1874 . Those who, in precious yens. had been enabled to save something for a stormy day, were compelled to withiraw it from the bank. Should the Goverument find it impossible to give them aswistance, I am at a luss to understand how some of them will be chabled to manage through the winter, and shouht fishing again fail next year, most of the settlers will be compelled to abandon the post. This paintul lesson which Providence bas taught the Esquimaux Point people will, however, bear its fruits; the anxieties and deprivations of every lind will undoubtedly hiare the effect of making them more careful for the future. Most of them would be independent to day liad they saved during the years of abundance. The wants of the last few years will put them on their guard, and teach them that the same misfortunes may asain occur nomer or later. A great mistake on the part of the settlersat Eisquimans loint is that they utterly neglect to cultivate vegetables, for a supply of which they entirely'depend upon strangers. Should fishing happen to fail, it will easily be understood how they are left without any resources whatever.

The incroasing popalation, the incessant development of fishing industries, must necessarily create a demand for increased modes of communications. A trip to the North Shore was, until a few yoars ago, considered more difficult than gong to Euroje; but the coast of Labrador can now be visited either for pleasure or business in a very short time, and very comfortably too. Besides twenty-five or thirty schoonors which are constantly engaged carrying fish from one shore to another, and vessels trading between Labrador, Quebec, Gaspé, Halifax, and St. John, Newfoundland, thero are two packets chartered to carry the mails; one of them, under command of Capt. Pyo, makes two monthly trips from Gaspe to the posts lying between Sheldrake and Natashquan; the other performs a similar service botween Betsiamites anl Moisie. The Steamship "Beavor," owned by Messis. Fraser and Holliday, also makes regular trips during the tishing season between Quebec and Moisio.

I shall not repeat here what I have already urged in previous reports with regard to the urgency of extending the benefits of this mail service to other settlements on the coast, between Natashquan and Bonne Esperance. A petition signed by all the inhabitants and most of the merchants and influential persons in Montreal and Quebec, will, I am confident, bring about this most desirable result, thus enabling people from theso remote places to hold intercourse with large centres, and make known their wants and dangers, so that timely assistance may be sent them.

Li>l of Froighting and Trading Vessels in the Mingan Division during the season of 1877 :-

| Name of Vessel. | Tonnage. | Master. W | Where Registered. |
| :---: | :---: | :---: | :---: |
| it. Anne de Beaumont..... | 66 | Cillbert McNeil, | Quebec. |
| Georgianna .................... | 47 | Thomas Tremblay, | do |
| Mary | 54 | R. Toblanc, | do |
| La Victoire. | 43 | R. Duguay, | do |
| Ripple ....................... | 78 | Prancois İ, ${ }^{\text {achance, }}$ | do |
| Palma. | 54 | .los. İesgagniers, | do |
| Lady Elgin | 66 | Caron, | do |
| Marie Eléonore........ | 72 | J. B. Merciér, | do |
| Notre Dames des Victoires... | 55 | Xavier Joncas, | do |
| Frank. | 54 | Louis Dugal, | do |
| Flying Fish | 48 | Richard Miller, | Gaspé. |
| Sua Flower. | 36 | .iohn Ascah, | do |
| Wolverine | 40 | E. Adams, | do |
| $V_{\text {riolet }}$ | 37 | Suddard, | do |
| Indaunted | 45 | Howell, | do |
| Speedy. | 65 | B. Aslin, | do |
| Elie..... | 116 | John W. Pitts, | Halifax, N. S. |
| A. Carcand. | 70 | Landry, | New Carlisle. |
| Patspebiac............. ......... | 57 | John Moulin, | do |
| Aut... | 52 | Abel Huard, | do |
| Isabella. | 45 | J. Garrett, | do |
| Hasty | 46 | W. Lucas, | Jersey. |
| Two Friends. | 98 | Hanquil, | do |
| Gleaner | 60 | F. LeBlane, | do |
| Eddie Pierce............. ... | 96 | Hawes, | Boston. |

## Total 25 Vessels.

## Cod Fishery.

I spoke in my provious reports of the first settlements made on the North coast for the purpose of carrying on cod-fishing. I then gave a short history of the expeditions undertaken by the Basques, French, and Spaniards as early as the 15th and 16th centuries; and I alluded to the powerful companies which took possession of the soil and water's and carried on seal hunting and fishing to the exclusion of other pursuits, totally disregarding cod-fishing, which only became of importance in 1850 when these companies lost their monopoly by successive failures in seal-fishing, and the arrival of fishermen from the south shore or from foreign countrios, who had become aware of the inexhanstible wealth of the fishing banks located between Godbout and Blane Sablon.

I do not intend returning to this subject, but will confine myself to stating that cod fishing is now the staple industry of the people resorting to the north coast; that the principal source of wealth of these barren shores lies in its pursuit, and that the greater or lesser state of prosperity or want of the several families settled in this part of our Dcminion is due to their success in codfishing.

It will be noticed that, this year's catch was much larger than that of last season,
the statistics showing that, exclusive of the fish used for domestic consumption and of that canght by foreign vessels, the catch by Canadian schooners amomited to $\mathbf{5 6 , 2 4 6}$ quintals, or 13,339 more than in 1876.

According to the Lrical Fishery Orersecr's Raturus for the Division of Bonne Esperance, one lunired and fifty schooners from the Maritime Provinces, Newfoundland, and I"nited States visited that coast during the past season, and each of these vessels carried at loast 500 quintals of fish, which, with an average of 150 schooners, would give about 75,000 quintals. This added to the catch by our own schooners, giver a grand total of $131.2+6$ against 104,707 in* 1876 , or an increase of 26,539 for 18 亿.

I used every season to supply the name- of vessels engaged cod fishing on the north coast, and I intended doing the same this year, but other pressing duties connected with the Halifax Fishery Commission necessitated my presence elsewhere when these vessels were engaged cod tishing, and I am consequently unable to give the names of these vessels, or to furnish a cletailed statement of their cateh.

Cod appeared earlier than usual on the coast this season, especially on the eastern part of this division. This is nndoubtedly due to the high tumperature of the water, and to the fact that the Gulf was almost free from ice in March. Codfishing began as early as the 1st June at Blanc Sablon and Bonne Esperance, and about a fortnight later at Shelldrake, Magpie, St. John and Natashquan. The fish were so abundant everywhere that everyone anticipated an extraordinary catch. These hopeful expectations were unfortunately doomed to be disappointed. About the end of June or the beginning of July, stormy weather set in, causing the fish to seek deep water, where they could be caught only with additional trouble and difficulty, owing to strong currents and high winds. In spite of all these drawbacks, reference to the anncxed statistics will show that on some parts of the coast, fishermen even did better than last year. At Bunne Bsperance, for instance, the average catch was 17.) quintals per boat ; there is also a large increase in the Trinity, Moisie and St. John Divisions, whilst a slight decrease is noticeable at Watshooshoo, Natashquan and Pacachoo. Fish were as abundint as ever aceording to the fishermen's own statements, but they would not bite. The reason of this is assigned to the fact that the grounds frequented by cod were full of capelin. At Pacachoo, the fishermen agree in stating that, had they been provided with seines, they could have cauglit 300 quintals of fish per boat instead of 50 which they did, Several of the Bonne Esperance Division fishermen are provided with seines, but the weather kept so rough daring the time they might have been used, that they were comparatively of little service. Hand-line fishing on the banks of Bonne Esperance gave just as good returns as seining.

The Canadian shores were certainly privileged during the past season; fish were abundant on this side of the boundary, when none were to be found on that part ot the coast belonging to Newfoundland. This state of things provailed to such an extent that French vessels hardly averaged twenty quintals each, whilst other schooners fishing on the coast of Newfoundland entirely lost their voyage.

The high winds which prevailed during the greatest part of the summer seriously interfered with the pursaits of our fishermen. Thoy relied upon fall fishing to compensate them for their loss of time; but the weather was so rough and stormy on the sruth as well as ou the north coast, that they soon gave up all hopes of success. In some places, however, such as Moisie, Seven Islands. Cailles Rouges and Trinity, which are more sholtered than others, fall fishing was good, the fish being abundant everywhere; and a corresponding increase over last year's catch is accordingly noticed.

Being provided with seines, fishermen from Shelldrake took early advantage of the first appearance of cod. At Magpio, Thunder River and St. John, the average catch was about sixty quintals per bort. This is a little less than last year, although the statisticu show an apparent increase in the quantity of fish caught; this fact is, bowever, due to an increase in the number of fishermen.

Hand-lines are mostly usied by Canalian fishermen in cod lishing on the north shore. Bultows are also employad to a limited extent on the banks of Mingan, between the mainland anll Anticosti. There are four or five seines at Shelidralse, but the fisbing grounds are so rough that they can seldom be used. Bonne Esperance Division also owns four seines, and with the Department's permission, Messrs. Whitely and Buckle tried tishing with pound-nets for catching deep-sea fish. Their venture did not succeed, owing to prevailing stormy weather. They are not, however, discourased, and confidently rely upon another year's success to compensate their loss.

The price of fish which was so remunerative in 1876 , being then fixed to suit the merchants' fancies or purposes, could not long remain at such high figure., however desirous our fisbermen may have licen to have it so. In order to somewhat compensate the losses cxperienced in a previous year, those gentlemen had to take another extreme, and rate the price of fish at such low tigures that it is a wonder how the fishermen could make a living, especially when provisions sold at exorbitant prices. At places on the coast where the monopoly of large firms is still felt, the price offered for cod was ouly $\$ 3.00$ a quintal, whilst flour sold at twelve, fifteen :and even eighteen dollars a barrel, and other stores in proportion. Competition oeing keener on the castern part of Labrador, which traders from Quebec, Halifax, Charlottetown and St. John, Newfoundland, visit, the fishermen fared somewhat hetter:' At Bonne Esporance, Mutton Bay, La 'Tabatiére and Kegashca for instance, flour sold at nine and ten dollars; molasses fifty cents; whilst the price of fish reached three fifty and even four dollars.

Most of the fish canght on the north shore is cured dry, except that taken after first September; which is sent to Gaspé, Halifax, and St. John, Newfoundland, for foreign mitkels. Fishermen procure their winter supplies with the sale of their or reen fish.

Although the fish cured on the north coast is considered nomewhat inferior to that on the south shore, the former sells just as well, owing to keener competition amongst traders.

List of Schooners Pishing for Cod at Bradore Bay, Labrador, during the season of 1877 .

| Name of Vessel. | Master. |  | Port. | [ | $\begin{aligned} & \text { No. of Capelin } \\ & \text { Seines. } \end{aligned}$ | 苟 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Aurora | J. Perchard......... | 20 | Bay of Islands ..... | 7 |  |  | 150 |
| -George Frogg ...... | J. Ryan.............. | 103 | P. E. Island ........ | 18 |  | 1 | 775 |
| Sweet Home........ | Tupper ....... ........ | 70 | St. John's, Nfid..... | 18 |  | 2 | 580 |
| Frank Erin . ........ | Petitpas.............. | 54 | Shelburne............ | 9 |  | 1 | 376 |
| Jannett............... | Jasper ................ | 50 | Quebec.............. | 9 | 1 | 1 | 370 |
| Maggie........ ....... | Petit tpas.............. | 25 | Bay of Islands..... | ${ }^{6}$ |  |  | 175 |
| :Flura...... ........... | Morris................. | 54 | Trinity Bay,......... | 11 | 1 | 1 | 340 |
| Victoris ............. | T. Bartellet.......... | 70 | Bay of Islands...... | 9 | 1. | 1 | 680 |
| Dreadnaught ... .... | J. Hackett........... | 15 | Boane Bay........... | 5 |  |  | 130 |
| Flash................. | Pike.................. | 42 | Carbonear............ | 12 | ....... | 1 | 320 |
| Rump .... ........... | Isaac Crome ........ | 39 | Bonne Bay........... | 10 | 1 |  | 300 |
| Mary Emma ......... | J. Kin .............. | 25 | do | 10 |  | 1 | 188 |
| Happy Home... .... | J. Prodrick.......... | 64 | Harbour Grace...... | 8 | 1 | 1 | 614 |
| Susanna ............. | G. Murphy.. ......... | 31 | Bay of Islands..... | 10 |  | 1 | 212 |
| Bry Queen .......... | N. Taylor............ | 55 | St. John'\%, Nfld..... | 10 | 1 | 1 | 478 |
| Sonora............... | S. Gass............... | 30 30 | $\begin{aligned} & \text { do } \\ & \text { do } \end{aligned}$ | 7 | ..... ..... | 1 | 250 350 |
| Total, 17 Vessels............... |  | 77 | $\cdot$ | 67 | 6 | 15 | 6,288 |

SIIST of Schooners Fishing for Cod at Bonne Esperance, Labrador, during the season of $1 \times 77$.

| Name of Vessel. | Master. |  | Port. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Dial................... | Backman .. | 60 | Lunen burg ........... | 12 | 1 | .... .... | 50 |
| S. Dehel.............. | Smith ................. | 42 | do .......... ${ }^{\prime}$ | 13 |  | ........... | 350 |
| Ellen Mary............ | Weston ............. | 56 | do | 17 | 1 |  | 400 |
| River Dale... ........ | Hoist.................. | 65 | do | 12 | 1 | ........... | 525 |
| L. Q. Brtch......... | Wrasle................ | 70 | do | 14 |  |  | 600 |
| Prince Consort..... | Erhman............... | 50 | do | 12 | 1 | .......... | 375 |
| Star................... | Welch...... .......... | 80 | do ......... | 8 | . . ... | .... . .... | 626 |
| Presideat............. | Saldiaque............ | 75 | Port au Basque ..... | 6 | 1 |  | 574 |
| City Queen..... .... | Sweeder ........ ..... | 80 | Mahone Bay ......... | 4 | 1 |  | 650 |
| Emily . ............... | Farrell ............... | 86 | Lunenburg .......... | 14 | 1 |  | 675 |
| Lady Speedwell.... | Hekman...... ....... | 79 | do .......... | 14 |  |  | 615 |
| Letell................. | Ichkman......... .... | 90 | La Have......... .... | 14 | 1 | . | 700 |
| Raspberry........... | Muirhead............ | 66 | St. John, Nfl....... | 10 |  |  | 430 |
| Total, 13 | Vessels................ | 899 | $\cdots$ | 150 | 8 |  | 6,570 |

List of Freighting, Trading and Fishing Vessels ancnored at Bonne Esperance during the season 1877:-

| Name of Vessel. | Toanage. |  | Port. |
| :---: | :---: | :---: | :---: |
| Mariner... | 56 | ...... | Lunenburg Co. N.S. |
| Quickstep. | 40 | ...... | do |
| Dahlia | 94 | ...... | do |
| Marvest Home | 59 | ..... | do |
| River Queen... | 51 |  | do |
| Vantage .. | 50 | $\ldots$. | do |
| Wellington. | 100 | $\ldots$ | d. |
| L. A. W.... | 50 | ...... | do |
| Island Gem. | 50 | $\ldots .$. | do |
| River Dale. | 50 | $\ldots$ | do |
| Debel.. | 50 | $\ldots$ | do |
| Nimble. | 50 | ...... | do |
| Anua.. | 50 | ...... | do |
| Rover Bride. | 50 | $\ldots$ | do |
| JIlen May.. | 50 | $\ldots$ | do |
| L. P. Churehill | 100 | ...... | do |
| Constance. | 50 | . | do |
| Golden West... | 50 | ...... | do |
| Prince Consort.. | 50 | ...... | do |
| Iady Speedwell | 50 | ...... | do |
| Ella....: ......... | 50 | ...... | do |
| W. M. Volger. | 50 | ...... | do |
| Adonis......... | 50 | ...... | do |
| Ida E... | 50 | ........ | do |
| A. Teal. | 59 | ...... | do |
| J. W. Arnold. | 80 |  |  |
| Spotten Queen.. | 40 |  | do |
| Javal ......... | 60 | ..... | do |
| W. Book. | 50 |  | do |
| H. C. Brown... | 60 | ... | do |



Codfish Seining.
The schooners which annually repair to Labrador for colfishing, especially those from the Maritime Provinces, mostly use hand lines; but the greater number employ seines. Local fishermen from Blanc Sablon and Bradore Bay complain that these engines cause them to lose their season's fishing. No less than one hundred seine. were constantly fiying in these waters during the tishing season. There being no authority on the spot to compel parties using them to comply with the regulations: made for the protection of hand-line tishermen, the latter were compelled to abandon the banks, being crowded out by seines, or clse run the risk of losing their lines, anchors and grapneis. I hope I shall be able next season to be carlier on the grounds, in order to afford protection to these people.

Another injurious practice which fishermen in the Pacachoo Division also complam of, is that of achooners from Natashquan and Esquimaux Point throwing their old bait on the fishing grounds, thus apoiling the catch of local fishermen who are unable to shift from one place to another like those fishing in schoonel's Warnings will, I dare sity, be sufficient to put a stop to these practices, and I shall not fail to attend to these matters next season.

## Seal Fishery.

The result of seal fisbing during the past two seasons on the coast of Labrador created great surprise among fishermen, who, owing to successive failure during nearly twenty years past, were reduced to a great state of poverty, and felt compelled to resori to other industries which they very naturally were loth to follow, so great had been their former success in seal fishing.

Ou several occasions, I stated that the disappearance of seals from our shores was due to a decrease in the number of the species; and I was backed in this opinion by eminent naturalists and writers. Sulsequent observations made by myself as well as by local fishermen led me, however, to assert in my report of last yeur, that this decreate was more apparent than real, and that the disappearance of these animals from our shores might in a great measure be due to their being inconsiderately killed in the Gollf as well as in the waters where they retire during the summer. I feel yearly more convinced of the soundness of this theory.

Seal fishing is practised with net. during the spring and fall. Towards the latter part of Noveinber, and during the month of December, these animals aseend the Straits of Belle lsle, in smaller or larger herds, nearing the shore through the floating fields of ice, and stopping only when uature prompts the females to climb on the ice to bring forth their young ones. Seals somotimes go up very high in the River St. Lawrence; the general opinion being that they ascend as far as the mouth of the Saguenay, but I believe that their progress is more or less infueneod by a
prevalence of north-east winds. Large herds were noticed during the past turo years -opposite Pointe des Monts; in 1876, a schooner loaded with timber found herself caught in an ice field, near Godbout, upon which thousands of seals were gathered, and this spring the only schooners from Esquimanx Point which met with any success secured their cargoes of seals in the month of May, at St. Nicholas Harbour. Nets are set in the Division of Pacachoo to catch them when they are hugging the shores of the Strait of Belle Isle. The outfit is very expensive. Houses and stores have to be built, fixture erected; craft with nets, harness, leads, anchors, \&c., to be procured; these, with tools, utensils and provisions cost several hundred dollars, sometimes thousands. I am informed that Mr. Robettson who sets for seals at La Tabatière, spends from seven to eight hundred dollars yearly to keep his nets in good repair.

The migrations of seals were formerly composed of large herds which seemed more numerous than the heads of cattle crowded in a narrow lane; this usell to last for weeks then, but a steady falling off has ensued: and tor the past twenty years when this spectacle had lasted for two or three days the season's fishing was over. An extraordinary and welcome change was, however, experienced last fall. Seals again appeared quite as numerous as formerly, and had it uot been for a terrifc storm which swept everything away on the coast during the month of December: the catch would have been highly satisfactory. Taking all together, however, there is no cause for grumbling. The five or six stands which were set this season caught 495 seals; a success unheard of since 1873. The catch amounted to barely fifty seals in 1876, when only two or three stations were fished.

The success which attended seal-fishing during the spring of 1876 , as well as during the present season, goes far to strengthen the opinion of those who claim that these animals are just as numerous now as they were formerly. Five stations which were set in the spring between Bonne Fiperanco and Blanc Sablon caught 3,0:7 seals, valued at $\$ 5.50$ each, in 1876 , and this season the same stands very nearly gave equal results. If any difference was felt, it was for the better. The oldest fishermen agree in stating that during the most prosperous seasons thej never saw such large herds of seals along the coast.

I cannot ascribe this welcome change to any other caluse tian to the absence of steamers and sailing vessels in the Grulf, which was besides free from ice as early as the month of March. The seals being thas left anmolested, abondoned the floating ice when nature prompted them, to do so, and finding their usual route free started at once for their natural haunts tuwards the Arctic seas.

Over 500 harbour seals were shot with guns or caught in nets on different parts of the coast; this gives a total quantity of 4,043 , or an increase of 1,016 orer the yield of last year.

As already remarked in the first part of this report, 1876 and 1877 were excepional years for seal fishermen; their confidence in former luck has been restored, and they fully expect that next season's operations will be equally successful.

## Seal Hunting on the Ice.

However premature it might appear on my jart, after so limited an experience, to offer any remarks on the influence and result of the restrictive enactments adopted in 1876 by Newfoundland and European countries interested in the preservation of seals; it is not the less true that nothing but satisfactory results can accrue therefrom, provided always that the fitting out of sealing steamers is kept within legitimate bounds.

In addition to the steam vessels fitted in Newfoundland, our Dominion sends only a few schooners from Magdalen Island and Esquimaux Point to follow sealhunting in the spring. This great source of wealth which has enriched outfitters from St. John, Nowfoundland, Harbour Grace, and other small settlements round the Island, appears to be inexhaustible; and rhould the great success which attended last season's operations be only considered, it seems as if seals needed no special protection. It is in this very succes, however, that I find the greatest source of
apprehension for the ultimate decrease and ruin of the species. IL:tre not salmon, mackerel and cod, whose power of reproductions is so much greater than that wf seal-. been entirely exterminated in certain localities? How dit walrues and whalecome to he deatroyed? Were the prenent outhiters satimet with young wals three or tour week old, a ofticiontly large proportion of the speriou might her relied upors to maintain this industry; but I am atraid that the ingullume killing of old veas during the steamers' second voyages will ultimately bring complete ruin. When one considers the number of powerful vessels engaged in this pursuit, it is quite possible that soaling expeditions may, in a few ycars, be no longer considered remunerative.

Twentr-four steamers, manned by 4,000 men, and thirty-six railing vessels, with crews of 2,658 sailors left Newfoundland this spring for the ice-fields. They met with wonderful success; the result of their expeditition amounting to 412,000 seals, 43,000 of which were old ones killed during the second trip. Among the steamers fittel out for these voyages, two belonged to Dundee, in Scotland, and after taking crews of Newfoundlanders, repaired to the ice-fields. They had great success, and their captains who are practical men, state that they saw thirty seals in the neighbourhood of Newfoundland to one in Greenland.

Canadian sealers did not fare so well as those from Newfoundland, which were enabled to go out on the 10th March; they remained in the ice and could leave only by the latter end of May. Twenty schooners from Esquimaux Point and six from Natashquan fitted out this spring for seal-hunting; but out of that number, six only succeeded in covering the cost of outfit. They brought back 2, 404 seals, which added to the number shot with guns or caught in nets, gives a grand total of 7,898 , or an increase of 1,957 over 1876. Seal oil sold for forty-five cents, and pelts from $\$ 1.25$ to $\$ 1.50$.

## Herring Fishery.

Fall fishing, without being very abundant, was, however, better than that of last year. The fish struck early in August at Bradore Bay and Blanc Sablon, and when caught at this period of the year, they are in their primest condition. Several schooners from Quebee which happened to be on the spot, secured early and cheap cargoes; but over one bundred vessels which, in the expectation of being able to get better and cheaper fares, went further down on the coast, lost their time and vojages. After visiting the shores at Bradore and Blanc Sablon, the fish appear to have taken to deep water and did not return.

The Esquimaux Point people, who usually "rely upon the fall fishing for their winter provisions and supplies, hardly experienced better success than in 1876 ; twenty schooners caught only 3,972 barrels, against 1,463 in the previous year. This relative failure is much to be deplored, as it brings to an unsuccessful close an otherwise abundant season's fishing, and these poor people will, I am sure, impatiently await the arrival of spring to be ridden of the apprehensions and dangers of winter.

1-et

Serorn of the Sumber and Tonnage of Vencels and Men helouging to Baquinaux


| Name of Vessel. | Master. | Where Registered. |  | $\underset{\sim}{\underset{x}{x}}$ | $\begin{aligned} & \dot{x} \\ & \dot{む} \\ & \dot{W} \\ & \dot{\sim} \\ & \dot{0} \\ & \dot{0} \\ & \dot{z} \end{aligned}$ | Codfish, quintals.: |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Elizabeth. ................. | Luke Cormier. | Quebec... | 27 | 7 | 40 | 180 | 160 |
| Ste. Marie................. | Alex. Sherer................. |  | $3{ }^{4}$ | 8 | 13 | 90 | 304 |
| Marie Louise............... | Mathias Roberge ........... | do ............... | 14 | 6 | 120 | 40 | 100 |
| Marie du Sacré Uour... | Onesime Turidide........... | Gaspé. | 46 | 10 | 22 | 205 | 167 |
| Labrador.... | Placide Doyle...... ....... | do ................. | 42 | 10 | 100 | 200 | 200 |
| Progress.................... | Nath. Bourdeau............. | do | 52 | 12 | 630 | 200 | 36 |
| Iberville.................... | Hyp. Boudreau. |  | 41 | 10 | 400 | 240 | 36 |
| Marie Anne................ | Dominique Landry ......... | do ................. | 35 | 8 | 200 | 170 | 130 |
| Amelia.......... .......... | Paul Cormier................ |  | 50 | 10 | 100 | 220 | 310 |
| Marguerite | J. B. Cormier................ | do | 27 | 8 | 150 | 100 | 200 |
| Ice Bird. | Villebon Terriault......... | do ................. | 39 | 9 | 120 | 100 | 135 |
| J. C. Miller................ | Amedee Vigneau ............ | Balifax................ | 42 | 10 | 50 | 200 | 70 |
| Acara.............. ........ | Andrew Vigneau........... | do ................ | 29 | 6 | 60 |  | 200 |
| D. Cronan | Peter LeMarquand........ | do ................ | 39 | 6 | 100 | 50 | 300 |
| Ocean Bride.............. | Charles Landry............. | do ............... | 14 | 6 | 4 | 120 | 60 |
| D. H. P.... | Samuel Doyle............... | do ................ | 29 | 8 | 36 | 80 | 252 |
| Victoria........... ........ | Gabriel Cormier........... | Amherst, C.E...... | 46 | 10 | 330 | 180 | 260 |
| Fleetwing................. | Julien Boudrean............ | do ....... | 47 | 10 | 360 | 160 | 466 |
| Ailsa........................ | Frank Oummings.......... | do | 41 | 10 | 25 | 200 | 230 |
| Gleaner .................... | Benj. Landry....... | New, not registered | 40 | 10 | 5 | 150 | 356 |
| Total Vessels 20... |  |  | 737 | 174 | 2,865 | 2,885 | 3,972 |

The fishery statisties of 1876 show that no makelel were caught on the nortb coast during that season. This fact did not fail thatere our attention, and led an to regret the loss of such a precions somre of wealth which our neiphbours know wo well how to take addantuge of.

Without entering into lengthy details, noir intending it the least to propound new theories, I ber to say that practical observations male during the pant nine gears enable me to assert that the falling off experienced in the catch of mackerel is due to excessive fishing with seines by American sehooners, as well as th the injurious practice of polluting the grounds with olfals of fish.

Signs of improvement are, however, noticeable. No less than $188 \frac{1}{2}$ barrels of fish were caught this meason on the north coast, and 227 on the sonth shore. Canadian fishermen, moreover, assert that mackerel resorted to our shores in large schools, and that the reason why the catch was so small is due to the fact that the number of men engaged in this fishery was comparatively limited. There is no doubt, however, that if we were allowed to pursue this tishery thdisturbod by foreign vessels it would soon regain its former prosperity.

American authors who have written of hin tire migrations of fish, have, in order to depresiate the value of the privileges winted them, attempted wo prove that the fish frequenting our Gulf, such as mackerel and herring expecially, come from the waters bordering on the American coasts, and that their visits to our shores were purely aceidental. This erroneous asertion was completely demolished by the Canadian Commissioner of Fisberies in his Report of 1872, as well as by the evidence of Professor Hind before the Halifax Commission. Several other scientific writers have also upset this theory and proved that it was brought forward in order to answer a special purpose. The more closely we look into this matter the more convinced we must feel that the fish frequenting our coasts during the summer season retire to deep water when the cold weather sets in; close by, however, to places where they were born, and where they find their usual foocl. One can easily understand how thene migrations from deep water to the shore are more or leas influenced by certain physical causes, such as winds, temperature of the water and the run of small fish upon which they feed, dc., dc. These causes accelerate or delay their appearance in certain localities, but it does not follow that the fish entirely disippear and retire into the ocean. Experience is there to prove the contrary.

So long as there is no ice in the Gulf, cod is found on all the banks; when the ice appears fish withdraw. But they canuot go very far, since they form the principal article of food for seals during the months of February and March. Seal huntershave seen codfish on the fields of ice which seals had tiken there to feed upon. Moreover, is not codfishing carried on during the whole winter-and in deep water too-on the south-west shore of Newfoundland? And what is to prevent our own people from doing the same, were they enabled to go out far enough? The same mode of reasoning applies to mackerel. Whilst fishing in forty or fifty fathoms of water, during the month of May or early in June, Gaspé and Bay des Chaleurs fishermen often eatch cod having a mackerel in their stomach, and these fish are sometimes full of eggs; a fact which proves that they must remain on the codtishing banks until the proper time has arrived for them to approach the shores.

Were mackerel a fish of foreign origin, propelled towards the coast by a cap rice of nature or by mere chance, no reliance conld be placed on the future or on the expectation of having our waters rapidly restocked. Besides, aud were it even so, how could the regular visits of these fish during the past forty or fifty years be satisfactorily accounted for? In the steady falling ott, as well as in the regular increase of this fishery, I find the proof of the assertions of the above quoted authorities. Were the presence of mackerel in larger or smaller number, due to annual migrations from southern seas, it is evident that irregulnritics would bave ere this been noticel; but the fact that they have gradually diminished in proportion to the increase of fishing operations is ample proof that they do not migrate far out. I repcut it ; the reason $1-{ }^{2}+\frac{1}{2}$
why this fixhery has filed during sevenal years is not due to mere ciance but to a result of combined actrere actions which no ti-hing gromeds could stand.

The oxperience of the pat, will, however, teach in what to do in order to prevent further destroction; and knowing at we du that the retorking of on waters does not depend solely upon a mere whim of matnee, we will feel compellad to use every pructical amd eflicient mean to asi-t in restoring this former prosperity. Amongst the adoption of measures which will help to bring about this desirable result, I would strongly recommond the prohibition of mackerel seines within three miles from shore, and abolishing the practice of throwing offals on the tishing grounds.

Only a few American schooners wore noticod this season in the Gulf, perhaps not more than one hundred and fifty, and of this number four or five, at most, entered Ciaspe and Bay des Chaleurs. The arerage catch of these ressels may hare amounted to 135 barrels. This is very little; but prices ruled so high that, though small, the catch was found to be romunerative. Mackerel sold from $\$ 10$ to $\$ 18$ in Halifax, and I am informed that it wont as high as $\$ 20$ in the States. On the north coast it sold for $\$ 7$ on the spot, without barrels, whilst at Gaxpé it barely realized $\$ 3$ or $\$ 4$.

Halibut fishing is another industry which American fisliermen have destroyed on our coasts. The catch for this year amounts to only 101 barrels, agrainst 87 in 1876. Our people did not much engage in halibut or mackerel fishing during the past season; it would, moreover, be uscless for them to do so now that these pursuits have alnost been given up by American schooners, owing to their unproductiveness. But the value of halibut fishing is at the present time thoroughly understood by our people; and owing to its being so easily carried on and the increased facilities of transport, I have no doubt but, that should any improvement be noticed, they will not be behind others in taking advantage of this tishery.

## Salmon Fishery.

One mighl almost think that Providence delights in surprising the inhabitants of the north emat, so varied are the good fortunes which sometimes exceed their expectations. This, I presume, is intented to restore their failing emfidence, which threatened to give way two or three years arn. It has alrealy been stated that sealhuntiog and tishing "ere abundant in 185 and 150 ; mackerel alno visited the shores of Pacachoo division in large numbers, and at Bonne Esperance, the catch of herring was the best known for ten years past, both in quality and quantity. To this success must bo added the yield of tho walnon fishing, which was fist threatening ruin, when your Department fortuately took it in hand. It is yearly assuming greater importance, and speads abundance amongst settlers of this inhospitable region.

Salmon fishing on the north coast was generally better than that of two seasons pal, although the stormy weather experienced at the beginning, materially interfered with this pursuit, and caused considerable damage among outside stands. The estuary fishings, however, as well as the stations sheltered agyinst the wind, yiclded double the catch of lart seation. In 1876 streams kept very high, and salmon fishing was eriously influenced thereby, although this st. te of things is not to be altogether regretted, as the work of reproluction is better secured when waters keep high; the fish ascending at once to their breeding grounds without stay in the estuaries, and should other circumstances prove equally favourable, the catch is greatly increased.

Salmon made its appearance very early this season on the north coast, ospecially on that part which is known as the const of Labrador, and when the nets were set it was fonnd that the fish had already gone up in large numbers. This, of course, occasioned the loss of a few fish, but it will be to the ultimate advantage of another season. Stormy weather played great havoc among the outside stands at Trinity, Moisie and Natashquan, causiv, considerable loss to fishermen. Taking, howerer, all these drawbacks into consideration, the yield amounts still to $2,40 \pm$ barrels, against 1,825 in 1876.

The folloring figurer show where the increase took place

| Moisit |  | barrels |  | 6. |
| :---: | :---: | :---: | :---: | :---: |
| St. John............. | 213 | :- | 110 | " |
| Natashquan | 313 | ' | 983 | " |
| Mingan | It | ' | : | " |
| Little Watsheeshoo. | 16 | ' | 5 | * |
| Kegashea | 36 | " | 31 | " |
| Romaine. | 24 | ' | 22 | " |
| St. Paul... | 54 | " | 50 | " |

Several uther small streams alno exhibit corresponding improveneme.
A large increase was alon noticeable in trout-fishing. The rirers which yielded most were Pentecost, Moisio and St. Augustine. The statistics reckon the total catch at 147 barrele, against 80 last year ; and to these figures must be added at least ten barrels nsed for home consumption. Manitou Rirer, a branch of the Mingan, did not yield as much as usual ; this is, however, due to the fact that it was not fished to such an extent as in former years. About three barrels of trout were caught with the fly, and a personal visit which I paid to this river enables me to state that it is full of fine fish.

Moisie was the only river where fly fishing was practived during the present
 Natashquan, the late Dr. Beanbien went twice to the falls, and caught atout fifteen fish. At Washecootai, Mr. Molson only caught one salmon and a large number of trout: but it must be remembered that this stream was completely ruined through the illegal tishing practised in it turing the summer of 1876 , by William Foreman and his friends. This conduct on the part of Foreman deserved more than exemplary punishment. He was engaged as private guardian to Mr. Molson ; received liberal wages, and was considerel a faithful servant. Foreman ill requited this kindness. He invited lis neighbours to share with him in the pillage of the river ; he guided them, worked with them, and left only when there was nothing more to destroy. From reliable information, I cannot estimate al less than thirty or forty barrelsi the quantity of salmon killed on the spawning beds. Being advised of these violations of the law late in the fall of 1876 , I was unavoidably compelled to portpone proceedings until the following spring. So soon as we arsived at Kegashea, summons were issued against the following parties:-

Willian Foroman; James Foreman, his brother ; François Germain; Sanuel Reid; George Harrison and George Buckland. On sighting the Fisheries Protection Steaner in the ofting, William Foreman immediately took to the bush, and it was only during the fall, with great difficulty and after several failures, that we succeeded in catching our man. The above named parties all pleaded guilty. James Foreman was fined $\$ 30$ : Harrison and Buckland, $\$ 10$; (iermar, 85 , and Reed, $\$ 2.50$. The two latter were por men, and Reed, eridently in an advanced state of consumption. They were also the means of my being able to bring the other parties to justice. William Foreman was subsequently arrented and fined 840 , or two months in jiil. He had not the money, but his mother paid fir him.

About the same time I also prosecuted and tined a party oamed Donitec Deraspe, who had caught salmon illegalty in Romaine River:

The Division of Watsheeshoo is one of the most important on the north coast, owing to the variety and abundance of its fisheries, as well as the large number of strangers who annually go there. Being insufficiently supplied with fishery griardians, it is almost impossible to do more than has been done to proteet it. We have, indeed, accompiished a great deal by punishing violations of the law in such exemplary manner, but there is an organization on foot to deceive us, and the ireater. the punishment, the more cunning will be the plans devised to recorer in an illicit marner what has been lost through legal process. Should no effectual check be put upon these illegal practices; the inhabitants of this part of the coast will; ill a few
years, suceed by their own folly and depredations in lestroying their greater souree of wealth, and will then le conipelled to remove to other localities.

Although, generally apraking, s:almon fishing may be said to have been good ou the north enast, the protits were not so large as might have been expected, owing to the very low price of the fisb, which hardly sold for $\$ s, 5: 4$ and $\$ 10$ a barrel. The license fees were, in ronserpuence, very difficult to collect, several fishermen being unable to pay during the netions.

## MISIIERY OVERSEERS.

In my reports of 15.5 and 1876 I drew your attention to the importance of having active and efficient men to act tiv Fiwbery Guardians, and I am happy to be able to state that a great improvement has taken phace in this respect since the last appoint ments were made. I also alluded to the atholute vecessity of establishing new fishing districte and placing a conple of additional otticers on certain portions of the coast which are till without any protection. I have already explained why the Wateheeshoo district jr one of those which must be brought under your special consideration. This divinion comprives rour important streams: Kegashea River, which yielded thirty-six barrels; Musquaro River, five harrels; Washeccootai River, seventeen barrels; and Romaine River, twenty-four harrels of salmon. I feel, morrwer, convinced that if thene river were not so unmercifully poached as they are, in spite of all our endeavours and the strictest possible guardianship, they would yield double the above quantity.

Besides salmon fishing, this division has codfishing loanks, which are deemed equal to the best on the canst. From twenty-five th thirty nchooners fished there this summer. Washeecostai Bry is also renowned for the ahundance of its herring, and about thirty schooners firm the Maritime Provinces and the States took their eargoes there this spring, some of the tish being exported direct to Norway. We could not, unfortunately, procuse reliable returns of their catch, the local fishery guardian at Natarhquan being unable to visit the localit:. II stine is wholly engaged in guarding the river under his charisc, and visiting twenty-one miles of coast betweun Natashquan and Kegashea.

Another inconvenience arivins out of the absence of an additional guardian in this division is the followiner: Any one will understand how the large number of vessels which resort to Kemanhea and its neighbourhom must necessarily bring an influx of population. When not otherwise engaged, there people are left to themselves, and being aware that there in nobody to enforce the law and protect the inhabitants, they are led to commit all sorts of mischiet's, not fires to the bush, and destroy large trace of timber lands which might be made use of for building purposes or for firewood. Theso tice also trighten away the fur-bearing animals and the birds of the forost. Oecurrences of this nature took place last spring, and when wo visited the locality not a bied was to be soen where thousands were met with in provious seasons. It in theremo of the utmost importance that a local fishery guardian be appointed for this division. The dintrict of Natashquan is sufficiently extensive to engage the undivided attention of one man during the whole gishing season. The money spent in paying the wages of a guardian nt Washeccootai will soon be reimbursed by an increase in the catch and tho additional revenue derired from new leases and liconses.

Another division which is not so well protected as it whould be, is the Godbout division. It extends from Manicouagan to Pont des Monts, and comprises several important salmon stations, as well as three rivers: Godbout, Mistassini, and Becscie. Trading vessels frequenting the place are numerous, and thoir crews are sometimes difficult to manage. Were it placed under my jurisdiction, I might be of service to the local guardian, who not being a magistrate cannot therefore do much to improve upon the prosent state of things. I would therefore suggest for the greater advantages of this part of the coant, as well as for the benefit of fishermen frequenting it. that it be placed under my control, in the same manner as other parts of the Gulf.

## INDIANS OF THE NORTH BHORE.

A fact worthy of note is that Indians, as well as $\dot{W}$ hite men, were unprece dently favored during the past few years on the norih roast, without being quite so fortunate as in previous, seasons, the former had n"reason to complain of the success of their hunt. It was sufficient to procure the most necessary wants, and this they consider a great comfort. These poor children of the torest request no more from their friends on the sea shore. It was also remarked that their health had greatly improved of late; this is undoubtedly due to the fact that they were enabled to procure sufficient food during their painful peregrinations among the forests, rocks and lakes.

Three or four years ago, when these Indians were nearly starving on the coast of Labrador, after experiencing an unsuccessfal hunt, in which they nearly al! perished, parties who took an interest in them made representations on their behali, and succeeded in securing them assistance in money as well as in provisions, and the privilege of fishing a salmon stand in the immediate neighbourhood of Mingan River. They could not, however, muster sufficient onergy to fish this station, a proof that any other labour than that of hunting or spearing is repugnant to their tastes. When they had caught a ferw salmon they allowed the nets to be washed ashore, and had it not been for Mr. Scott, the Hudson's Bay Company's Agent, these would have been left tro rotten on the beach. The same thing occurred this season, so that in order to derive some adyantage firom the special faror granted them by your Department, I took upon myself to hire a man who will fish this station for their benefit next year. For this purpose I concluded arrangements similar to those made with the person who bas charge of the Restigouche Indians' station.

The tribe of Mountaineers, numbering from eighty to ninety families, which usually visits Mingan every year at Mission time, divided last scason. Only ten families came to Mingan; the rest went to Natashquan. where provisions are more easily procured daring this lind of Indian holiday.

T.ABRADOR DIVISION.


Return of Fishing Stations, kinds of Vessels, number of Men, kinds of Nete used, kinds of Fish and Fish Oils, \&c.-Contiutued

LABRADOR DIVISION.--Continued.


Return of Fishing Stations, kinds of Vessels, number of Men, kiluls of Nets used, kinds of Fish and Fisi Oils, \&e. - Continued.
LABRADOR IDIVISION- Continued.


Retpan of Fishing Stations，kinds of Vessels，number of Men，kinds of Nets used，kinds of Fish and Fish Oile，\＆c．－Continued．

LABRADOR DIVISION．－Continued．

| Name of Place． | Nite axd Suiners． |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Herring Nets． |  |  | Mackerel Seines． |  |  | Mackerel Nets． |  |  | Capelin Seines． |  |  | Launce Seines． |  | Seal Nets． |  |  | $\left\|\begin{array}{l} \text { Brush } \\ \text { Fish- } \\ \text { eries. } \end{array}\right\|$ | Trout Nets． |  |  |
|  | 8 | 㖴 | $\stackrel{\dot{\Xi}}{\stackrel{\rightharpoonup}{\nabla}}$ |  |  |  | $\dot{0}$ |  | $\begin{aligned} & \stackrel{\oplus}{\rightrightarrows} \\ & \stackrel{y}{\mathrm{~s}} \end{aligned}$ |  | 幽 |  |  |  | $\dot{8}$ |  |  | ¢ ${ }_{\text {¢ }}^{\text {¢ }}$ | （ | 号 | $\stackrel{\text { 岕 }}{\text { ¢ }}$ |
|  |  |  | \＄ |  |  | \＄ |  |  | \＄ |  |  |  |  | \＄ |  |  | \＄ | \＄ |  |  | \＄ |
| St．John River．．．．．．．．．．．．．．．．．．．． |  |  |  | ．．． |  | ．．．．．． |  |  | ．．．． | 6 | 338 | 36014 | ${ }_{260} 1$ |  |  |  |  | ． | ${ }_{2}^{4}$ |  | 25 |
| Long Point．．．．．．．．．．．．．．．．．．．．．．．． | 3 | 164 | 38 |  | $\cdot$ |  |  | …… | …… | 7 | 314 | 3109 | 260 |  |  | ．．．．．．．． |  | ．．． | 2 | 50 | 15 |
| Mingan River．．．．．．．．．．．．．．．．．．．．． Romaine River．．．．．．．．．．．．．．．． |  | ．．． |  | ．． |  | ． |  |  |  |  |  | ．．．．｜．．．．． |  |  |  |  |  |  |  |  |  |
| Esquimaux Point．．．．．．．．．．．．．．．．．．．．． | 14 | 730 | 209 | ．．． |  |  |  |  |  | 5 | 380 | $416 .$. |  |  | 1. | 1，000 | 100 | ．．｜．．．．． | ．．． |  |  |
| Betchouan．．．．．．．．．．．．．．．．．．．．．．．．．． | 5 | 225 | 45 |  |  |  | ．．． | ．．．．．． | ．．．．． 1 |  | ， | ． | ．．．．．． |  | 10 | 240 |  | ．．．． | ．．．． |  |  |
| Ateepetal Bay ．．．．．．．．．．．－．．．．．． |  |  |  |  | ．．．．．． |  | ．．． |  |  |  | ．．．．．．． | ．．．． |  | ．．．．．．．． | 4 | 160 |  | ．．．．．．．． | ．．．． | ．．．．．．．． | ．．．．． |
| Pisshter Bay．．．．．．．．．．．．．．．．．．．．．．． | 2 | 40 |  | ．．． | ．．．．． | ．．．．． |  | ．．．．．． | ．．．．． | ．．．． | ．．．． | ．．．．． | ．．．．．．．． | ．．．．．． | ${ }_{1}^{1}$ | 30 | 3 | ．．．． | ．．．． | ．．．．．．．． |  |
| Corneille ．．．．．．．．．．．．．．． |  |  |  | ．．． | ．．．．． | ． |  |  |  |  |  | 18 |  | ．．．．．． |  |  | 8 | ．． | ．．． | －．．．．．．．． | ．．．．．．． |
| Grand Watsheeshoo．．．．．．．．．．．．． | ． | ． | ．．．． | ．．． | ．．．．．． | ．．．．． | ．．． | ｜．．．．． | ．．．．． | 1 | 80 | $18 . .$. | ．．．．．．．． |  |  |  |  |  |  |  |  |
| Little Watsheeshoo．．．．．．．．．．．．．． |  | ．．．．．．．．． |  | ．．． |  |  |  |  |  |  |  | ．．． |  | ．．．．．．．．．．．． |  |  |  | ．．．． |  |  |  |
| Nabissipi ．．．．．．．．．．．．．．．．．．．．．．．．．．． |  |  | $\ldots$ | ．．． | ．．．．．．． | …… | $\cdots$ | …．．． |  |  | $\cdot$ | ．．．．．．．．． |  |  |  |  |  |  |  |  |  |
| Agwanus ．．．．．．．．．．．．．．．．．．．．．．．．．． |  |  |  | ．．． | ．．．．． | … | ． | ．．．．． | ．．．．． |  |  | 140 |  |  |  |  | ． | ．．．． |  |  |  |
| Washtawooka Bay．．．．．．．．．．．．．．． Natashquan Harbour．．． |  | ．．．．．．．． 40 |  | ．．． | ．．．．． | ．．．．．．． | ．．． | …… | ．．．．．．． |  | 2010 | 140 |  |  |  |  |  |  |  | ．．．．．．．．．． | ．．．．．． |
| Natashquan．．．．．．．．．．．．．．．．．．．．．．． | 27. | 1，060 | 316 | ．．． |  |  |  | …… | ．．．．．． |  | 90 | 129．．．． |  |  | ．．．． | ．．．．．．． | ．．．．．． |  |  |  |  |
| Natashquan River ．．．．．．．．．．．．．．．． | 6 | 349 | 72 | ．．． | ．．．．． |  |  | $\cdots$ | ．．．．．． | 3 | 200 | $220 . .$. | ．．．．．．． |  | ．．．． | ．．．．．．．． | ．．．． | ．．．．｜．．．． | 5 |  | 15 |
| Kegashka River ．．．．．．．．．．．．．．．．． | 2 | 50 | 20 | ．．． | ．．．．． |  | ．．． | －．．．． | ．．．． |  |  |  | ． |  | ．．．．． | ．．．．．．．．．．． | ．．．．．．．．．．． | ．．．．．．．．． |  |  |  |
| Kegashka Harbour．．．．．．．．．．．．．． | 19 | 510 | 184 |  | ．．．．． |  | ．．． | ． | ．．．．． | 1 | 50 | 25. | ．．．．．．． |  | ．．．．． | ． | $\cdots$ | ．．．． | 1 |  | 3 |
| Masquaro．．．．．．．．．．．．．．．．．．．．．．．．．． |  |  | ．．．． | ．．． | ．．．．． | ．．．． | ．．． | －．．．． | ．．．．． |  |  | ．．．． |  |  | ．．．． | ．．．．．．．． | ． | ．．．． | ．．． |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Romaine River． |  |  |  |  |  |  |  |  |  |  |  | ．．．．．．．．．．．． |  | ．．．．．．．．．． | $\cdots$ | －1．7．．．． | －1．732 | ．．．．．．．．．． |  |  | ．．．．． |
| Coacoachoo．．．．．．．．．．．．．．．．．．．．．．．．．．． |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ．．．． |

Return of Fishing Stations, kinds of Vessels, number of Men, kinds of Nets used, kinds of Fiah and Fish Oils, \&e.-Continued.


## LABRADOR DIVISION.-Continued.



Return of 「ishlicustations, kinds of Vessels, number of Men, kinds of Nets used, kinds of Fish and Fislı Oils. de.-Continded.


Return or Fisming Stations, kinks of Vessels, number of Men, kinds of Nets used, kinds of Fish and Fish Oils, .fe.-Concluded.

LABRADOR DIVISION.-Concluded.



LABRADOR MIVISION.-Cintinucd.




Return of Fishing Stations, kinds of Vessele, number of

LABRADOR


Men, kinds of Nets used, kinds of Fish and Fish Oils, \&c.

## DIVISION.



# Retcrin of Fishing Stations, kinds of Vessele, number of Men, 

Name of Place

1
Name of Place

Pointe du Mourier
St. Marys Island .....
Netagamiou River.
Harrington Harbour.
Little Meccatina.
Gull Island, Heceatina
Providence Isl:nd.
Whale's Head, ileccatina.
Baie des Moutans
Grand Meccatin:
Baie Ronge
Grand Meccatio: 「sland.
Tabaticre
Sandy Cuve
Salt Lake, Tabati
Fonderie Fecteau
Kikapoe Island
, Pointe Rouge, Parnehoo
Whale's Head, Pac'..choo

- Little Rigolet

kinds of Nets used, kinds of Fish :111. Fish Oils, de.-Comlimed.

DIVISION.-Continued.


## Return of Fishing Stations, kinds of Vessels, number of Men

LABRADOR


Fly Fishing :-River Godbout.
do do Moisie..
do do Washeecootai
do do Natashquan..
Total
kinds of Nets used, kinds of Fish and Fish Oils, \&c.-Concluded.

DIVISION.-Concluded.


| ......... ........ ........... | $\underset{\substack{\text { 5, } \\ 2,081}}{\text { pounds, salmon. }}$ |  |
| :---: | :---: | :---: |
| ................. .................................................. .............. | 12 | do |
| ........ ........ ......... ........ ........ ..................... ............... | 233 | do |
| ............ ............... ........ ........ ...... .......... | 8,030 | do |

## RECAPITLLATISS.

Yreld an l Value of the different Fisheries af the Labrador Division in 18.7.


## MLAGJALEN ISLANIS.

Persons who might be desirous of aculuring information regarding the gensrapuiical pusition, statistice. and resources of these Islands, can refer to my provions reports, especially to the last ono, where these questions are treated at some lon, I will, in the present instance, simply allude to the improvements of the past se:- - 1 .

I noticed with feelings of satisfaction the rapid growth of agriculture and educ.ation. Thanks to the generosity of the inhabitants who supplied gratuitously all that was necessury from the first piece of lumber to the last article of furniture, and who even gave provisions, llonse Harlwur can now boast of a splendid convent. Most of the success of this great undertaking is due to the Rev. Mi. Hebert. Indefatigable and persercring as usual, he ceased not for one momeut to prompt the generosity of his Hock, who feel prond to notice the progress of education in their village, and have no longer any retson of being jealous of their neightour on the wath whore

The Cure of Amberst Island conld not possibly remain behind in this worl: patriotiom. He, too, is having built, at his own privale experse, a masificent a. lege, which will be hamelel over to the parishioners when completed. Such dee in need no comments, and here, as elsewhere, our clergy shows how well it unterntmin porforming deeds of charity ard philanthrophy.

The Cadastre is nearing completion, and I need handly say that the Sslambers a: unamimos in urging upon tho local Government the adrisability of empeming t? . lands so soon ats the surveys are completed. The tomure under whis! the films are held must necessarily keep the insulars in a state of bon lage. They connot lemons proprictors, and it is of the utmost importance to their future properity, that the present feudal system should disappear; as soon as possible.

The idea of uniting Magdalen Islands to the mainland by asystem of telegraphic communications so natisfactorily brought before the public by my predecessor in office, Hon. P. Fortin, desrives the most favourable consideration at the hands of the Federal Government. Let us picture for one moment the state of isolation in which these people are placed, ideprived as they are of any means of intercourse with the outside world during tive long winter months. Besides this consideration, which in itself is of paramount importance, what services would not the building of this line confer upon commerce and navigation, $d x$. How many people would be made happy. and how many anxions hours and days would thas be removed at a comparatively insignificant cost!

In order not to repeat myself, I shall abstain from again allurling to the first settlements made on the Islands; the fishery pursuits carried on there; the chan pes brought by wars; the transfer of the Island to Admiral Coffin; the migrations from Prince Edward Island and Acadia; the formation of several colonies on the north coast out of the contingent of population of the Islands, and the return of the last colony which had migrated. These matters are alluded to at length in previous reports. I shall limit myself to stating that the people seem now to better appreciate the wealth of their Islands, to cleave more than ever to their native land, taking proper advantage of its productious and living in hopes that the Government will soon redeem their farms and place them on an equal footing with other inhabitants of the Dominion.

The past winter was a very sbort one at the latiuds as well as everywhere else, and by the latter end of May, sowing-time was nearly over. Thanks to the successful fishing season of i876 and a good harvest during the present year, the inhabitants did well enough during the winter, and I have cvery reason to believe that they will fare just as well during the approaching one; the yield of the fisheries being above the average.

I noticed with pleasure that the Municipal Councils had passed a regulation prohibiting the sale of intoxicating liquors. This is undoubtedly a most laudable measure and a timely move, which will not fail to produce excellent results. Herring fishing having failed last spring, the crews of foreign vessels had to rematin idle. Riot
and debauchery would certainly have again reigned supreme bad these men been able to find any liquor on the Islands.

Another favour which is anxiously expected at the hands of the Government is the appointment of a Stipendiary Magistrato. I took the liberty to express an opinion on this point in my last mmual repert ; and if I again return to the subject it is because I consider it in a great measure necessary to the future tranquility and prosperity of the Islands that such an appointment be made. Tbis officer will need be well qualified for the position, and he should possess the requisite qualities of heart and mind necessary for the due administration of justice in these remote places.

The Govermment is uudoubtedly entitled to sincere thanks for placing a steam vessel which carries the mails botween the Islands and Picton, but improvementa are now so rapid; fishing extablishments have sn much incroasid in number since the pasing of the Washington Treaty; the multiplication of atiairs is so large; the progress of education and the crection of public buildings so important, that these reasons might induce the Gevernment to make this service weekly.

## Seal-hunting on the ice.

Of the varied and numerous harvests which the inhabitants of Magdalen Islands gather every year, seal-hunting on the ice is the first to attract their attention. Although the number of seals killed this season is larger than that of last year, the quantity of oil is smaller and the value realized proportionally less.

Schooners left towards the latter end of March, but heing delayed by contrary winds, they could not reach the ice fields before the end of May. At this period, seals are not quite so fat. Besides seal-hunting in schooners, these animals are also killed on the grounded fields of ice round the islands, and lately, net, as well as hook-fishing, has been tried. Neither of the latter methods appears to have been successful this spring. The seven chooners which fitted out for seal-hunting brought back 2,645 skins. This is much better than the eatch of last year, when the same number of vessels succeeded in killing only 642 seals. The seals were all killed west of Migrdalen Islands, ruite close to Prince Edward Island.

Return of the Number and Tonnage of Vossela, with Men and Boats, engaged in the Seal Fishery at the Miridale. Islands, during the season of $187 \%$.



The success of seal-hmatiog on the floating ico round the Islands, depending much upon various causes, such as the winds, fair weather, \&c, it must, at bent, be considerod as a most uncertain venture. Numerous herds were in sight in the channel between Grosso Isle and Bryon Island, but cireumstances proved unfavourable, and only 1,514 seals were killed, against 2,159 in 1876 . The most successful apots were east of Bryon Island, at Grosse Isle and Bird Rocks. The lighthouse keeper at the latter place succeoded in killing 250. Seal-tishing, with nets, was not quite so successful as last season; only 679 seals being killed, against 728 in 1870 . The floating ice and winds interfered with this pursuit, and at some stations part of the nets, which aro very expensive, were even carried away. Forty-one seals only were caught with bottom lines. As stated above, the total eatch is larger than that of lant yeur by 1,209 seals; but the quantity of oil is not so great, as may be seon by the following figures:


## HERRING FISHERY.

The pursuit next in importance to cod and seal fishing, and that which cngages the attention of the inhabitants of Magdalen Island, is the herring fishery. It is the second harvest which they gather before fshermen from other parts of Canada have begun their operations. This gives them animmense alvantage, and when both these harvests are good, the Islanders are said to be safe for the winter.

This industry is very important. It supplies the inhabitants with an article of food, and brings quite a number of foreign fishing vessels every year to the Islands. No less than ninety-seven brigs, brigantines and schooners anehored in Amberst Harbour and Pleasant Bay this season; twenty-five of which belonged to the United States and sixty-five to ports in the Dominion. Had the weather been favourable, the Islanders would have made a good deal of money in fishing for these versels, loading cargoes or selling them fish, but unfortunately the sea was so rough and the winds blew so heavily that nets could hardly be set or seines hauled ap. All the inhabitants could do was to secure some bait for mackerel fishing and a small stock of fish for their winter supply. In addition to this ill success, a schoonor which they had loaded with 600 barrels of herring, was lost in broad daylight on Entry I\&land, bound for Halifar. Most of the foreign vessels lost their voyage, and went to Newfoundland, Anticosti or Washeecootai. The total catch amounted to only 38,231 barrels, or 39,185 barrels less than last jear, and may be divided as fullows:


Retorn of the Namber and Tonnage of Vessels, with the Boats, Men and Seines, engaged in the Spring Herring Fishery, at the Magdalen Islands, during the Season of 187.


Retchn of the Number and Tommage of Vexols, with the Buatx, Men and soinen, engased in the Spriner Herring, Fishery, at the ATagdalen Asands, during the Seasol: oi 1857.-('ontinued.


## RECAPITULATION.

| Whence. |  | $\begin{array}{r}\text { \% } \\ \stackrel{3}{3} \\ \hline\end{array}$ | 安 | 旁 | $\xrightarrow[\text { ¢ }]{\stackrel{\text { ¢ }}{ \pm}}$ | Barrels of Fish taken. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Onited States.. | 25 | 2,400 | 158 | 61 | 6 | 11,188 |
| Nova Scotia ............................ ................................. | 52 | 2,687 | 322 | 126 | 15 | 18,678 |
| New Brunswick.................. ............................. ........ | 1 | 74 | 6 | 2 |  | 400 |
| Prince Edpard Island... ........................................... | 12 | 336 | 40 | 5 |  | 2,287 |
| Magdalen Islands.. | 7 | 341 | 40 | 10 | 5 | 1,998 |
| Total .................. . |  | 5,838 | 566 | 204 | 26 | 34,549 |
| Number of barrels taken in 1877........... .............. ........ ... 34,549 barrels |  |  |  |  |  |  |
| do do 1876............................................ 72,928 " |  |  |  |  |  |  |
| Decrease......................... .............. 38,389 " |  |  |  |  |  |  |

## SPRING MACKEREL FISHERY.

Mackerel fishing is divided into two periods; the first takes place in June, an! is called spring fishery; the second begins in July and eloses in October. It is known under the name of summer fishery.

A favourable weather is of absolute necessity for carrying on spring fishing ; strong winds from the outside drive the fish away, and entail besides, occasional loss of nets. Spring fishing began this year on the 2nd June, and closed on the 14 th. Without being so successful an that of previous years, it, however, exceeded by 415 barrels, the catch of last year. Eleven vessels from Nova Scotia took 1,033 barrels, whilst twelve of them caught only $62:$ barrels in 1876. The Magdalen Islands boats were not so successful; they took but 493 barrols, against 482 last season; but it must be borne in mind that foreign vessels are more advantageously fitted out for this fishery, than the Islanders. The fish sold at $\$ 8$ last year, whilst prices went up to $\$ 10$ a barrel this season. The inhabitants of the Islauds cannot all engage in this fishery; it is restricted to those who reside on the shores of Pleasant Bay. The others follow cod fishing at that period of the year.

Return of the Number and Tonnage of Vessels, with the Boats, Mon and Nets; employed in the Spring Mackerel Fishery, at the Magdalen Islands, during the neason of 1 137.

| Name of Yessel. | Master. | From Whence. | Tons. | Men. | Boats. | Nets. | Barrels of fish taken. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Trial ................ ......... | Henley... ... ....... | Sheet Harbour..... | 32 | 9 | 4 | 80 | 100 |
| Jas. Henry .................. | Boutillier ........... | do | 32 | 6 | 3 | 60 | 83 |
| Emma ................... ..... | Hubley................ | do ...... | 25 | 7 | 3 | 50 | 50 |
| P. Martin ...... .............. | Murphy. .............. | do ...... | 20 J |  | 6 | 50 | 60 |
| Manchester .................. | LeBlanc.............. | Port Mulgrave...... | 45 | 7 | 1 | 75 | 35 |
| Mary Ellen ................... | Reeves ................ | do ...... | 22 | 6 | 3 | 50 | 70 |
| S. E Cove........ ... ........ | Keating .............. | do ..... | 54 | 7 | 2 | 50 | 45 |
| L. Elizabeth.... .... ......... | Hawse................. | Halifax .............. | 48 | 13 | 5 | 110 | 150 |
| Victory ...................... | Culford.. . .......... | Port Richmond ..... | 37 | 11 | 3 | 90 | 250 |
| $W_{1}{ }^{\text {lliam }}$ and Mary. ......... | Murray .............. | do | 35 | 5 | 2 | 40 | 50 |
| K. F. Stewart. .............. | Leslie ........ ....... | Spry Bay ............. | 45 | 12 | 5 | 98 | 140 |
| Total, 11 Vessels... | ... | ... | 385 | 92 | 37 | 753 | 1,033 |




## SUMMER HACKEREL FISHERY.

When mackerel have done spawning in the firing, they retire to deep water, but return again to the shores about the month of July. "They are then in poor condition and very hungry; but having in a short time resuined their flesh, they soon improve in size and quality, and from No. 3 become Nos. 1 and 2.

Summer mackerel fishing began this season about the :3d Joly, and lasted until September; several foreign vessels, however, remained till the middle of October.

The fish kept very near inshore, especially at Pleasant Bay, Cape Allright and around Bryon's Island; and another fact worthy of note is, that bait used by our fishermen proved far more attractive than that omployed by trangers. The latter could do nothing outside and were constantly among the Islanders trying their bait, but unsuccessfully.

Mackerel fishing, n hich has for a long time peoved asource of wealth to American vessels, was alogether neglected amongsiour own firhermen until lately. They now, however, appear anxious to engage in it more werionsly than ever, and although, the quantity caught by them this season is not quite so large ats that of last year, some fishermen, especially those of House Harbour, Grindstone and Bryon Islands, made splendid hauls, and sold their fish is high as $\$ 14$ a barrel. Sucli remunerative prices cannot but incite them to greater preparations for the pursuit of this industry.

Mackerel summer fishing yielded 3,38 , barrels, or $\pm 72$ barrels less than last year; I am, however, under the impression that the rise in prices will fuily compensate for the falling off in the catch. I was told that a lotel of 350 burrels shipped to Boston, sold at $\$ 20$ a barrel.

According to information received from the inhabitants, no more than thirty or forty United States schooners were noticed mackereling around the shores of the Islands, and out of that number very few are presumed to have calught more than 200 barrels.

## cod rISHERY.

The eame reasons which influenced the apperance of col on the south coast also delayed its arrival at the Ishank; but, unfortunately, when the fish arrived, it did not behave so well as on the souti shore, where summer fishing was splendid. Bait failed here at a time when most wanted, and when the till arrived and cod could have been caught in abundance, the weather kept so stomy that it was impossible to go out on the banks. The total catch amounts to only 1,190 quintals, against 1,642 in 1875. Eleven schooners belonging to the Islands repaired this season to the coast of Labrador. They met with an average success, taking 3,150 quintals of fish, against 1,240 in 1876.

The total catch of cod by Magdalen 1slands fishermen amounts to 3,156 quintals divided among the schooners and 7,837 by boats ; in all, 10,989 quintals, or 1,679 quintals more than in 1876. The increase in the quantity of oil produced is, however, much larger, being 10,705 gallons, against 4,6:31 in 1876.

Besides fifteen or twenty schooners from the United States which weve engaged in this fishery around the Islands, several masters from Cape Breton and from Arichat, despatch every season quite a number of small schooners, ranging from twenty-five to sixty tons, which follow bank fishing. I boarded sixteen of these vessels, as follows:-

List of Schooners fishing for Cod, boarded in the neighbourhood of the Magdalen Islands, during the Season of 1877.


These schooners were just beginning fishing when I boarded them. The ratch of the smaller ones average from 200 to 300 quintals each trip, and they generally make three voyages during the season. The larger, ranging from 50 to 60 'luintals, must have caught 1,000 quintals each during a voyage of four weeks. When cod fishing is over, they follow mackerel tishing. The crews tish on shares; half of the catch goes to the vessel, the outfitter supplying all that is required. The expense of fitting out amounts to about $\$ 1,000$, besides the cost of the vessel.

American schooners caught an average of at least 1,000 quintals per vessel, according to information received from the inhabitants on Bryon Island, where they often go ashore to purchase provisions.

Cod sold at $\$ 4$ a barrel on the spot, being one dollar chetper than lat year. Cod oil fetched fifty cents a gallon.

## LOBSTER FISHERY.

Fishing for lobsters began here threc years ago. It has always been on the increase since, and if the packers do not stop at the point they have reached, or rather curtail their operations', the race of lobsters will soon be extinguished. There were last season three canning establishments in full blast at the Islands; one at Grand Eutry, under charge of Mr . Webb, where 327,900 lobsters were calight, yielding 131,184 pounds; another, under charge of Mr. Phail, preserved 11,520 pounds, the proceeds of the catch of 28,800 lobsters. Total 356,760 lobsters, 143,704 pounds. Mr. Webb has also an establishment at House Harbour, where $\mathbf{3} 36,000$ lobstors were caught, givins 134,000 pound cans. The catch for these three establishments amounts altogether in 692,760 lobsters, and produced 277,104 cans, or 153,104 pounds more than last year. They gave employment to 49 boats and 129 hands, besides fishermen. The exjenditure at House Harbour alone amounted to $\$ 220$ a day, Fishing began in May, and closed in October. No fishing whatever was carried on during the close time.

This unprecedented catch must of necessity have had some effect on the species; so much so, that towards the end of the season, lobsters had barely the legril size of nine inches in length, and no more. Lobsters of ten or fourfeen primile were no longer caught as formerly, when these canning establishments first went their eperations. It took about two lobsters and a half to fill up a pound cill.

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It cannot be denied that these canneries have proved a source of great advantage to the localities where they are situated, but this is, after all, only of a momentary nature, and if things are allowed to go on as they are now, experience is there to teach us that in two or three years lobster packing at Magdalen Islands will be a thing of the past. What will fishermen do then? In order to make this source of wealth last as long as possible, it is undoubtedly the Government's duty to protect tho industry, but, in doing so, they must try and protect fishermen as well as packers.

Observations made in 1876, prove that female lobsters had mostly all cast their eggs by the end of September. This season, on the contrary, the number of females with eggs attached were as numerous in November as in July, a fact which would seem to agree with the dates I recommend as a close season.

Lobsters caught at Magdalen Islands are all preserved and shipped to England.

Exports of Fish and Oil trom Magdalen Islants, showing whence same were exported, during the Season of 1877.


Return of Fisting Stations, kinds of Vessels, number of


Men, kinds of Nets used, kinds of Fish and Fish Oils, \&c., \&c.

ISLANDS DIVISION.

Nets and Seines.


Return of Fishing Stations, kinds of Vessels, number of Men

MAGDALEN


Jinds of Nets used, kinds of Fish and Fish Oils, \&c. -Continued.

ISLANDS DIVISION.


Yeld ans Value of the different Fisheries of the Magdalen IslandsDivision in 1877.

| Kinds of Fish. | Quantities. | Prices. | Yalue. |
| :---: | :---: | :---: | :---: |
|  |  | \$ etr. | \$ cts. |
| Summer Cod fishing | 10,989 quiptals, at... | 500 | 54,945 00 |
| Autumn do | 190 do ... | 500 | 95000 |
| Herring.................. ......... ........ ........ ..... ........ | 38,231 barrels ... | 500 | 191,155 00 |
| Mackerel ................ .......................................................... | 4,912 do ... | 1000 | 49,120 00 |
| do preserved in cans ................................... | 960 lbs | 015 | 14400 |
| Seal Skins ................................................................... | 4,838 ріесез ... | 125 | 6,047 50 |
| Seal Oil................. ................................. ........ | 15,799 gallons ...1 | 050 | 7,899 50 |
| God Oil..................................... ................... | 10,705 do ... | 050 | 5,352 50 |
| Lobsters, in cans ............................. ............... | 277,104 lbs. | 015 | 41,565 60 |
| Fish and Ulams used as Bait and Manure............... | 1,923 barrels ... | 100 | 1,923 00 |
| Fish used for local consumption .... .... ......... ....... | 1,767 do ... | 400 | 7,068 00 |
| Total valne of the product of the Fisheries for $1877 .$. |  |  | $\begin{aligned} & 366,170 \quad 10 \\ & 450,865 \quad 75 \end{aligned}$ |
| Decrease....................... ............. ......... |  |  | 84,695 65 |

## ANTICOSTI ISLAND.

The Island of Anticosti cannot, strictly speaking, le called an agricultural countrf; the largest portion of its soil offers, howerer, great inducements for growing vegelables. Althongh the company formed in $187=$ for the purpose of settling this Islan and developing its resources did not prove a suecess-, the idea was a good one, and way sooner or later be realized. We owe to this company the nucleus of coorization which increases every vear. The popnlation, which numbered only 102 pereris. in 1871 , soon went up to $\geqslant 50$, and the addition of sixteen families from Newtoundland, has now increased it to 400 .

A mong the families which first settled at English Bay, Fox Bay and Strawberry Cove, several may be considered to be in fair circumstances. Some settloments even had an abundance of winter supplies, and early in the spring a cargo of potatoes was sent from English Bay to Quebec. The crop of potatoes was very abundant, yielding frirty or forty-five bushels to one. The flelds had a most beautiful aspect. It Fox Bay, which has been settled for some two or three years past, everything would hare gone well, had not sixteen families arrired all at once during the month. of $\Lambda$ ugust. Being unprovided with provisions for the winter, and the time of fishing being nearly over, these people would have fared badly, had not the local government. kindly sent seventy-five barrels of flour, which will onable them to wait until next spring. They will, I hope, be more careful another season and pay better attention to their own wants.

There are now about one hundred and forty families on the Island; most of them boing located at English Bay, Strawberry Cove, Fox Bay, and at the south-west and south points. A large increase is yearly experienced during the summer by the arrival of fisbermen from Douglastown and Montmagny, who go there for cod-fishing. This foating population is said to have amounted this season to 391 people. The most frequenterl tishing localities are at Fox Bay, Capelin Bay, Cape Observation and the norti-east part of the Island. The crop of vegetables was so abundant that the inhabitants are under no apprebensions for next winter, but the price of fish being lower than in 1876, they will be unable to save as much money.

In order to protect the provision depôts, which are located at various places on the Island for the purpose of rendering assistance to wrecked vessels, the government considered it necessary to punish those who had been guilty of pillaging them in 1875. This long needed act of justice has already borne its fruits, and I was happy to learn, when at the Island last spring, that law and property had beon respected and.
that the parties who spent part of the winter in jail as a punishment for their pant misdeeds, went steadily to work after, and latre canght from oighty lo ninety duintais of cod, and stored from 200 to 250 bushels of potatoes each.

Provisions were scarce and costly during the beginning of the season, especially at English Bay; but later in the fall, a schooner from Quebec, loaded with provisions, was wrecked there. The cargo was saved and subsequently disposed of chear. There were enough supplies to meet all the possible wants of the rosidents. Durmer the month of November, the "Northumbria" a vessel loaded with flour and wheal, was also wrecked on the castern point of Anticosti. Most of the cargo was sared; this will also add to the winter stock of provisions.

## COD FISHERT.

Early in the spring, cod was most abundant every where around the Island, when all of a sudden fish and bait disappeared. This unfortunate occurrence is said to be due to the same reasons which influenced their disappearance in other localities. during nearly the whole summer. The fish returned only towaros the fall, but it being very difficult to carry on fishing in these localities after 15th September, the boats hardly caught more than four or five quintals whenever enabled to go ois. The catch amounted to 8,256 quintals, which gives an average of from to to 50 quintals, each boat. The catch in 1876 amounted to 5.663 with thirty boats lese Cod sold from $\$ 3.30$ to $\$ 3.50$. Last ycar the prices went up as high as $\$ 4.50$.

## HERIRIN: HALIBUT AND DLACKEREL FISIIERIES.

The locality where herring strikes in ${ }_{\text {greater abundance every spring is Pox }}$ Bay, on the north-east side of Anticosti. Vessels from the United States and the Maritime Provinces usually repair to Fox Bay for their cargoes, no less than twentyeight schooners being there this spring. The list of these vessels was accidentally lost. I am, howerer aware that their catch amounted to 13,500 barrels, which added to $1,41 t$ barrels caught at other parts on that coast, during the remainder of the season, gives a total of 15,414 barrels, agrainst 4,410 last year. The advantages of this abundance was particularly felt by foreign vessels; the catch by residents being smallor than usual, owing to stormy weather, which provented their going out or setting their nets.

Complaints having been made that bait for cod-tishing was gradually getting scarce in Fox Bay, I thought that the practice carried on by foreign vessols of throwing their oftals on the grounds, might have something to do with the matter. and I instructed the local tishery guardian to be on the spot during the whole fisking season next spring, so ats to have the law strietly carriod out. I shall, hesides, do, myself, all I can to be there in time next season and see that these orders are enforced.

The halibut fishing grounds around the Island of Anticosti, are known to be unsurpassed. Although greatly injured by excessive fishings, three American schonenersecured their cargocsnear Cape Observation, and the settlers who only follow this pursuit accidentally caught 164 barrels, being seventy barrels more than last year.

About twenty barrels of mackerel were also caught in berring nets; the fish however, appeared to be more abundant than usual.

## SALMON FISHERY.

The catch of salmon was somewhat better than that of last year, without being very remunerative; the total jield being 79 barrels, against 72 in 18.6.

SEAL-HUNTING.
Seal-hunting was comparatively good. Two men who employ their time at shooting seals, killed 13", which being added to 70 caught in nets gives a total of 202 , against 145 in 1876. The quantity of oil produced amounted to 440 gallons, against 3 lis last year.

When at Fox Bay, I beard it rumoured that the settlers intonded building a schooner for the purpose of going out seal-hunting in the Galf. I encouraged this idea as much as possible, Fox Bay being one of the most advantageous harbours for fitting out such expeditions in the spring.

The total value of the fisheries of the Islard during the present season amount to $\$ 133,352$, against in $1876 \$ 56,585$; an increase of $\$ 8,766$.

Return of Fishing Stations, kind of Veseele, Number of Men

ISLAND OF ANTI

kinds of Nets used, kind of Fish, and Fish Oils, \&c.

COSTI DIVISION.

Nets and Seifes.


Return of Fishing: Stations, kind of Vensels. Number of

ISLAND OF ANTICOSTI


Men, kinds of Nots used, kind of Fish, and Fish Oil, \&e., \&c.

## DIVISION.-Continued.



RECAPITULATION.
Yield and Value of the different Fisheries of the Island of Anticosti Division in 1877.


Rettrn of Fishina Stations, kinds of Vehsels, number of Men, kind of Nets used, kinds of Fish and Fish Oils, \&c.
GENERAL RECAPITULATION.


Retles of Fisminu Statons, kinds of Vesech, number of Men, kind of Nets used, kinds of Fish and Eish Oils, \&e. Comemucd.
GENERAL RECAPITULATION.-Continued.


## EXTRACT

FROM THE LOG-BOOK OF TIIE FISHERIES PROTECTION STEAMER "LADY HEAD" FOR THE SEASON OF 1877.

May 15.-Took charge of S.S. "Lady Head" at the Government Wharf, 10.10 a.m. Left the Government Wharf, 10.20 a.m. Moored at L'Islet wharf, 3 p.m.

May 16.-Loft L'Islet, 10 a.m. Anchored at Brandy Pots, 5 p.m.
May 17.—Left Brandy Pots, 1 p.m. Anchored at Green Island, 2.50 p.m.
May 19.-Left Green Island, 8.30 a m . Anchored in Trinity Bay, 3 p.m.
May 20 .—Left Trinity Bay, 3 a.m.
May 31 - Anchored at West Point, Magdalen Islands, 10.30 a.m. Left West, Point, Magdalen Islands, 1 p.m. Anchored at IIouse Harbour, 4 p.m.

May 22.-Left House Harbour, 1 p.m. Auchored at $A$ mherst, 2 p.m.
May ${ }^{2}$. - Left Amherst, $4 \mathrm{a} . \mathrm{m}$. Anchored at West Point, Magdaien Islanils, 7.20 am.

May 28.-Left West Point, Magdalen Islands, 7 a.m. Anchored at Gaspé Basin, 10.20 p.m.

May 30.-Left Gaspé Basin, 10 a.m. Anchored at Percé, 1.20 p.m.
May 31.-Left Percé, 4 a.m. Anchored at Grand River, $5.45 \mathrm{a} . \mathrm{m}$.
June 1.-Left Grand River, 9.45 a.m. Anchored at Pabos, 10.20 a.m.
June 2.-Left Pabos, 9.30 a.m. Anchored at Newport, 10 a.m. Left Newport, 3.15 p.m. Anchored at Port Daniel, 4.25 p.m.

Juno 4.-Left Port Daniel, 12 p.m. Anchored at Paspebiac, 2 p.m.
June 5.-Left Paspebiac, 8.25 a.m. Anchored at Cascapedia, $12.30 \mathrm{p} . \mathrm{m}$.
June 6.-Left Cascapedia, 8 a.m. Anchored at Carleton, 10.40 a.m.
June 7.-Left Carleton, 3.50 p.m. Anchored at Campbellton, 6.40 a.m. Teft Campbellton, 5.15 p.m. Anchored at Carleton, 10.20 p.m.

June X.-Lcft Carleton, $8.30 \mathrm{a} . \mathrm{m}$. Anchored at Capelin River, 11.45 a.m. Left Capelin River, 2.40 p.m. Anchored at Bonaventure, 3.40 p.m.

June 9.-Left Bonaventure, $8.40 \mathrm{a} . \mathrm{m}$. Anchored at Paspebiac, $10.25 \mathrm{a} . \mathrm{m}$. Left Paspebiac, 1.10 p.m. Anchored at Newport, 4.10 p.m.

June 10.-Left Newport, $7.30 \mathrm{a} . \mathrm{m}$. Anchored at Pabos, 8.25 a.m.
June 11.-Left Pabos, 11.45 a.m. Anchored at Newport, 12.35 p.m. Left Newport, 1.40 p.m. Anchored at Gaspé Basin, 7 p.m.

June 15.-Left Gaspé Basin, 8 p.m.
June 16.-Anchored at Pabos, 2 a.m. Left Pabos, 10.10 a.m. Aachored at Gaspé Basin, 3 p.m.

June 18. Left Gaspé Basin, 6.30 p.m. Anchored at Pabos, 12 p.m.
Jụne 19.-Left Pabos, 6 a.m. Anchored at House Harbour, Magdalen Islands, 9 p.m.

Junc 21.-Left House Harbour, 1 p.m. Anchored at Amberst, ${ }^{2}$ p.m.
June 22.-Left Amherst, $4.10 \mathrm{p} . \mathrm{m}$. Anchored at Grindstone Point, $5.10 \mathrm{p} . \mathrm{m}$.
June 93 -Left Grindstone Point, 9 a.m. Anchored at Old Harry Head, Magdalen Islands, 11.45 a.mn. Leit Old Harry Head, 4.30 p.m.

June 24.-Anchorcd al West Point, Anticosti, 5 a.m. Left West Point, Anticosti, 1 p.m. Anchored at Kegashca, 8 p.m.

June 25.-Left Kegashca, 3 p.m. Anchored at Natashquan River, 6.20 p.m. Left Natashquan River, 11.10 p.m.

June 26.—Anchored at Esquimaux Point, 6.30 a.m. Left Esquimaux Point, 9 a.m. Anchored at St. John River, 12.30 p.m. Left St. John River, 3 p.m. Anchored at Mingan, 5.10 p m .

June 28.-Left Mingan, 3.10 p.m.
June 29.-Anchored at Moisic River, 3.30 p.m. Left Moisie River, 11.50 a.m. Anchored at Seven Islande, 1.10 p.m. Left Seven Islands, 2.20 p.m. Anchored at Egg Island, 7.20 a.m.

June 30. -Left Egg Island, 7.25 a.m. Anchored in Trinity Bay, 9.15 a.m. Left Trinity Bay, 4.45 p.m. Anchored at Fgg Island, 6 p.m.

July 3.-Left Egg Island, $4.15 \mathrm{a} . \mathrm{m}$. Anchored in Trinity Bay, $5.40 \mathrm{a} . \mathrm{m}$. Left Trinity Bay, $6.15 \mathrm{a} . \mathrm{m}$. Anchored at Gaspé Basin. $9.30 \mathrm{a} . \mathrm{m}$.

July 5.-Left Gaspé Basin, 9 a.m. Anchored at S . W. Point, $3.15 \mathrm{p} . \mathrm{m}$. Left S. W. Point, 8.30 p.m.

July 6.-A Anchored at Garpé Basin, 2.03 a.m.
July 7.-Left Gaspé Basin, 11 a.m.
July S.-Anchored at Richibucto, $1.30 \mathrm{a} . \mathrm{m}$. Left Richibucto, $10 \mathrm{a} . \mathrm{m}$. Anchored at Pictou Harbour, 10 p.m.

July 9.-Left' Pictou Harbour, 11 a.m.
July 10.-Anehored at Pictou Mines, 12 p.m. Left Pictou Mines, 7 a.m. Anchored off Pictou, 8 a.m.

July 17.-Left Pictou, $10: 30$ p.m.
July 18.-Anchored at A mberst, Magdalen Islands, 11 a.m.
July 19.-Left Amberst, Magdalen Islands, 12.0 a.m. Anchored at Bryon Island, $6 \mathrm{p} . \mathrm{m}$.

July ${ }^{2}$ :-LLeft Bryon Island, 12.20 a.m. Anchored at East Point, Anticosti, 2 p.m.

July 22.-Left East Point, Anticonti, 8.30 a.m. Anchored at Cormorant Point,
0.30 am . Left Curmorant Point, 1.25 p.m.

July 23.-Anchored at Port Dinicl, 4.45 a.m.
July 25.-Left Pont Daniel, 4 a.m. Anchored at Newport, 5.30 a.m. Left Newport. 1:20 p.m. Anchored at Grand River, 3 p.m. Left Grand Rirer, 7 p.m. Anchored at Perce, $8.40 \mathrm{p} . \mathrm{m}$.

July 26.—Left Percé, $7.20 \mathrm{p} . \mathrm{m}$.
July 27.-Anchored off Magdalen Rirer, 3.今0 a.m. Left Magdalen River, 12 p.m.
July 28.-Anchored at Fox River, 4 a.m. Left Fox Rirer, 7.30 am . Anchored at Anse à la Louise, 8 am . Left Anse a lis Louise, $840 \mathrm{a} . \mathrm{m}$. Anchored at Cape Rosicr, $9.15 \mathrm{a} . \mathrm{m}$. Left Cape Rosier $11.11 \mathrm{a} . \mathrm{m}$. Anchored at Cape Rosier Lighthouse, 11.20 a.m. Left Cape Rosier Lighthouse, 3 p.m. Ancbored off Cape Gaspé, 4 p.m.

July 29.-Left Cape Gaspì, $6 \mathrm{a} . \mathrm{m}$. Ancbored at Douglastown, 7 a.m. Left Douglastown, $4.20 \mathrm{p} . \mathrm{m}$. Anchored at Point Penouille, $5 \mathrm{p} . \mathrm{m}$.

July 30.-Left Point Penouille, 7.30 a.m. Anchored at Sandy Beach, 8 a.m.
July 31.-Left Sandy Beach, 6 a.m. Anchored at Fox River, 9 a.m. Left Fox River, 1.15 p.m. Anchored at Anse au Gris Fonds, 2.20 p.m.

August 1.-Left Anse au Gris Fonds, 8 a.m. Anchored at Chieu Blanc, 11:15 a.m. Left Chieu Blane, $\because$ p.m. Anchored at Haldimands Bluff, Gaspé Bay, 3 p.m.

August 2.-Lelt Haldimands Bluff, Gaspé Bay, 2 p.m. Anchored in Gaspé Basin, $7 \mathrm{a} . \mathrm{m}$.

August 3.-Left Gaspé Basin, 2 p.m. Anchored at Percé, 5.15 p.m.
August 4.-Left Percé, 4.45 a.m. Anchored at Newport, 8 a.m. Left Newport, $9.30 \mathrm{a} . \mathrm{mi}$.

August 5.-Anchored at Cape Tormentine, 1 a.m. Left Cape Tormentine, 9.40
a.m. Anchored at Pictou Harbour, 5.40 p.m.

August 7.-Left Pictou Harlour, 4.50 p.m. Moored to the Mines Wharf, 2.20 p.m.

August 11.--Left the Mines Wharf, 3.15 p.m. Anchored off Pictou, 3.45 p.m. Left Pictou, 6.40 p.m.

August 12.-Anchored at Port Daniel, 4.50 p.m. Left Port Daniel, 5.40 p.m. Anchored at Newport, 6.40 p.m. Left Newport, 7.15 p.m. Brought to at Percé, 8.10 p.m. Left Porcé. 10.45 p.m.

August 13.-Anchored at Point Penouille, I: a.m. Left Point Pcoouille, 5 a.m. Brought to at Sandy Beach, 5.20 a.m. Left Sandy Beach, 5.40 a.m. Anchored at Garpé Basin, 5.57 a.m. Lelt Craspé Basin, 3 p m. Anchored at Percé, 6 p 上:

August 14.-Left Percò, 9.25 a.m. Anchored at Barachois, 10 a.m. Left Barachois, 1.20 p.m. Anchored at Perce, 3.05 p.m. Left Percé, 6 p.m. Anchored at Gaspé Basin, 10 p.m.

August 18.-Left Gaspé Basin, 12 p.m. ; anchored at Anse an Gris Fonds, 3.40 p.m. Left Anse an Gris Fonds, 5.30 p.m. Anchored at Chloridorme, 8.45 p.m.

August 19.-Left Chloridorme, 10.05 a.m. Anchored at Grand Valley, 11.40 a.m. Left Grand Valley, 2 p.m. Anchored at Magdalen River, 2.50 p.m. Left Migdalen River, 5 pm . Anchored at Mont Louis, 7.10 p.m.

August 20.-Left Mont Louis, 1.40 a.m. Anchored at St. Anne des Monts, 6.11 a.m. Left St. Anne des Monts, 1.40 a.m. Anchored in Trinity Bay, 5.45 p.m. Left Trinity Bay, 11.45 p.m.

August 21.-Anchored at Moisie River, $7.40 \mathrm{a} . \mathrm{m}$. Left Moisie River, $9.30 \mathrm{a} . \mathrm{m}$. Brought to at Sheldrake River, 2 p.m. Left Sheldrake River, $4.30 \mathrm{p} . \mathrm{m}$. Anchored at St. John River, 6.40 p.m.

Augnst 22.-Lcft St. John River, 11.10 a.m. Anchored in English Bay, Anticosti, 2 p.m.

Augast 23.-Left English Bay, 11.25 a.m. Anchored at Gaspé Basin, 8.21 p.m.
August 25.-Left Gaspé Basin, 7.40 a.m. Anchored at Donglastown, 8.30 a.m.
August 27.-Left Douglastown, $7.20 \mathrm{a} . \mathrm{m}$. Anchored at Perce, $9.30 \mathrm{a} . \mathrm{m}$. Left Percé, $1.10 \mathrm{p} . \mathrm{m}$. Anchored at Pabos, $3.40 \mathrm{p} . \mathrm{m}$.

August 28.-Left Pabos, 10.05 a.m. Anchored at Newport, 11.10 a.m. Left Newport, 12.40 p.m. Anchored at Port Daniel, 2.15 p.m.

August 29.-Left Port Daniel, 6.45 p.m. Anchored inside of Port Daniel, 7.30 p.m. Left Port Daniel, 1.50 a.m. Anchorod at Capelin River, 4.20 p.m. Left Capelin River, 5.25 p.m. Anchored at New Richmond, 7.0 p.m.

August 30.-Left New Richmond, 2 p.m. Anchored at Carleton, 3.40 p.m.
August 31.-Left Carleton, 6.40 p.m. Inchored at Cbarlot River, 10.40 p.m.
September 3.-Left Charlot River, 10 p.m. Anchored at Carleton, 7.45 p.m.
September 4.-Left Carleton, $4.15 \mathrm{a} . \mathrm{m}$. Anchored in Port Daniel, 9.30 a.m! Left Port Daniel, 7.30 p.m.

September 5.-Anchored at Gaqpé Basin, 3 a.m. Moored at Eden's Wharf, 6 a.m. Left Eden's Wharf', 6 p.m.

September 6.-Left Gaspé Basin, 2 p.m.
September 7.-Anchored at Whale Head, Little Meccatina, 3.20 jo.m. Left Whale Head, Little Meccatina, 5 p.m. Anchored at Bay des Montons, 6.20 p.m.

September 8.-Left Bay des Montons, 9.10 a.m. Brought to at La Tabatiòre, $9.45 \mathrm{a} . \mathrm{m}$. Left La Tabatiòre, 11.15 a.m. Anchored in Big Meccatina Harbour, 12 p.m. Left Big Meccatina Harbour, 1.10 p.m. Anchored at Kikapoe, 3.20 p.m. Left Kakapoe, 5.15 p.m. Anchored at Goose Bay, 7 p.m.

September 9.-Left Goose Bay, 8.45 a .m. Brought to at Point a Giroux, at 9.05 a.m. Left Point à Giroux, $9.30 \mathrm{a} . \mathrm{m}$. Anchored at Mistanoque Bay, 11.20 p.m. Left Mistanoque Bay, 12.40 p.m. Anchored at Bay des Rochers, 2 p.m.

September 10 -Left Bay dos Rochers, 3 p.m. Anchored at Bonne Espérance, 6.20 p.m.

September 11.--Left Bonne Espérance, 10.30 a.m. Ancbored at Salmon Bay, 11.15 a.m. Left Salmon Bay, 1.30 p.m. Anchored at Bonne Espérance, 2 p.m. Left Bonne Espérance, 3 p.m. Anchored at Blanc Sablon, 5.16 p.m.

September 12.-Left Blanc Sablon, 7.15 a.m. Ancbored at Long Point, 8 a.m. left Long Point, 10.25 a.m. Anchored at Parrot Island, 10.40 a.m. Left Parrot Island, 2.15 p.m. Anchored at Dog Island, 7.15 p.m.

September 13.-Left Dog Island, 5.40 a.m. Anchored at Kikapoe, 11.15 a.m. left Kikapoe, 2. $15 \mathrm{p} . \mathrm{m}$. Brought to at La Tabatière, $3.20 \mathrm{p} . \mathrm{m}$. Left Tabatière, 3.40 p.m. Brought to at Point Grand Mcccatina, 4 p.m. Left Grand Meccatina, 4.47 p.m. Ancbored at Whale Head, 10 p.m.

Sept. 14.-Left Whale Head, $5.20 \mathrm{a} . \mathrm{m}$. Brought to at Harrington Inlet $7 \mathrm{a} . \mathrm{m}$ Left Harrington Inlet, 8 a.m. Anchored at Kceashca, 5.35 p.m.

Sept. 15.-Left Kegashca, 10.45 a.m. Anchored at Washeecootai, 1.10 p.m.
$1-e 7 \frac{1}{2}$

Sept. 16.-Ieft Washeecootai, 1 p.m. Anchored at Kegashca, 3.30 p.m.
Sept. 19.-Left Kegashca, 8.45 a.m. Brought to at Esquimaux Point, 6 p.m. Left Esquimaux Point, 6.30 p.m. Anchored at Mingan Harbour, 8.20 p.m.

Sept. 22.-Left Mingan Hurbour, 8.20 a.m. Brought to at Long Point, 9.10 a.m. Left Long Point, 9.45 a.m. Anchored at St. John River, 10.10 a.m.

Sept. 23-Left St. John River, 9.20 a.m. Anchored at Douglastown, 9.20 p.m.
Sept. 24.-Left Douglastown, 11.35 a.m. Anchored at Gaspé Basin, 12.20 p.m.
Sept. 25.-Moored at Eden's Wharf, 6 a.m. Left the Wharf, 5 p.m.
Sept. 27.-Left Gaspé Basin, 8.10 p.m. Brought to at Birch Point, Anticosti, 7.20 a.m. Left Birch Point, Anticosti, 12.40 p.m. Brought to at South Point, 4 p.m. Left South Point, 4.40 p.m. Anchorcd at East Point, Anticosti, 8 p.m.

Sept. 24.-Left East Point, Anticosti, 6 a.m. Anchored at Reef Point, 7 a.m. Left Reef Point, 4.40 p.m.

Sept. 30.-Anchored at English Bay, 11.30 a.m.
October 1.-Left English Bay, 6.30 a.m. Anchored at Mingan Harbour, 10.20 a.m. Left Mingan Harbour, 12 p.m. Anchored at Esquimaux Point, 2 p.m. Left Esquimaux Point, 4.10 p.m. Anchored at Mingan, 6 p.m.

October 2.-Left Mingan, $6.30 \mathrm{a} . \mathrm{m}$. Brought to at Pigon, 2 p.m. Left Pigou, 3 p.m. Anchored at Moisie River, 4 p.m. Let't Moisio River, 4.50 p.m. Anchored at Seven Islands, 7.15 p.m.

October 3.-Left Seven Islands, $11.50 \mathrm{a} . \mathrm{m}$. Anchored at Egg Jeland, $5.25 \mathrm{p} . \mathrm{m}$.
October 4.-Left Egg Island, 1.10 a.m. Anchored at Trinity Bay, 4.10 p.m.
October 5.-Left Trinity Bay, 11 a.m. Anchored at Ruisseau it Rebours, south shore, 5.15 p.m. Left Ruisseau à Rebours, $55^{2}$ p.m. Anchored at Magdalen, 8.30 p.m.

October 7.-Left Magdalen, 9 a.m. Anchored at Cape Rosier, 2.45 p.m.
October 8.-Left Cape Rosier, 7 a.m. Anchored at Malbay, 9 a.m. Left Malbay $4.35 \mathrm{p} . \mathrm{m}$. Anchored at Gaspé Basin, $7.30 \mathrm{a} . \mathrm{m}$. Moored at Le Boutilliers Wharf, 8 p.m.

October 11.-Left Le Boutillier's Wharf, 3 p.m. Moored at Eden's Wharf, 3.30 p.m.

October 13.-Left Eden's Wharf, 7 a.m. Anchored at Gaspé Basin, 7.35 a.m. Left Gaspé Basin, 2.20 p.m. Anchored at Point Periouille, 2.35 p.m.

October 14.-Left Point Periouillo, 2.20 a.m. Anchored at Douglastown, 3.25
a.m. Left Douglastown, $5.26 \mathrm{a} . \mathrm{m}$. Anchored at Malbay, 7.50 a .m.

October 15.-Left Malbay, 12.45 a.m. Anchored at Houso Harbour, Magdalen Islands, 5.15 p.m.

October 16.-Left House Harbour, 1.24 p.m. Anchorod at Amherst, 2.20 p.m.
Left Amberst, 11.27 p.m. Anchored at House Harbour, MIagdalon Islands, $0.25 \mathrm{a} . \mathrm{m}$.
October 19.-Left House Harbour, 5.35 am . Anchored at Amberst, 6.35 a.m.
Left Amberst 11.40 a.m. Anchored at Bryon 1sland, 4.30 p.m.
October 21.-Left Bryon Island, $2.30 \mathrm{a} . \mathrm{m}$. Anchored at Malbay, 10.35 p.m.
October 22.-Left Malbay, 3.10 p.m. Anchored at Gaspé Basin, 6.10 p.m.
October 24.-Left Gaspé Basin, 1.10 p.m. Anchored at Percé, 4 p.m. Left Percé 6.10 p.m. Anchored at Port Daniel, 11 p.m.

October 25.-LLeft Port Daniel, 11.40 a.m. Anchored at Maria, 5.15 p.m.
October 26.—Left Maria, 1.5 p.m. Anchored at Carleton, 2.35 p.m.
October 27.-Left Carleton, 1.30 p.m. Anchored at Port Daniel, 7.45 p.m.
October 28.-Jeft Port Daniel, 1 p.m. Anchored at Gaspé Basin, 8.30 p.m. Moored at Eden's Wharf, 9 p.m.

Octobor 29.-Left Eden's Wharf, 11 a.m. Anchored at Gaspé Basin $11.30 \mathrm{a} . \mathrm{m}$.
October 30.-Left Gaspé Basin, 1.40 p.m. Anchored at Cape Rssier, 4.15 p.m.
October 31.-Left Cape Rosier, 6.10 a.m. Anchorod at Fox River, 7.55 a.m.
November 1.-Left Fox River, 7.35 p.m.
November 2.-Anchored at Cariboo Lighthousc, 10 p.m.
November 3.-Left Caoiboo Lighthouse $6.45 \mathrm{a} . \mathrm{m}$. Anchored at Pictou Harbour, 8.35 a.m. Left Pictou Harbour, 2 p.m. Moored at the Mine's Wharf, 2.30 p.m.

November 6.--Left the Mine's Wharf, 7 a.m. Anchored at Pictou, $7.35 \mathrm{p} . \mathrm{m}$. November 7.-Left Picton, $7.20 \mathrm{a} . \mathrm{m}$. Anchored in the Gut of Canso, $3.30 \mathrm{p} . \mathrm{m}$. November 8.--Anchored in Halifax Harbour, 1 p.m. Moored at the Government Wharf, 3 p.m.

November 10.-Part of the vessel's crew discharged go by rail to take the "Newfield," at Pictou, and from thence to Quebec.

I hare the honor to be, Sir,
Your obedient servant,

> N. LAYOIE,

Fishery Officer in command of the Fisherin: Protection Steamer "Laly Hetel."

Retorn of Fishing Stations, Number and Yalue of Fishing Boats and Nets, Shore of the River St. Lawrence, from Point

2.

Number of Men, together with the Yield, Value and Kinds of Fish, on the South Lévis to Cape Chatte, during the Year 1877.

Kinds of Fish.


Retorn of Fishing Stations, Number and Value of Fishing Boats and Nets, Shore of the River St. Lawrence, from Point Lévis


Number of Men, together with the Yield, Value and ixinls of Fish, on the South to Cape Chatto, during the Year 157\%.-Continut.

Kinds of Fleit.


## RECAPITULATION.

Yield and Valuo of the different Fisheries trom Point Lévis to Cape Chatte, in 1877.


## ADPENDIX No. 3.

Return of Fishing Stations, Number and Value of Fishing Boats and Nets, Number of Men, together with the Yield, Value and Kinds of Fish, \&c., on the North Side of the River St. Lawrence, from Quebee to Bersimis, during the Year 1877.



Return of Fishing Stations, Number and Value of Fishing Boats and Nets, Number of Men, together wilh the Yield, Value and Kinds of Fish, \&c., on the North side of the River St. Lawrence, ©c.-Continued.



## RECAPITULATION.

## Yield and Value of the different Fisheries from Quebec to Bersimis in 1877.



## APPIENDIX No. 4.

Feturn of Number and Value of Fishing Boats and Nets, together with the Yield, Value and Kinds of Fish, \&c., in the Districts abore Quebec, during the Year 1877.


## RECAPITULATION.

Yield and Value of the different Fisheries in the Districts above Quebec in 1877.


# No. 5. <br> GENERAL RECAPITULATION 

Of the Yield and Value of the Fisheries on the North and South Shores of the River and Gulf St. Lawrence, from Quebec to Blanc Sablon, and from Point Lévis to Baie des Chaleurs, and in the Districts above Quebec, during the years 1876 and 1877.

| Kinds of Fish | 1876. |  | 1877. |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Quantities. | Value. | Quantities. | Value. |
| Summer Cod-fishing ................. | $\begin{array}{rr\|} 185,165 & \text { qntls... } \\ 40,931 & \text { do } \ldots \end{array}$ | $\begin{array}{cc} \$ & \text { cts. } \\ 925,825 & 00 \end{array}$ |  | \$ cts. |
|  |  |  | 225,816 qntls... | 1,129,080 00 |
| Autumn do ................. |  | 204,655 00 | 37,626 do ... | 188,130 00 |
| Herrings, pickled .................... | 105,454 brls ... | 421,816 00 | 73,924 brls... | 358,925 50 |
| do smoked ...... ..... ........ | 832 boxes.. | 20800 | 700 boxes. | 17500 |
| do fresh-water ............... | $6 \frac{1}{2}$ brls.... | 3250 | 25 brls.... | 12500 |
| Mackerel ........ . .......... ...... | 4,975 do ... | 49,7E0 00 | 5,3431 do ... | 53,435 00 |
| do preserved in cans ....... | ............... |  | 960 lbs ..... | 14400 |
| Haddock ........ ............... ........ | 347 qntls... | 1,735 00 | 248 qutls .. | 1,240 00 |
| Ling. | 1,149 do ... | 5,745 00 | 99 do ... | 49500 |
| Halibut ............................... | 183 brls.... | 1,098 00 | $227 \frac{1}{2}$ brls... | 1,365 00 |
| Salmon, pickled .... | 2,216 do ... | 35,456 00 | 2,232 ${ }^{2}$ do $\ldots$ | 26,790 00 |
|  | 267,276 ${ }^{\text {l }} \mathrm{lbs} . . . .$. | 13,363 83 | 326,548 lbs..... | 16,3<7 40 |
| do ....... ....................... | 8,4211pieces.box.... | 8,421 00 | 8,806 pieces. | 8,806 00 |
| do smoked...... .......... .. |  | 400 | 1 box.... | 400 |
| do preserved in cans......... | 50,901 lbs. .... | 7,635 15 | 100,605 lbs ..... | 15,090 75 |
| Winnonish ..................... ....... | 3,000 pieces. | 75000 | 3,290 pieces. | 83250 |
| Trout (Sea) .......................... | $163 \frac{1}{2}$ brls.... | 1,308 00 | 2761 27 brls.... | 2,212 00 |
| do Speckled and Grey... | $447,200 \text { lbs ..... }$ | 35,566 00 | 458,740 lbs ..... | 36,687 20 |
| Sturgeon. | 5591 ${ }^{\frac{1}{2}}$ brls ... | 4,47600 20,418 | 6173 brls ... | 4.94000 |
| Bar and Wbitefisb ............ ....... | 10,209 doz.... | 20,418 00 | 10,539 doz..... | 21,078 00 |
| Bar Fish........... ...................... | ..................... |  | ${ }_{52,642}^{2,64}$ pieces. | 1,321 00 |
| Shad..................... ................. | 1,8.30 ${ }^{2}$ brls.... | 14,240 50 | 52,647 do .. | 5,264 70 |
| Sardlneg. ........................ ....... |  | 9,152 50 | 8,130 brls.... | 40,650 00 |
| Eels. | 291,737 ${ }^{\text {47 }}$ рieces. | 47000 | 23 do ... | 23000 |
| do |  | 29,173 70 | 282,744 pieces. | 28,274 40 |
| Bass | ...................... |  | 525 brls.... | 5,250 00 |
| Pike ....... ... .................. ....... | $\begin{array}{cc}400 & \text { brls.... } \\ 695 & \text { do }\end{array}$ | 4,00000 | 775 do ... | 7,750 00 |
| Pickcrel ..................... .......... |  | 695000 | 1,870 ${ }^{\text {d }}$ do $\ldots$ | 18.70500 |
| Tom Cod ............................... | 22,000 bush... | 11,000 00 | 20,000 bush... | 10,000 00 |
| Tunny ................... ............. | 3,015 brls.... |  | ${ }^{2}$ brls.... | 1000 |
| Smali and mixed Fish........ ........ |  | 1,507 500 50 | 6,313 dn ... | 3,156 50 |
| Other Fish ....... ...................... | 19,530 bris.... | $\begin{array}{r}500 \\ 97,650 \\ \hline 150\end{array}$ | 16,778 brls ... |  |
| Mixed Fish ........ ...................... |  | 97,650 1,234 00 | 16,778 brls ... | 83,890 00 |
| Maskinongé.......... .............. ..... | 617 pieces. | 1,234 00 | 767 pieces. | 1,534 00 |
| Shark. | 9,915 pieces. |  | 40 do | 24000 |
| Seal Mkins ....... .............. ........ |  | 12,393 75 | 14,612 do | 18,265 00 |
| Porpoise Skins ....................... |  | 84800 | 137 do .. | 54800 |
| Lobsters, preserved in cans do fresh.... | $\begin{aligned} & \text { 245,335 lbs. .... } \\ & \text {........................ } \end{aligned}$ | 36,800 25 | $\begin{array}{rr} 450,669 & \text { lbs } \ldots . . \\ 5,000 & \text { do } \ldots \end{array}$ | $\begin{array}{r}67,60035 \\ 250 \\ \hline\end{array}$ |
| Fish and Clamos used as bait and manure | 74,640 brls.... | 32,700 00 | 206,649 brls.... | 187,859 25 |
| Fish used for local consumption.. | .................... |  | 11,5542 do ... | 46,218 00 |
| Cod Tongues and Sounds... ......... | 55,126 galls... | 1,593 00 | 234 do ... | 2,116 00 |
| Seal Oil ...... ........ ...... ................ |  | 27,563 00 | 73,560 galla ..' | 36,780 00 |
| Whale Uil ............. ............... | $\begin{array}{rr}9,618 & \text { do } \ldots \\ 9,610 & \text { do } \ldots \\ 118,271 & \text { do } \ldots\end{array}$ | 4,80900 | 13,716 do ... | 6,858 00 |
| Porpoise Oil..... . ..................... |  | 7,684 00 | 11,188 do ... | 8,950 40 |
| Cod Oil |  | 59,135 50 | 225,129 do .. | 112,564 50 |
| Total.................... | .. ............. ..... | 2,097,667 18 |  | $\begin{array}{lll} 2,560,147 & 45 \\ 2,097,667 & 18 \end{array}$ |
| Increase......... ........ | ....... ....... .................... ......... |  |  | 462,480 27 |

## No. 6.

## SYNOPSES OF FISHERY OVERSEERS' AND GUARDIANS' REPORTS IN THE PROVINCE OF QUEBEC, FOR THE YEAR 1877.

## SOUTH SIIORE DIVISION FROM POINT LEVIS TO CAPE CHATTE.

Clovis Caron,
Jules Gauvreau,
Hermenegilde Martin,
L. E. Grondin,
Vital Charest,


The following comparative table exhibits the field of the fisheries in this 1)ivision :-

|  | 1870. | 1871. | 1872. | 1873. | 1874. | 1875. | 1876. | 1877. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Salmon (pieces) | 9,574 | 4,432 | 3,374 | 4,726 | 3,342 | 4,171 | 5,436 | 5,935 |
| Shed do | 16,249 | 25,035 | 18,410 | 18,094 | 20,583 | 85,822 | 117,927 | 33,936 |
| Herrings (brls.).............. ..... | 6,671 | 2,169 | 7,174 | 12,545 | 12,903 | 6,311 | 8,474 | 10,995 |
| Sturgeon do ................... | 219 | 242 | 130 | 298 | 523 | 263 | 362 | 7 3231 |
| Sardines (brls.) ..... .............. | 6,688 | 1,443 | 1,658 | 868 | 900 | 930 | 1,642 | 7,410 |
| Cod (quintals)..................... | 4,900 | 2,200 | 7300 |  | 3,200 | 2,500 | 4,000 | 2,220 |
| Eels (pieces)........ ............... | 109, 125 | 109,204 | 73,353 | $\cdot 96,734$ | 121442 | 125,550 | 144,726 | 158,143 |
| Porpoises........... ................. | 208 | 115 | 6 | .......... | ........... | .......... | ............ | 11 |
| Bar tish (doz.). <br> do (pieces) | .... | ........ | ..... |  |  | , | .......... | 2,361 2,642 |
| Total Value....... $\$$ | 168,830 | 48,251 | 54,087 | 78,218 | 110,899 | 82,918 | 96,704 | 124,328 |

For the greater efficiency of tho service and the better protection of the fish, it was found advisable during the present year to appoint two new officers for this division, and the district is now subdivided as follows:-

1st Division, from Point Lévis to River Ouelle, under charge of Mr. Caron;
Gud Iivision, frour River Ouelle to Pointo a La Loupe (Groen Island), together with adjacent Islands, under charge of Mr. Gauvreau ;

3rd Division, from Pointe à La Loupe (Green Island) to Rimouski Rivor, under charge of Mr. Martin ;

4th Livisiou, frou Rimouski River to Rivière Blanche, under charge of Mr. Grondin;

5th Division, from Rivièro Blanche to Cape Chatte, under charge of Mr. Charest.
Mr. Caron reports that whatever difficultios and disputes existed at the time of his appointment in 1874 are now settled, and that peace and harmony reign among the tishermen. Fishing was better than last yoar, especially for salmon and eols; but, although the yield was larger, tho value was less, owing to a decrease in prices.

The followins is a comparative statement of the yield of salmon in Mr. Caron's divinion for the past three years:


Thus showing an increase of 171 fish over the catch of 1876. A salmon weighing 12 pounds was caught in Rivière du•Sud by Rev. Mr. Bcaubien, of St. Pierre. This proves the attempts made by salmon to ascend this beautiful stream.

Shad fishing was not so gool as last year, 10,779 fish only being caught, against 50,571 in 1876. No cause is alleged for this decrease.

The following comparative statement will show the yield of shad since 1874 :-

| $187+$ | 10,050 | Shad. |
| :---: | :---: | :---: |
| 1875 | 17,293 | " |
| 1776 | 50,571 | ${ }^{\prime}$ |
| 1877 | 10,770 | " |

The fish sold for double the usual price, owing to a decrease in the catch.
Bar-fish and whitefish were as abundant as usual, the former especially, being much larger in size than in previous seasons. The catch amounted to 15,582 pounde, besides $\mathbf{2 , 4 8 4}$ small ones.

The following is a comparative statement of the yield of the sturgeon fishery:-

| 1874. | 333 | Barrels. |
| :---: | :---: | :---: |
| 1875. | 237 |  |
| 1876. | 219 | " |
| 1877. | 295 | " |

The statistics show a large increase in the jield of cels, especially at St. Anne de la Pocatière.

Comparative statement.

| 187 | 58,641 | Eels. |
| :---: | :---: | :---: |
| 1875. | 62,133 | " |
| 1876. | 64,436 | " |
| 1877. | 93.741 | " |

Mr. Gauvreau reports fishing in his division as having been better and more remunerative than that of last year. The fishery laws werc well observed. Some disputes occurred between neighbours, which were amicably settled to the satisfaction of all parties concerned. Mr. Gaurreau remarks that the large number of fishing stations icnders them almost useless.

Mr. Martin reports the increase of fish as being very remarkable in his division. Sardines were abundant, and larger than during theprevious seasons. Herring, capelin and salmon are also on the increase. The yicld of shad, however, shows a falling off, when compared with 1876.

Mr. Grondin states that the fishery laws were woll observed in his division, and that there was a large increase in the catch of fish.

Mr. Charest reports the yield of aalmon as being smaller than that of last year. This he attributes to the clearness and low state of the water, which caused the fish to enter Matanc Piver very early. Fiom sis to cight hundred fish went up as early $1-e^{8 \frac{1}{2}}$

\section*{as June．Prosecutions were brought against the following parties for illegal fish ing in Matane River． <br> 

The following is the score of salmon angling in Rimouski River for the past thirteen years：－

| 1865. | 8 | Salmon． |
| :---: | :---: | :---: |
| 1866. | 32 | ＂ |
| 1867. | 36 | ＂ |
| 1868. | 48 | ＂ |
| 1869. | 67 | ＂ |
| 1570. | 18 | ＂ |
| 1871．． | 68 | ＂ |
| 1872. | 47 | ＂ |
| 1873. | 43 | ، |
| $1874 .$. | 7.3 | ＂ |
| 1875. | 27 | ، |
| 1876. | 35 | ＂ |
| 1877. | 40 | ＂ |

There were also cught with the fly in Metis River：－
18，0 ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 19 Salmon．
1ヶ11 ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．： 0 ＂
1ヶ7コ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 52 ＂
1ヶ゙ア ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．55 ،
1ヶі4．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 146 ،
1－75 ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 3 ．
1－ъ 6 ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．i！${ }^{\text {، }}$
1ヶに．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 41 ＂
Anlin Matane Piver：－

| 15\％ | 4？ | Salmo：． |
| :---: | :---: | :---: |
| 1875 | 63 | ＂ |
| 18：\％ | 121 | ، |
| 1877 | 51 | ． |

## TEMISCOL＇TA DIVISION．

$\left.\begin{array}{l}\text { George（iabinin，} \\ \text { Cybille Deree，}\end{array}\right\}$ Guardial $s$.
The fish most common 10 this division is a species of frewh－water herring，known under the le cal name of＂ountu．It is renerally caught in neis during the month of Oet ber and November．The yield amounted last weason to $2 \times 2$ barrels whieh were mostly taken in Touladi liver aud in Iake＇lemisenota．

The finhery laws were fremently violated by prathers from New Bruns－ wick，who finh with illegal nets，and uren during the chose seasou．Means will be taken to put asenp to these ahouse．

## CAPE CHATTE DIVISION.

## Jobeph I. Letourneat, Oversecr.

Comparative Statement of the Yield of Fisheries in this Division.

| Kinds of Fish. | 1870. | 1871. | 1872. | 1873. | 1874. | 1875. | 1876. | 1877. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Codfish .................. quintals. | 7,635 | 8,666 | 6,354 | 5,625 | 4,160 | 3,860 | 6,840 | 7,090 |
| Halibut............ ....... barrels.. |  |  | 11 | ......... |  | 2 |  | 7, |
| Salmon..... ............... do | 25 | 20 | 8 | 26 | $23 \frac{1}{2}$ | 12 | 5 |  |
| do (fish in ice)...........lbs. |  |  |  |  |  |  |  | 1,407 |
| do (smoked)........... boxes. <br> Herring barrels. |  |  |  | 727 |  |  |  | 1 |
| Herring $\qquad$ barrels. Mackerel $\qquad$ do | 25 | 34 | 37 | 27 |  | 2 |  | 51 |
| Trout....................... do | 8 | 13 | 10 | 9 | 31 | 24 | 482 | 54 |
| Sardines.................. do | ........ .. |  |  |  | ............ |  | ........ | 60 |
| Cod Tongues and Sounds ............ .... do |  |  |  |  |  |  |  | 2 |
| No. of Seals and Skins........ |  |  |  |  |  |  |  | 2 |
| No. of Porpoises and Skins... |  |  |  |  |  |  |  |  |
| Seal Oil .................. gallons. | 146 | 122 | 787 | 440 | ....... | ..... | .. | 20 |
| Porpoise 0il ............... do |  |  | ..6...... |  |  |  | ........... | 60 |
| Cod Oil ..................... do | 3,965 | 5,280 | 2,353 | 1,078 | 1604 | 1,995 | 3,040 | 2,955 |
| Fish used as Manure... barrels. |  | 300 | 1,300 | 260 | 1,500 | 3,000 | 12,266 | 12,670 |
| $\begin{aligned} & \text { rish used for iocal con- } \\ & \text { sumption............. do. } \end{aligned}$ | , | ......... |  | ,......... |  |  |  | 458 |

The fisheries of this division are already treated at length in Dr. Lavoie's Report. There is a slight increase in the cod fishery. This inerease would have been greater; but bait was scarce and had to be procured from the North Sbore. Capelin appeared in abundance, but before the arrival of cod. No salmon nets were set. Fly-tishing in St. Anne des Monts River was not so good as usual, owing partly to want of experience on the part of anglers, and partly to the low state of the water.

The number of salmon caught with the fly in this river siuce $18: 1$ is as follows:-

| Year | No of Salmon. | Average weight. |
| :---: | :---: | :---: |
| 1871 | 8 |  |
| 1872. | 13 |  |
| 1873. | 87 | 178 |
| 1874. | 140 | $19 \frac{1}{2}$ |
| 1875. | 64 | 21 |
| 1876. | 116 | 191 |
| 1877. | 76 | $18 \frac{1}{2}$ |

This Overseer ascended Cape Chatte River to a certain distance and saw a number of salmon sufficiently large to warrant his statement that they ure increasing, although slowly. The greatest obstacle to the increase of salmon in this stream is the poaching carried on every other jear. Last season no violations of the law were reported, but this year traces of poaching were discovered, and the Overseer hopes to be able to punish the offenders next summer.

This Overseer confiscated two Nigogues and other fishing implements from persons encamped near a pool well stocked with salmon.

Only a few barrels of herring were caught, the fish being of poor quality. Sardine fishing was very abundant, no less than sixty barrels being caught in tro fascines fisheries.

## MAGDALEN RIVER DIVISION.

## Maglotre Laurendeau, Guardian.

Cumpiritive Statement of the Yield of Fisheries in this Divisioa.


This division extends from River Claude to Cape $\mathbf{R}$ siers. Cod fishing was better than last year. The fish were very abundant, and had it not been for want of bait, the yield would have been one-third larger than in 1876 . Fall ishing was poor, owing to scarcity of bait and boisterous weather. Mackerel was abundant, and hid tishermen of this division been provided with seines, they might have made wod hauls. Salmon went up Magraien River in larqe numbers this season. Fifty werc ialled with the thy, besides five barrels of tront. Salmon do not ascend begond $\mathfrak{G}$, and Falls. At the foot of the falls there are several mall pools where the fish spaw?.
errings were scarce, a few barrels only being pickled for winter use. This Guritian reports no violation of the fishery lidos, and sis: that, the severe punishmeni inflicted last year had a good effect.

GASPE, MALBAIE AND PABOS DIVISIONS.

Philip Vibert, Junr., Overseer.
Comparative Statement of the Yield of Fisheries in this Division.

| Kinds of Fish. | 1873. | 1874. | 1875. | 1876. | 1877. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Codfish... ........... ........ .............................quintals.... | 53,041 | 46,623 | 61,691 | 60,993 | 73,537 |
| Herring.... ............... ..... ....... ........ ..... ..... barrels.... | 2,539 | 1,527 | 552 | 1,239 | 429 |
| Mackerel do ...... ................................... do | 563 | 170 | ...... | 2 | 131 |
| Salmon (pickled) .... .... ........ ..................... do | 361 | 99 | 49 | 96 | 99 |
| do (fresh in ice) ..... .............................. lbs........... |  | 118,304 | 76,717 | 72,55: | 99,482 |
| do (preserved in cans) .............................. do............ |  | 10,301 |  |  | 10,000 |
| Haddock .... ................... .............. ...... quintals... |  |  |  |  | 186 |
| Ling........... ..................... ..................... do ..... | . | ..... .... | .... | ......... | 62 |
| Halibut .......... ....................................... barrels..... | .......... | ..... ..... | ..... | . | , |
| Trout........ .................... ...... ....... .......... do ..... | ... ..... | .......... | ........ .. |  | $\frac{1}{2}$ |
| Cod Tongnes and Sounds ............ ............... do ..... | . |  |  |  | 179 |
| No. of Seal Skins .............. ... .................. ......... |  | .... ...... |  |  | 3 |
| Seal Oil ................ ..................................... gallo. | 11,692 | ........... |  |  | 40 |
| Whale Oil ............................................... do ..... |  | 16,300 | 20,306 | 9,368 | 8,614 |
| Cod Oil.............. ..... ..... .......................... do .. .. | 36,960 | 29,398 | 4.1,034 | 39,987 | 59,714 |
| Fish used as Brit and Manure......... ...............barrels..... |  |  |  |  | 15,125 |
| Fish used for local consumption. |  |  |  |  | 150 |
| Lobsters (preserved in cans)................. ........lbs....... |  |  |  | ........... | 73,000 |

Mr. Vibert reports as follows:-
The salmon fishery yielded 418 barrels, against 391 last year. About 100,000 pounds were disposed of fresh, the remainder being pickled. Nets were set much earlier than in 1876.

Four slight infractions of the fishery laws were detected, and the offenders punished.

The statistics show that cod-fishing was better than last year, the average catch being from sixty to seventy quintals per boat, against forty quintals in 1876. Bait was plentiful at Giand River during the summer fishing, but at other places it was scarce. Fall fishing was very poor, owing to rough weather. Little Pabos fishermen did berst.

Mackerel fishing was better than one might have been led to expect; 108 barrel. being caught at Sandy Beach and Peninsula, besides a few barrels at other places.

Salmon angling in the St. John River was good; His Excellency the GovernorGencral and party killing forty-nine fish, weighing 628 pounds, besides six salmon caught by other anglers, which gives a total of fifty-five. The local guardian and others who went up this river report the number of fish as very large. Quite a number of young salmon-fry were seen in July.

Angling was indifferent in York River, owing to the low state of the water. The gnardian, howover, reports a large number of parent salmon on the breeding grounds.

Mesirs. Guild \& Barnes, of Boston, angled Dartmouth River and killed sixty. one salmon, weighiug 801 pounds. Three were caught by others, weighing fortyfive pounds ; making a total of sixty-four salmon. weighing 845 pounds.

The Malbaie River guardian reported that he had noticed only two salmon in the pools up to the end of August, although quite a number wero seen disporing themselves in the tideway. At a later period he noticed aboat sixty parent fish, and quite a number of young ones. This stream is evidently improving.

The anglers' eatch in Grand River was ninety-two salmon, of the average weight of thirteen atal a i alf pounds. The lessee has a good guardian, and this stream is well protected.

The guardiau at Little Pabos River counted from forty to fifty salmon at the falls during the month of August. The inhabitants are giving up the use of flambeaux; the fines imposed by Dr. Lavoie last year having bronght about this goork result.

Grand Pabos River was angled for a very short time, and the lessees caught eight or ten fish. Salmon were reported as being abundant, and the guardian counted about eighty fish bolow the falls, and states there must have been more above. Salmon spearing has not been quite given up here. One party was prosecuted and fined for this offence; the person who purchased the fish being also fincel.

## PORT DANIEL DIVISION.

John Phelan, Overseer.
Comparative Statement of the Yield of the Fisherie in this Division.


Salmon fishing was remarkably good. This year's catch is the largest since the present fishery laws came in force. The overseer learnt from gentlemen who had been up the east branch on a fishing excursion that the river was well stocked with smolts.

## CASCAPEDIA AND MARIA DIVISIONS.

## R. W. H. Dimook, Uverseer.

Comparative Statement of the Yield of the Fisheries in this Division.

|  | 1872. | 1873. | 1874. | 1875. | 1876. | 1877. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Codfish ...... ................................ quintals ... | 5,580 | 5,275 | 6,740 | 4,486 | 4,111 | 4,161 |
| Eerrings..... ....... ..... ..... ............................................. do (smoked | 8,990 | 2,250 | 2,080 | 1,800 | 4,160 | 1,110 700 |
| Mackerel. .... ..... ..... . ... .................. burrels..... | 104 | 27 | 20 | 15 | ........ | 24 |
| Ha.lduek ................. ...... ............. quintals ... | 133 | 83 | 122 | 76 | 66 | 62 |
| Salmon (pickled) ........ ............ ......barrels..... |  |  |  |  |  | 355 |
| do ....................................lbs.. ........ | 96,800 | 116,955 | 95,824 | 24,386 | 51,225 | 7,500 |
| do (preserved in cans). ....... ......lbs ........ |  | 析 |  |  |  | 48,804 |
|  | 3 | 5 | 15 | 17 | 17 | 37 35 |
| Eels .... .................... . ... .......... do .. |  |  |  | .......... |  | 21 |
| Cod Tor.files and Sounds ....... ........ do ... |  | .... ...... | .... | ........... | - | 12 |
| Cod OH .... .............. ..............Galls .. |  |  |  |  |  | 3,051 |
| Fish used as Bait acd Manure ...........barrels. |  |  |  |  |  | 9,343 |
| Fish used for local consumption .. ..... do ... |  |  |  |  |  | 1,716 |
| Lobsters .......................................lbs. .. |  | .......... | 4,176 | 5,844 | 5,016 | 35,200 |

Sulmon appeared earlier than usual; they were noticed to ascend the Grand Cascapedia in M:!y. The first salmon wero cilught in nets on the 22nd Miy. The catch in the estary of the Grand Cascapodia and at Black Cape exceeds that of last yoar by seventy-three barrels. The catch on Maria Shoro was not so favourable, owing to north-westerly winds, which prevailed during most of the fishing season.

Angling was very good on the Grand Cascapedia during the latter part of June and the first week in July. After these dates, the water kept too low for good sport. Three hundred and thirteen salmon were killed with the fly in this stream. Twenty salmon were caught in two days' fishing on the Bonaventure River. Rivers in this division are reported as being well stocked with breeding fish, particularly the Grand Cascapedia. The local guardian of this stream states that below the Forks he counted five salmon to one last season, and that he never saw so many fry as this year.

The following is the score of angling daring the last seven years:-

GRAND CASOAPEDIA RIVER.

|  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |

Little cascapedia RIVER.

| Number of salmon | Not angled. | 11 | 3 | 4 | 14 | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Weight in lbs. ........ ......................... |  | 194 | 57 | 120 | 210 | 84 |
| Average weight in lbs ....................... |  | $17 \frac{1}{2}$ | 1796 | 22 | 15 | 21 |

BONAVENTURE RIVER.

| Number of salmon. | 60 | 30 | 22 | 15 | 26 | 45 | 21 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Weight in lbs ...................... .... ........ | 770 | 487 | 366 | 225 | 290 | 622 | 3318 |
| Average weight in lbs ....................... | 13 | 16 | $16 \frac{1}{2}$ | 15 | 11年 ${ }^{46}$ | 14 | 16 |

## MATAPEDIA AND RESTIGOUCHE DIVISIONS.

## John Mowat, Overseer.

Mr. Mowat states that there are now eighty-nine licensed salmon stations on the New Brunswick side of his division, and eleven on the Quebec side, making one hundred in all. The catch, if equally divided, would amount to $\$ 21 i$ per station, but several of these stations did not realize half that sum, particularly where the stands are close to one another.

The new rate of paying so much per fathom of net used woriked well, and no trouble was experienced in collecting the liceuse fees.

Salmon entered the Restigouche River before the 25 th May, and the fow nets set at that time made large hauls. A salmon was caurht with the fly at Dee Side, twenty miles up the river, on the 27 th Mry; the water beiner then very clear. This run continued until 10th June, when it stopped; very few fivh entering the river after that date. Fly as well as net-fishermen were bardly prepared for this early rum; a large stock of fish wero in consequence enabled to reach the upper waters.

In order to test the run of winter fish, two stations were set at the Tide Head after - 0 th September for about a month, with unsatisfactory results. One of these stands caught three fish and liberated four others. They were all summer-fish which would have spawned in October. The other stand canght only one fish of the same
description. This poor success, coupled with the formation of ice, catsel the nets to be taken out before 1st November. The Oversecr, however, states be has every reason to believe that the winter fish entered after that date, as a large whool of salmon, perfectly bright, were noticed in the river between the middle and latter end of November, but nwing to floating ice it would have been impossible to capture them. The Kedgwick River guardian also states that a new run of fish passed his station after the others hatd done spawning.

The pool at the mouth of Matapedia River, having been licensed to Mr. Daniel Fraser, a great deal of extra labour was thereby saved to tho Overseer, who wat enabled to pay more attention to distant portions of his large division. Although anglers, as a rule, are difficult to please, very few complaints were made. Most of the tronble arose out of the crowding of sport-men in the main pool at Matapedia; and, although some very tine pools exist nearer tide head, from some cause or another, the angleris in not care to visit or try them.

Anglines was very good on tho Matapedia. The lessee intends next spring placing some firy of land-locked salmon in Lake Matapedia. They will be procured from the hatching house at Selac, Maine.

Parr and smolt were quite numerous in the fall, and less illegal fishing was attemptel than asual; the facilities of quick travel by rail efficiently assisting the guardians in protecting then respective divisions. Very little angling was done on the Upealquitch River.

The score of angling is as follows :-

$$
\begin{array}{cc}
\begin{array}{c}
\text { No of } \\
\text { Salmon. }
\end{array} & \begin{array}{c}
\text { Average } \\
\text { weight. }
\end{array}
\end{array}
$$



GRILSE.

weighing frem three to four pounds.
A much larger number were undoubtedly caught, of which no returns were given. $\Lambda s$ an instance of trout tishing, Mr. Tiffany, of New York, reported having caught at Tiacy's Brook, in a little over an bour's fishing, seventy trout, averaging two pounds and a quarter. This fact in unusual in this river, and can only occur at rare intervals and under very favourable circumstances.

## QUEBEC AND MONTMORENCY DIVISIONS.

L. P. Ниот, Overseer.
D. Rosa, Guardian.

The following is a comparative statement of the Fisheries in this division :-


Bar-fishing was verv poor. This fish seems to bo disappearing gradually sine 1872 from the waters of this division. On the other hand, salmon and cel-tishing were considorably in excess of that of last season. Shal and smelt-fishing were ain very remuncratire.

All the fish caught in this civision is used for home consumption.
The following persons were prosecuted and fined by Mr. Huot for violations. f the fiehery laws:-

| Regis Marquis |  |  | 500 |
| :---: | :---: | :---: | :---: |
| Pierre Deblois | do | do | 500 |
| Jean Guérard | clo | do | 200 |
| Jean Lemelin | do | do | 200 |

Besides these prosecutions, the Fishery Guardian, Mr. Rosa, contiscated a large quantity of speckled trout, caught during the close-time, and seized thirty-seven night lines set in Lake St. Charles.

## MURRAY BAY DIVISION.

$\left.\begin{array}{l}\text { J. E. Demeules, } \\ \text { Ant. Filion, } \\ \text { Jos. Sinard, } \\ \text { Etienne Tremblay, }\end{array}\right\}$ Guardians.

Mr. Demeules reports fishing as genemally good in his division. The fishery laws were well complied with.

Mr. Simard estimates the catch of trout in the lases of his division as follows:-
Barrels.
Big Lake Nairıe .............................................. $\overline{50}$
Little do .............................................. 30
Lake St. Hilarion. . . . . . . . . . . . . . ................ . . . . . . 1" $^{\prime \prime}$
Lake Pointe à Jerome............... ...................... . 6
Lakes Long and des Monts. . . . . . . . . . . ................... . 20
Mr. Filion reports the quantity of trout caught in the lakes under his charge at 6,000 lbs. He complains that poaching is extensively carried on by hunters frequenting this locality. He could, however, bring no prosecution, the offenders resorting to the woods and biding there.

## LAKE ST. JOHN DIVISION.

## Job Bilodeat, Guardian.

Comparative statement of the yield of the Fisheries in this division :-

|  | 1874. | 1875. | 1876. | 1877. |
| :---: | :---: | :---: | ---: | :---: |
| No. of Winnonish.......... | 7,500 | 9,050 | 3,000 | 3,050 |
| do doz. of Whitefish.... | 1,162 | 440 | 350 | 285 |

This yield of Winnonish is somewhat larger than that of last season. The fry seemed to be numerous near the shores of Lake Sc. John, and with proper protection it is considered the Lake will be well stocked in a few years.

## SAGUENAY DIVISION.

## Ferdinand Saillant, Overseer.

Joseph Bolly, Guardian.
Yicld of salmon net-fishing for the past seven years :-

| In 1870 | 3,275 salmon. |
| :---: | :---: |
| 1871 | 3,462 do |
| 1872 | 3,312 do |
| 1873 | 2,481 do |
| 1874 | 2,483 do |
| 1875 | 981 do |
| 1876 | 2,830 do |
| 1877 | 2,362 do |

Although several of the best shations were not fished this season, the increase in the yicid of salmon was very considerable.

## RIVER BERSIMIS.

Upato the 15 th July, ton salmon only had been canght in this river; as stated in previous reports, it is nearly ruined.

LAVAL BAY.
Owing to the largo qumbity of saw-logs seattered over this station, it could not be fished. Salmon were thus onabled to ascend to their spawning grounds in larger numbers than last year.

SAULT AU COCHON.
Only one net was set at this station and thirteen salmon were caught.

Not fishoil.

## patte de lievre

portneuf shoals.
Fishing on this station began only late in June; the catch however amounted to 530 salinon.
islets penches.
The yield at this station shows an increase of fifty-seven salmon over that of last year.
esgoumains river.
The guardian states that the fish-way on that river is in good order.

## ANSE AUX BASQUES.

Twenty-five salmon were caught at this station.

## ANSE AUX PILOTES.

This station was fished to supply the Tadousac Breeding-Establishment with parent fish. The catch amounted to 102 salmon.

## POINTE ROUGE.

Over 600 salmon were caught at this station, although the nets were raised twice a week, in addition to the usual Sunday close-time. This liberal arrangement was made with tho lessees of Ste. Marguerite River, in order to afford better sport for anglers visiting that stream.

## SAGUENAY RIVER.

About one hundred salmon were caught at Petites Isles, and taken alivo to the Tadousac Establishment.

## RIVER A MLARS

No less than 600 salmon ascended the fish-way at Abel Tremblay's dam ; salmon fry are abundant all along the stream.

## GRAND BAY.

The fish-way at Hon. D. E. Price's mill, has been repaired and will be of great advantage in future. About twenty salmon went up the rivor this year.

## ETERNITY RIVER.

This is considerd a good river for the natural reproduction of salmon and trout. Fish can ascend it without meeting any olowtacles for fifteen miles, and all along that distance, spawning beds are numerous and large cnough to accommodate hundreds of fish; at about fifteen miles from the mouth of the river is a large lake. The two guardians placed on that stream last season report it as being full of large and small salmon.

## ANSE ST. JEAN RIVER.

The spawning grounds are reported as being covered with parent salmon; trout and winnonish also frequent this stream ; salmon and trout-fry were very numeroun. The prosecntions mentioned in the Over'seers' report of last Jear were completed this seawon ly the conviction of the whole gang of poachers, the members of which were condemned to pay a fine of $\$ 20$ each.

## STE. MARGUERITE RIVER.

Undoubtedly the best salenon stream in this division. The north-west branch is 60 miles long; and the northeavt, wix milew. On the north-west branch, 190 salmon were killed with the fly, and forty-eight on the north-cast branch. The average weight of the fish was twenty pounds agitinst twelve and a half and thirteen pounds in previous years. Unc ansler caught seventy-three fish. The river is so efficiently guarded that no violations of the law have been reported for a number of years.

The following is the score of angling in the Saguenay Rivers for the past six years:

|  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

## Net-Finhing.

The yield of salmon net-fishing was not sati-tactory. The fishermen attribute their failure to calm weather, They state that sahon wore in hundreds nearing the shore, and that they took to deep water when apporoching the nets. Violations of the law were numerous in the lower part of this division. The following parties were convicted and fined :-


## GODBOUC DIVIS1ON

George L. Demity, Guardian.
Comparative Statement of the Yied of Finherjes in this division.


The following is the number of salmon caught with the fly in Godbout River for the past eight years:-

## Salmon.

1870 ..... 390
1871 ..... 509
1872 ..... 275
1873 ..... 130
1874 ..... 273
1875 ..... 210
1876 ..... 213
1877 ..... 411

Colfishing was good, e-pecially fall fishing at Godbout and St. Nicholas; Fishermen along that coast tonk sutbecont for the winter. The somith shore fishermen who visited this locality caught 400 quintals of cod at (bothom and St. Nicholas, and 200 at Pointe des Monts; they abo caried away 115 barels of clams to be used as hait in coltixhing on the South shore

Sual humters killed 200 neals, yieldine 1,000 gallons of oil. The nets of one Thibant, were confircater, and the offender finer for violation of the fisbery laws and for having defied the authority of tho guardian.

## PENTECOST AND SEVEN ISLANDS DIVISIONS.

## J. O. Belanger, Gutridan.

Comparative Statement of the Yield of Fisherien in this division.


Seal-fishing yielded 114 seuls and 767 gallons of oil, against 44 seals and 264 gallons of oil lat year. Salmon fishing was not so good as last year, owing to strong winds which drowe the fish from shore; they were aino of a sualier size than in previous seanons. The rivers were neverthelens well stocked. Trout-lishing nows an increase of forty-three barrels over the catch of last year. Cud-fishing way very good, the yield leing 3,307 quintals, again-t $61^{\circ}$ in $1 \leq 76$. The bait usel was lannce herring and clams.

MOISIE DIVISION.

## G. Mathorin, Guardian.

Comparative Statement of the Yield of Fisheries in this division.

| - | 1869. | 1870. | 1871. | 1872 | 1873. | 1874. | 1875. | 1876. | 1877. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Uutish...... ......................... quintals ... | 1,830 | 6,131 ${ }^{1}$ | 5,151' | 4,030 | 2,250 ${ }^{\text {¢ }}$ | 3,783 | 2,414 | 4,064 | 6,958 |
| Salmon (pickled) $\qquad$ barrels. <br> du (fresh in ice) lbs. $\qquad$ | 822 | 1,104 | 704 | 855 | 294, 1460 ! |  | 29 02,400 | 105,335 |  |
| Uod Oil.................. ..................gallons..... | 1,563 | 2,720, | 1,985 | 3,580 | 1,910 | 1,700 | 1,500 | 3,836 | 3,892 |
| Hinlibut................................. barrels..... |  |  |  |  | , | ......... | ........ | ....... | 42 |
| Flerring........ ................... ..... do |  |  |  |  |  |  | ...... | ......... | 395 |
| Trout ..... ........... ............ ... do .... | ..... | ...... | ... | ...... | ........ | ......... | ...... | .......... | 26\% |
| Cod Tongues and Sounds........ do |  |  |  |  |  |  |  |  | 1 |
| No. of Seal Sking. |  | ... |  |  |  |  | ......... |  | 20 |
| s.ral Oil.................. ........... gallons..... |  | ...... |  |  |  |  |  |  | 47 |
| Fush used as Bait and Manure...barrels..... |  |  |  |  |  |  |  |  | 1,464 |
| do for Local Consumption do ..... |  | ${ }^{\text {a }}$ |  |  | \|........| | ......... | $\cdots$ |  | 94 |

Salmon-fishing was somewhat better than last year. Fly-fishing in Moisie Riverwould have been better had anglers come earlier. However, 107 salmon were killed with the fly against sixty-eight in 1876 .

The following is the score of angling in Moisie River for the past five years:-

| In 1873 | 281 salmon |
| :---: | :---: |
| 1874 | $\bullet 56$ |
| 1875 | 97 |
| 1876 | 68 |
| 1877 | 107 |

Cod-fishing shows an increase of 2,894 quintals. Fish were rumerous in the fall but stormy weather prevented fishermen from going out. The residents at Seven Islands, Ste. Marguerite and Moisie are amply supplied with provisions for their winter. The tishery laws were well complied with.

## MINGAN DIVISION.

Donald B. MoGie, Overseer.
Comparative Statement of the Yield of Fisheries in thi: Division.

|  | 1870. | 1871. | 1872. | 1873. | 1874. | 1875. | 1876. | 1877 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Codfish......... ....... ......... ........quintals.. | 2?,785 | 50,317 | 40,361 | 30,000 | 16,790 | 17,283 | 23,160 |  |
| Herring.................. ............. barrels... | 3,057 | 3,431 | 4,600 | 4,579 | 5,710 | 6,240 | 1,463 | 18,339 3,992 |
| Salmon (pickled)........ ............ lb do .......... | 727 | ${ }^{3} 426$ | 4,364 | 4,579 2179 59 | 5,716 55,876 | 6,240 196 | 1,463 | 3,992 398 |
| No of Seal Skins.................................. |  |  |  | 59,489 3,987 | 55,876 5,520 | 3,910 |  |  |
| Cod Oil. ........................................ | 22,006 | 24,253 | 4,242 7,128 | 3,987 $\mathbf{9 , 2 4 7}$ | 5,520 | 5,002 | 1,395 | 2,971 |
| Seal Oil.................................. do ... | 22,00 | 34,702 | 28,390 | 12,570 | 13,995 22,710 | 21,341 21,878 | 20,621 6,467 | 23, 1215 |
| Wbale Oil.............................. do do ... |  | 3t,72 | 28,390 | 12,570 | 22,710 | 21,878 | 6,467 | 12,273 2,263 |
| Haddock................ .............. quintals. |  |  |  |  | .......... |  |  | 2,262 5 |
| Halibut........... ........ ........ ..... barrels.... |  |  |  |  |  |  |  | 20 |
| Tront..... ............... ............. do ...\| |  |  |  |  |  |  |  | 15 |
| Cod Tongues and Sounds ......... do ... <br> No. of Pornoise Skins. |  |  |  |  |  |  |  | 15 3 |
| Porpoise Oil....................................... |  |  | . |  |  |  |  | 12 |
| Fish used as Bait and Manure....barrels. |  |  |  |  |  | , |  | 35 |
| do for Local Consumption do . |  |  |  |  |  |  |  | 13,139 |
|  |  |  |  |  |  |  |  | 350 |

## NATASHQUAN DIVISION.

## J. B. Coulllard, Guardian.

Comparative Statement of the Yield of Fisheries in this Division.


The former guardian of this division, Mr. Gilbert Boulet, being old and inefficient, had to be replaced this season by a more intelligent and active man. The present guardian fultilled his duties in a very satisfactory manner.

## WATSHESHOO DIVISION.

P. C. Gobeil, Guardian.

Comparative Statement of the Yield of Fi-heries in this Divinton.

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PACACHOO DIVISION.

## J. Legoove, Guardian.

Comparative Statement of the Yield of Fisheries in this Division.

|  | 1873. | 1874. | 1875. | 1876. | 1877. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Codfish ..................................... quintals. | 2,655 | 3,760 | 844 | 1,560 | 1,969 |
| Halibut .............. ........ ........ barrels... | 200 |  | ....... | 426 |  |
| Salmon ...................... ... ........... do ... | 180 | 955 | 206 | 485 | 353年 |
| Trout................ ....... ................... do | 8 | 2 | 37 | 35 | $22 \frac{1}{2}$ |
| Number of Seal Skins .. ..... ........................ | 1,144 | 248 | 173 | 310 | 779 |
| Cod 0it.............. ...... .......... ....... gallons .. | 1,574 | 2,95 | 590 | 1,127 | 1,901 |
| Seal Uil ....................... ..... . .......... do ... | 9,526 | 1,745 | 1,238 | 751 | 4,306 |
| Whale Oil ............. .. ................ do ... | 400 |  |  | ........ |  |
| Herring ......... .... .................. .....barrels .. |  |  | 2,301 | 426 | 49 |
| Mackertl .......... .. ....... ............... do ... | ...... .... | .... | ,....... |  | 1697 |
| Fish used as bait and manure.... ...... do ... |  | . | .......... | .. | 2,388 |
| do for local consumption ......... do ... | ........ | . |  | .. | 32 |

Seal-fishing, although not very productive, was somewhat better than last year. The weather kept so fine and the water so clear that salmon went up earlior than usual; this cansed a slight decrease in the yield of net-tishing. The fishermen would however feel satisfied with their catch had not prices been so low; they could hardly cover their expenses. Cod-tishing was somowhat better than for the last two years. Herring-fishiuy was a complete failure. Makerel has reappeard for the first time since several years; 170 barrels having been taken with seines. The fishermen rely upon a larger yield next season. The fishery laws are well and cheerfully complied with by the fishermen who are now convinced of the advantage they derive from the protection given them. The storm of 18th December last proved very disastrous. The sea rose six feet higher than ever known, carrying away everything, boats, sheds, nets, seines, salt, luarels, de. This unfortunate occurrence deprived several of the fishormen of the means of carrying on their fishing operations as usual. Happily, no lives were lost.

BONNE ESPERANCE DIVISION.
W. H. Whitely, Guardian.

Comparative Statement of the Yield of Fisheries in this Division.


Full details of the fisheries of this division are given in Dr. Lavoie's report.

## ANTICOSTI DIVISION.

## $\left.\begin{array}{l}\text { A. Malouin, } \\ \text { Thomas Gagne, }\end{array}\right\}$ Guardians.

Comparative Statement of the Yield of Fisheries in this Division.

| - | 1876. | 1877. |
| :---: | :---: | :---: |
| Codfish.................................... ....... .............. ................ quin. | 6,806 | 8,303 |
| Herring.............................................. ........................... brls. | 4,410 | 16,214 |
| Mackerel................................. .. . .... .......... .................. do | ......... | 18 |
| Halibut.............. ... ... .............................. ........... ..... ...... do | 94 | 164 |
| Salmon, pickled........................................... .... .................. ${ }^{\text {. }}$ do | 72 | 75\% |
| Trout.................... ........ .............. .......... ......................... do | 14 | 14 |
| Eel.............. ............................................... .t................. do | 1 | 2 |
| Cod Tongues and Sounds............. ............. .... .................... do | 8 | 35 |
| Seal Skins.............................. ........................ ............... rieces. | 145 | 356 |
| Seal Oil........................................................................ grals. | 318 | 811 |
| Whale Oil. ....................... ..... ........... ..................... ..... ... do | 250 | 2,810 |
| Cod Oil.......................................................................... do | 5,081 | 4,935 |
| Fish used as bait and manure. $\qquad$ brls. <br> do for local consumption. $\qquad$ do | \|................... $\mid$ | 3,636 469 |

Full details of the fisheries of this division are given in $\mathrm{D}_{\mathrm{t}}$. Lavoie's report.

## MAGDALEN ISLANDS DIVISION.

J. J. Fox, Overseer.

Comparative Statement of the Yield of Fisheries in this Division.

|  | 1872. | 1873. | 1874. | 1875. | 1876. | 1877. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Codfish........ ......... ........... quin. | 20,032 | 17,048 | 13,840 | 13,035 | 10,957 | 11,179 |
| Herring............. ........ ........ ... brls. | 2,956 | 4,847 | 12,137 | 49,951 | 77,443 | 38,231 |
| Mackerel.... ........................ do | 1,172 | 5,494 | 6,569 | 6,448 | 4,969 | 4,912 |
| Seal Skins.......... ....... ........ No. | 1,713 | 5,590 | 4,555 | 16,447 | 3,529 | 4,838 |
| Cod Oil...... ....................... galls. | 9,306 | 6,050 | 7,395 | 8,527 | 4,630 | 10,705 |
| Seal Oil............. ................ do | 8,040 | 19,685 | 21,915 | 63,024 | 17,130 | 16,799 |
| Whale Oil.......................... do | 2,162 |  |  | 975 |  |  |
| Lobsters............................ lbs. | .......... |  |  |  | 124,000 | 277,104 |
| Mackerel, preserved............. do |  |  | ....... | ....... |  | 960 |
| Fish used as bait and manure... brls. |  |  |  | , | ............. | 1,923 |
| do for local consumption | ....... | .... | .... | ... | ............ | 1,767 |

Full details on the fisheries of Magdalen Islands are griven in Dr. Lavoie's report ; said details being compiled from information and statistics supplied by the fishery overseer, Mr. Fox.
$1 e-9 \frac{1}{2}$

## ST. FRANCIS DIVISION.

## W. C. Willis, (iverseet.

## A. H. N. Broce, $\}$ Guardians. G. G. Gagnon, $\}$ Guardians.

Overseer Willis reports lake and river-fishing as good. Ten thousand Lake Ontario salmon fry, and two thousand speckled trout fry, from the Newcastle Breeding House, were safely deposited at the foot of the rapids in Magog River in May last. Three salmon-fishing licenses were issued and only five or six fish were caught. This poor success was mainly due to the low state of the water ; so soon, however, as the rains set in, the fish began to ascend in large numbers about the middle of August. Yonng fry were quito plentiful in Salmon River; several being caught with the fly. A new fishway has been built on the mill-dam at Scotstown, on an improved model. It seems, so far, to answor the purpose well. The catch of all kinds of fish may be estimated at 400 barrels. Lunge sold on the spot at fifteen cents a pound; pickerel and eels, from eight to ten conts. Better prices were obtained across the lines where much of this fish found its way. Two nets were confiscated for illegal fishing. Several attempts at poaching were made, but frustrated.

Mr. A. H. N. Bruce, who has charge of Lake Megantic and surrounding waters, reports that, from the middle of May to the latter part of June, speckled trout were plentiful in the Rivers Chaudiòre, Spider and Arnold. After these dates, they retire to doep water and do not re-appear until about the end of August. In the Chaudière River, the catch of speckled-trout, during the latter half of the month of Septomber, was especially good, over six hundred pounds weight of these fish being killed by visitors, mostly with the fly. The largest fish weighed five pounds.

Lunge or lake-trout, first took bait about the middle of May; there were not, however, so many caught with hand-lines as formerly. During the month of June and the early part of July, they took artifical revolving bait very well. A gentleman from Sherbrooke killed two hundred pounds weight in this manner in three days, fishing; the largent fish weighing thirteen pounds. Black bass were plentiful. This guardian confiscated four nets for illegal tishing.

## JAKE MEMPHREMAGOG DIVISION.

## S. F. Copp, Overseer.

in. The law was exceedingly well observed in this division last season; the Overseer reporting no violations. With the assistance of special constables, Mr. Copp succeeded in deterring poachers from all illegal fishing. Tho catch of fish, as far as can be ascertained, is as follows:-

| Lunge or lake-trout, | 50 barrels, |  | value | \$1,250 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Fresh-water berring | 28 | " | ، |  | 00 |
| Pickerel | $\because 1$ | " | " | $\because 10$ | 00 |
| Total value |  |  |  | \$1,740 |  |

To these figures must be added about five tons of lunge caught with hook and line by anglors. On the whole, last year's catch in this division shows a large increase over that of 1876 .

## MISSIQUOI BAY DIVISION.

> P. E. Luke, Overseer.
> Comparatite Statement of the Yield of the Fisheries in this Division :-

There were only twelve persons engaged fishing this season, against twenty last year. Most of the fish were sent to New York market, the balance being used for home consumption. The close-seasons were well observed.

## RICHELIEU DIVISION.

## J. B. Chevalier, Overseer.

This Overseer reports the catch of tish in this Division as follows :-

A large number of eels are also canght with set.lines and used for home consumption; no reliable returns of which can be obtained. Fourteen young salmon were caught in eel-traps set in the rapids opposite the town of St. John, eight of which were liberated alive; the others were wounded and died. No violations of the law are reported.

## CHAMBLY DIVISION.

## H. W. Austin, Overseer.

This Overseer reports a large increase in the catch of pickerel; as many as twonty or twenty-five being taken at every haul of the seine, early in the spring. Since the eel-weirs at the Conton Ripils were removerl, the lake at its inlet is full of these fish, and people come from long distances to tilke them.

## SOREL DIVISION.

## Pierre Latraverse, Overseer.

This Overseer reports a falling off in the catch of shad and eels; but an improvement in other kinds of fishing. This division is a very important one and comprises favourite breeding grounds of pickerel around Sorel and the neighbouring islands. The fishermen of the locality all fish under licenses, thus preventing strangers from injuring and interfering with the fishing grounds. They bound themselver to strictly comply with the fishery laws and regulations, and, in order to better protect the young fry, they willingly gave up seine-hauling altogether during the montha of July and August, to be resumed only in Suptember, when the fry are sufficiently grown up to be able to escape.

## CHATEAUGUAY DIVISION.

$\left.\begin{array}{l}\text { Wilfiay ('lyle, } \\ \text { Andrew Watt, }\end{array}\right\}$ Guardians.
Both these officers report fishing about as good as last year, and that the law was well complied with in their division.

## ARGENTEUIL DIVISION.



It was found necessary to appoint two new officers in this division last season. Mr. Beaton resides in the township of Harington, and has charge of the upper portion of the county of Argenteuil. Mr. Dewar resides at St. Andrews, and superintends the North River, in which 20.000 young salmon were placed during the spring of 1877. Mr. Thomas Erans' limits comprise the eastern upper part of the county of Argen-teuil and adjoining lakes in the county of Terrebonde.

These officers report an improvement in fishing, and state, that onlya few. slight violations of the law came under their notice.

## TERREBONSE DIVISION.

## L. J. Lorantier. Ourbert.

This Overseer reports no violations of the law during the season. Fishing was geot; ; 2,500 pounds of speckled trout being sent to Sew York and Saratoga ly one firm alone. The quantity would be much larger, ware it possible to reach some of the lakes. The fish has to be carried from eisbteen to twenty miles in the bush before roads are met with, and then carted dintances of from tifty to sixty miles to the nearest railway station.

## OTTAWA COUNTY DIVISION.

Strict watch was kept over this dirision during the present season. Special guardians and, occasionally, members of the Dominion police force were employed during the various close-seasons, and located at the most central places. The protection was fair and as efficient as could be expected from the large extent of water toprotect, and the number of lakes to guard. One hundred and sixty-two licenses were issued free of charge during the season. Furty-seven nets were confiscated for leing set on Suday'. Their owners being unknown could not be further prosecuted.

## No. 7.

Schedfle of Salmon Angling in the leased Rivers of the Provinces of Quebec and Now Brunswiok during the Season of 1877.

| Name of River. |  | 3 30 30 0 0 0 0 0 |  |  |  | Remarks. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. | Lbs. | Lbs. | Lbs. | Lbs. |  |
| Du Gouffre................. ......... | 4 | 60 |  | 24 |  |  |
| Murray.............................. |  |  |  |  |  | Not angled. |
| Ste. Marguerite, $\begin{aligned} & \text { N.E. branch.. } \\ & \text { do } \\ & \text { N.W. do .. }\end{aligned}$ | 46 159 | 808 2,2247 | $17{ }^{17}$ | 29 23 | 10 9 | Water kept very low and clear. |
| A Mars ............................. | 51 | 615d | 122 | 26 | 6 |  |
| Little Saguenay.. ........ ........ |  | .......' |  | ........ | ........ | Not angled More salmon than usual reported in the river. |
| Anse St. Jean.... ................ | 8 | 102 | 1212 | 16 |  | Water kept very low. |
| Sault au Cochon. . ............... | ..... | . |  |  |  | Not angled. |
| Iaval |  |  |  |  |  | ) do |
| Godbout... ........................ | 411 | 5,754 | 14 | 26 | 7 | Three grilse, weighing 12 lbs. |
| Romnine .............. ........ |  |  | ...... | ....... |  | Not angled. |
| Mingan ...... .......... . ..... ..... |  |  |  |  |  | do |
| Moisie ......... ....... ........ .... | 107 | 2,081 | 1912 | 37 | 9 |  |
| St. Jobn. ... ...... ................ |  |  |  | .... |  | do |
| Natasbquan . ...................... | 13 | 233 | 18 | 20 | 10 | Angled by strangers, river being unlet. |
| Watsheeshoo. |  |  |  |  |  | Not angled. |
| Washeecootai | 1 | 12 | 12 | 12 | 12 |  |
| Rimouski ....... ..... .... ......... | 40 | 560 | 14 | 18 | 9 |  |
| Metis .......... ............... ....... | 41 | 846 | $20 \frac{1}{2}$ | 38 | 11 |  |
| Matane............. ................. | 51 | 504 | 10 | 24 | 8 | Water kept very luw. Salmon increasing. |
| Little S.W. Bic................... | 7 | 56 | 8 | 10 | 32 |  |
| Ste. Anne des Monts............. | 76 | 1,407 | $18 \frac{1}{2}$ | 47 | 10 |  |
| Magdalen ................... ....... | 50 | 1,000 | 20 | 35 | 7 | Five barrels of trout. |
| York...... ........ ...... ....... ...... | 55 | 1,144 | 21 | 33 | 8 |  |
| St. John .................... ... | 55 | 688 | 121 | 22 | 9 |  |
| Dartmouth................. ........ | 64 | 854 | 137 | 29 | 7 | About 75 salmon taken for breeding purposes. |
| Graud ...... .. ........ ............. | 92 | 1,241 | 132 | 27 |  | Seven grilse. |
| Grand Pabos...................... | 10 | 160 | 16 | 20 | 8 |  |
| Little rabos........................ |  |  |  |  |  | Not angled. |
| Bonaventure ...... .... ........... | 21 | $331 \frac{1}{2}$ | 16 | 17 | 112 |  |
| Little Cascapedia...... ........... | 4 | 84 | 21 | 26 | 16 | 800 lbs. of trout. |
| Grand do ................ | 313 | 7,085 | 223 | 42 | 15 | 1 grilse. |
| Matapedia | 202 | 4,344 | $21 \frac{1}{2}$ | 37 | $8 \frac{1}{2}$ | 55 do |
| Upsalquitch ............... . ......! | 6 | 82 | 14 | 15 | 12 |  |
| Restigouche, Lower Division.. | 210 | 4,200 | 20 | 35 | 7 | $50^{\circ}$ do |
| do Middle do .. | 209 | 4,387 | 21 | 36 | 9 | 17 \ ! do |
| do Upper do | 134 | 2,809 | 21 | 36 | 9 | 54 do |
| Jacquet............................ | 30 | 240 | 8 | 8 | 8 | 18 R ${ }_{1}$ do |
| S.W. Miramichi................... | 1 | 11 | 11 | 11 | 11 |  |
| Nipissiguit River................. | . 32 | 384 | 12 | 14 | 9 | 52 do |
| do Rougb Waters..... | 150 | 2,000 | 13 | 15 | 8 | 50 . do |
| Total... ............. | 2,653 | 46,307 $\frac{1}{2}$ | 173 | 47 | $6 \frac{1}{2}$ |  |

## No. 8.

# |REPORT OF W. H. WYLDE, ESQ., INSPECTOR OF FISHER1ES FOR THE PROVINCE OF NOVA SCOTIA, FOR THE YEAR 1877. 

Port Mulgrave, N. S. 31st December, 1877.

To the Hon. A. J. Smitr,<br>Minister of Marine and Fiwheries, Ottawa.

SIR,---I have the honour to transmit herewith my second annual return of the yield and value of the fisheries of Nova Scotia for the year 1874, amounting to $\$ 5,527,858.37$.

This would show by the total figures a decrease of $\$ 501,191.57$, but we must first consider that the value of salmon has been reduced 85.00 per brl. and haddock $\$ 250$ per cowt. and by adding the difference on those two articles, we hare $950{ }^{3}$ brls. salmon @ $\$ 3$ per brl. equal to $\$ 2,85 \cdots .25$ and $118.635 \frac{1}{2} \mathrm{cwt}$. hadlock © $\$ 2.50$ per cowt. equal to $\$ 296,588.75$, making in all $8 \cdot!9,441$. Taking this amount into account to make both years' returns at an equal valuation, it would make this jear's returns only $\$ 201,750.50$ less than last year.

When we take into consideration the great falling off of many kinds of tish as per statement herewith annexed---sce table appended.

The fisheries of Nova Scotia are still retaining their valuable position.
The decrease in catch is in salmon, herrings, alewises, cod, haddock, pollock balibut, shad, bass, trout smelt and cels.

There is an increase of $42,664 \frac{1}{2}$ lirs, and 94,216 cans mackerel, and it appears by the returns of the different counties that the increane is very equally divided.

The lolster-fishing shows a very large increase in eatch, no less than $1,633,306$ cans amounting to $\$: \pm 5,000$. This increase in catch has been principally by an increasel number of caming establishments and the improsed demand abroad has caused more activity in each packing entablinhment.

I am army to notice such a large falling off in the returns of Shelburne County, amounting to no less than $\$ 4016,40.40$. I hope there has not been any mistake made in the returns.

The dawl-fishing is causing guite an excitement among our fishermen, and they do not all asree. but all admit it would he usele-s to stop it within the threemile limit, when both local and foreign rensels might anchor uutside the three miles and could not behindered. Unless the trawl-tishing could be abolished altogether it would be of little nervice to move in the matter.

Alout 10 ger cent. of the whole value of fish causht are consumed in the Province, as nea: as can le ascertained by the statement of the orerseers, but it is nearly impossible to get a correct statement, a m my will not give the necessary information, fearing rome ulterion motive is in view.

I herewith give a condonsed statement from the repurts of each of the overseers of the different countier. Many of them boing prawtical men, 1 hope the suggestions pot forth ly them may be beneficial fin the improvement of that most important indusiry- the fisheries.

Tabie showing the actual Increase and Decrease of Catch of the several Productions of the Fisheries, for the Jears 1876 and 1877.


Comparative Statement of Value of Fisheries in each County, for the years 1876 and 1877.

| Counties. $=$ | 1876. | 1877. | Increase. | Decrease. |
| :---: | :---: | :---: | :---: | :---: |
|  | \$ cts. | \$ cts. | \$ cts. | \$ cts. |
| Annapolis... | 131,426 40 | 78,055 50 | ....... ... | 63,370 90 |
| Antigonish ................. | 84,133 00 | 63,12900 | ............ | $21,00 \pm 00$ |
| Cumberland ..... | 72,249 85 | $60,61+75$ | ....... | 11,635 10 |
| Colchester | 25,569 50 | 30,770 50 | 5,201 00 |  |
| Gape Breton. | 263,00205 | 191,127 80 |  | 71,874 25 |
| Digby ........ | 354,729 25 | 282,704 90 | ...........! | 72,024 35 |
| Guysboro'. | 463,74115 | 474,011 55 | 10,27040 | ..... ........... |
| Halifax... | 798,162 58 | 819,943 10 | 21,780 52 | - .... ...... |
| Hants .... | 8,886 95 | 5,621 20 |  | 3,262 75 |
| Inverness. | 303,602 00 | 359,906 72 | 55,301 72 | ........ ....... |
| King3 ........ | 53,795 25 | 65,07550 | 11,279 25 | ....... ...... . |
| Lunenburg .. | 859,572 35 | 952,860 00 | 93,287 65 | ....... ....... |
| Pictou......... | 19,115 56 | $23.6+310$ | 4,527 54 | ... .......... |
| Qucens.... | 211,332 75 | 228,993 80 | 17,600 05 | .. ... - ...... |
| Richinond | 6010,16440 | 545,853 75 | . $\cdot$ | 54,300 65 |
| Shriburne | 1,053,837 25 | 649,376 85 | ... | 4)6,460 40 |
| Victoria |  | 158,861 85 | . $\cdot \cdot 1$ | 10,348 75 |
| Yarmout | 554,518 05 | 538,295 50 | ...... 1 | 16,222 55 |
|  | \$6,029,049 91 | \$5,527,858 37 |  |  |

## ANNAPOLIS COUNTY.

## W. T. Carty, Overseer.

There has been a great falling off in the catch of fish from the previous scason, more particularly in the Bay of Fundy. This, the fishermen attribute to the great amount of trawls set across the mouth of the Bay, and I am informed by responsible men, that American vessels and others who have taken good fares of fish at themouth of the Bay, and have come on shore for bait, had not a barrel of offal on board. It is generally thrown overboard on the banks.

The principal abuses that exists in the county, is the letting of sawdust and other rubbish into the streams, and poaching in the night; and since the wardens are not entitled to receive half the fine, it is very difficult to catch and convict the gailty.

I beg to say that the dam on Annapulin River, called the Lawrencetown Dam, is one of the greatest nuisances in the county. The shad fishery is almost destroyed, and the salmon are hindered going up when the water is low, and remain in the pool under or near the dam, and become. an early prey to poachers.

The close-season, so far as my knowledge goes, has been observed.
There are ten fish-ways in this district; four on the Nictaux are out of repair. I have not taken any steps to have them repaired, as I waited for instructions. "The fishway at Round Hill stream is too near the mill. I would recommend the closing of one, and putting one in the cast waters, as the salmon have taken that route for several years.

I would further recommend that the inhabitants who live near fresh waters, where salmon and shad fiequent, be allowed to set nets three days in each week.

Overseer Alex. W. McDonald, having had all his papers destroyed by fire, has not sent any report.

## CAPE BRETON.

## Yori Barrington, Overseer.

The fishei ies have been carried on later this season than usual, and less fish hare been taken in the month of November this year than for several years, whieh is partly owing to the very high winds and scarcity of bait in the early part of the season.

The summer herring did not strike the shore for the whole scason, and the catch was insufficient for the home consumption.

All close retaous have been strictly observed. There are some fish-ways in my dintrict, all at present in gool order. Some were damaged last winter, but I had them repaired.

There has boen a decidel decretise in all kinds of fish the past season.
Francis (Quinan, Ocerseer.
Our fishery catch has decreased materially from previous years, more especially in the catch of salmon, codfish and herring.

The fisheries have been prosecuted with vigour, but the general opinion prevails that rialmon and herring were driven from our shores during the high win's. which prevailed during the time they were coming on our coast, and caused a partial failure. The decrease in codfishery is admitted by our fishermen to two causes. First; the throwing overboard of fish otial on the banks, which keep the fish off. Second; trawling. on the banks, and inshore, more especially the former, tends to destroy the mother tish; and the general opinion among the fisherman is, trawling should be prohibited.

The close-seasons have been protty closely observed, with the exception of one case a salmon net was seized, and one case of infringement in the trout close-season, in which a tine was imponed and received.

I am happy to report the fish-ladders in my district in good order.
The lobster-fishing is incressing yearly in my district, but the canning establishment being in Main-adieu district, I am unable to give the quantity canned.

In regard to the fish used locally, about, one-half of the salmon, codish and haddock are consumed at home.

From close observation, I find that many of our brooks are completely choked by wind-falls, old timber, etc., which prevents the fish ascending and descending, and young alewives are frequently killed by being caught in the debris. I had une brook cleand d, but only partially.

I most earnestly request a close-seasoņbe made for smelt, in thi district, from 1st April to 30th June.

## Alex. McDonalo, Overseer.

There is a great falling off in the principal part of the fisheries, in this district, this season, owing to their scarcity.

First, in the catch of colfish and haddock; although the industry and energy of our fishe men added thirty-six boats and two schooners to that fleet, the catch is below that of last year.

The catch of mackerel and alewives is comparatively low. The oldest fishermen on our shores cannot tell why mackerel do not revort to our shores as formerly, although they seem plenty out at sea in the spring season.

About one-half'ot the quantity of mackerel shewn on $m y$ retuan are caught lyg hooks, and very little done by net-fishing either in spring or fall.

As regards the falling ott in herrings, I attribute to a north-wert gale on 20 h June, that being the time the herring approachet our shores.

There is a slight falling off in the eateh of salmon, although the number of vessels shew less in the returns on account of the low market. There is an increase in the number of cans put up, and also in fresh salmon sold. The fisherme. might have done better had they set their nets earlier in the season. The month of $\lambda$ pril was uncommonly fine in this county, but they did not set their nets until the usual time.

There is an increase in the number of cans from the factory. The lolister factory at Main-adieu was in operation before and after the close-scason. But the factory at Gabarus was not in operation until after the close-scason.

There is a large quantity of fish canght in this disurict that do not shew in my return, by fishermen from other counties of the Province, and return home to sell their fish after six or seren weeks' fishing in the spring seition.

There were about forty wobooners from other counties fishing in this county.
The close-season is well observed in this district. The only grievance is arainst trawl-fishing; therefore, for the protection of tisheries I would recommend that. trawl-fishing be abolished hereafter.

## COLCHESTER.

## R. J. Pollock, Oversect.

Smelt came in the river the 22 nd April very plenty, and went two miles further than they have done for many years; and owing to the river being unusually low, were caught in large quantities with dip-nets; no attempt has been made to take them in any other way.

The tirst shad was caught on the 10th May, and in larger quantities than usual up to the 20th May. This I believe to be owing to the water being low in the river, and gave the fish a free run to their spawning ground.

Trout were plenty; sportsmen well satisfied; first salmon caught, 1st June, but continued scarce until the 1st July. From this date until the close-scason, salmon continued to be caught in about the usual quantities. After the close-season they appeared to be very plenty in all parts of the river in $m y$ district, and I have good reason to believe they got safely up to their spawning ground.

From the 1st to the 15 th of May large quantities of salmon fry could be seen going down the iiver from four to six miles. The spent salmon are sometimes caught in the shad nets, and are very poor, and are in most cases allowed to go fiee.

Fish, of all linds, I believe to be on the increase; the increase or decrease of the catch depends upon the height of the water in the rivers, for when they are high they get past without being taken; nearly all the fish caught are used in the county.

## Wm. Blatr, Overseer.

The salmon are on the increase in onr rivers and bays. There are not so many taken in my district as in former years, on account of the restrictions placed upon them in the Shnbenacadie River.

The parties liviug on the banks of the river complain bitterly of being compelled to row from five to ten miles out into the bay before they are allowed to drop their nets, when from the time of the settling of the county they were allowed to catch for their own use fish in the river ; and they claim it as a right inherited from their fathers.

If they could be allowed to fish one or two days in the week they would be satisfied.

The close-season has been strictly observed, but it is next to impossible to keep the sawdust out of the river from upright saws; some owners declare that they will shut down their mills if they are compelled to catch all the sawdust from their small uprioht saws.

T'be shad appear to be on the decrease from some cause; many say the young fry are killed in the woirs.

I have no fines to report, and I have good reason to believe that very little poaching has been carried on. The lessons of a few seasons ago have had their effect for good. We are having some difficulty with the proprietors of a steam mill near. Truro, but hope to be able to place the matter right soon.

## James Bonyman, Overseer.

The spawning ecason for salmon good; plenty of water to let them up to good spawning ground and to protect them from much damage from the spear: But on acconnt of the depth of the water we could not tell if many spawned. Messrs. Burnbam \& Morril (an American Co.,) built a lobster canning factory, and for six or seven w eeks did a good business, and intend starting in the spring with the hope ot dining a good businoss. Thoy employed about seventeen hands, and as it is the first canbing establishment in this district, the people regard it with a great deal of interest.

## CUMBERLAND.

## James King, Overseer.

The fishing at the head of the Bay has been as good as last season with a gradual increase in salmon; this is owing to the improved facilities for salmon to get up the river to spawn, and the prevention of injurious substances being put into the river.n.

Herrings have been as plentiful as last season, yet the people did not fish for thom to any extent, except in two weirs. Line fish have been on the increase for a few years past, so much so that trawling commenced last season. This season a vessel and several boats came on this shore with very long trawls, which hindered our fishermen from fishing with any amount of energy; so the catch by our people was rmall.

I would suggost that some action be taken by the Department in reference to trawling on the wertern shores of this county, as the people that use trawls come from other parts and set their trawls on the spot where our men fished with lines.

This causes ill-feeling, so much so that our men cut their trawls and let them go adrift. . This may lead to more violence. The Basin of Mines is supposed to bo where the line fish spawn; the trawls take the mother fish that come in to spawn.

The close season has been generally observed, with some exceptions; Southampton being the principal. I would suggest the propriety of appointing a Warden at Apple River with shore jurisdiction from Spencer's Island to Sand River. There are fourteen ways provided for tish to ascend the rivers, some are ladders and some are ways round dams. The most important ways are in efficient working order; those of less importance, some wore out of repair. I have visited all of them during the first part of October and gave directions to the wardens to have them repaired sufficient to pass the fish. October and Novomber are the months that the principal part of the fish enter the rivers to spawn; there are places yet requiring ways for fish to get to spawning ground. The parties at Apple River have agreed to provide a good way for fish next season when they erect their new works. This river was formerly a good place for fish to spawn.

## Hugh Davidson, Overseer.

The herring-fishing was unusually good last spring, large quantities might have been caught; there were no more taken than was required for home consumption.

There was a fish-way put in the dam at the head of the lide on the Tidnish River, which I trust will be the means of increasing the alewives in that rivor.

The lobster factorys at Tidnish and Amherst shore have done a fair business as they were carried on at a moderate expense.

## I. J. Hingley, Overseer.

There secms to be a falling off in the catch of berrings in some places along the Gulf shore. The ice came during tishing and remained for three weekr. James Brander informs me that he has fished for fifty-two springs and that he never saw such a bad time to fish or caught so few herrings.

The greatest abuse in this district has always been the illegal taking of salmon, but I am glad to report that there is a great deal less of it now than formerly.

William Miller and Timothy Patien were engaged as special guardians, and they succeeded in doing good work; they took eight nets that were used for taking salmon. The close-seuson for other fish has been well observed; there are ten fish-ways in this district, and all are in good repair, except the one on the dam in Oxford, the freshet in. August wrecked it and and the water kept high so long that there was no opportunity to repair it; and as A. B. Wilmot, fishing officer at Bedford, required all the salmon for spawning purposes, that lie could obtain, it made no difference materially.

All the fish taken in this district are used for home consumption, excepting lobsters.

## DIGBY.

## H. E. Payson, Overseer.

You will observe that there is quite a falling off in our returns from the year 1876.

The codfish and herring have bson much less. B it very scarce, anl the nets being set week in and out has a tendency to keep the bait from the shore.

The trawling and trapping has injured the codfishery, and should be probibited.
The catching of hake, and saving hake sounds, has got to be quite a busincss. One man hought over $\$ 6.000$ worth this season, which has bcen very protitable to our fishermen.

## L. A. Melanģon, Overseer.

Although our fishermen were better prepared for fishing this year, the catch is less in proportion to the men engaged.

The failing is owing to the free use of trawls and throwing of offal of fish ovorboard.

The fish-ways are all in good order, but I think might be improved on when you visit us next season.

## J. H. Morehouse, Overseer.

I regret to report a considerable diminution in the amount of tish taken this scason as compared with the last. The high prices realized last year induced a much larger venture in the business this season, the tonnage employed being almost doubled; as a consequence, the individual shares are reduced to less than half of last year. Besides the inferior quality of a large proportion of the tish taken, and the extremely low prices realized, will, I fuar, cause great tinancial difficulty.

It may not be easy in trace, with positive certainty, the cuases that have led to this result, but the belief is general that it is largely due to the practice of trawlfishing; as a consequence, there exists a general prejudice against the system, and the fishermen are extremely anxious to have a aw prohibiting the practice, at least in Digby County.

The waters of St. Mary's Bay are in many places shallow, and in heavy gales the bottom is powerfully agitated. In a recent storm, thousands of fish were washed ashore at a station where the inhabitants were fishing with trawls, thus, tully illus trating the destructive nature of this system, and fully proving the fact that the amouut taken is small compared to the immense quantities kited on the bottom. It is not difficult to comprehend the deleteriuus effect of large quantities of decaying fish on fishing grounds.

Several tine cod-fishing banks in the Bay of Fundy are now abandoned, which, without doubt, have been destroyed in this way.

If this system is prohibited, donbtless these grounds will be restocked; but if continued we may as well bid farewell to the Bay of Fundy tisheries. There are also, doubtless, other causes operating to produce these efferts; such as the destruction of our river and herring-fishecies. Formerly our rivers and harbours teemed with trout and other small fish; but aw these have beon depleted, there has been less to attract the deep-sea fish to our bays and estuarics.

I have good reason to believe that section $1 t$ of the Fisherios det continues to be violated by many of the tishermen ; and, under the present law, it is hard to prevent it.

I regret being again compelled to record the partial failure of the mackerel fishery at St. Mary's Bay. The fish, though abundant, were so very small that they were unfit for market; consequently fow were taken; but I am hopeful another year will witness the complete restoration of the fishery. I would also again respectfully request an order restricting the building of woirs at the head of St. Mary's Bay, until after the 20th of June, that the spring shad may be protected while depositing their spawn. I conceive no argument is necessary to show the unreasonableness of making a close season for the protection of this valuable fish, for I am fully convinced that unless this is done, they will be hopelessly destroyod.

I also regret being compelled to record the continued failure of our much celebrated Digby herring fisherios, caused, it is believed, by the sawdust coming down the Bear River, which has its outlet in Digby Basin. Hitherto I have had little sympathy in my efforts to protect these important interests; but there is at present a disposition manifested to assist in enforcing the law, so that in time we may soe this fishing restored, and be able to prevent the destruction of Bear River and harbour which are slowly, get surely, filling up.

As reported last year, there are rot any fish-ways upon it, while the fish in their season continue their fruitless eftorts to fore their way to their spawning grounds.

It is pleasing, however, to oberere that the spirit of enterprise in this branch of
industry has not abated. notwithstanding recent reverses. Vessels of larger dimen sions and superior build, suitod to bank-fishing are now suporsoding the fishings, smacks of former days. Digby, the shire-town, is lealing off firely in this direction, having doubled the number of their fleet the past year, whilo the little town of Hillsburgh is emulating her older sister. Threo vescels were put in the business here last season, and three more are to be built this winter; nor is this spiril confined to these localities; all over the district the same onergy is observable.

## GUYSBOROUGH.

## James Tory, Overseer.

On comparison with last year, you will perceive a considerable falling off in herring, alewives, codfish, pollock, hake and oil; but an increase in mackerel, haddock, halibut and lobsters; making a difference in total value of $\$ 28,674$ less than last year. This I think may be attributed to several causes and chief anong them is the fact that tbe fall herrings, which have heretofore been taken in large quantities at their spawning season, did not strike upon their usual rpawning ground, and in consequence were missed by the fishermen. I am under the impression that this fact may, in a great measure, be owing to the setting of large quantities of nets on said grounds, and thereby breaking up or disturbing the school of fish while spawning. Another, and a secondary cause, may be owing to adverse winds and currents affecting them while approaching their customary haunts In fict a very few of those fish were taken upon the shores of the district the past season, which cansed a scarrity of bait for line-fishing. This will acoount for the short catct of cod, and other line-tish, which pincipally feed upon the herring. The short catch of line-fish will account for the deficiency in oil.

The catch of salmon and alcwives has been about the same as the past year in this district, but has not been as successful with those that fished abroad.

Mackerel has largely outstretched the past year, but is far short of previous years, although the quality and price of those taken will in a great measure compensite for the deficiency of the catch in other fish.

The haddock-fishery this season has been prosecuted to a very great extent by trawls, which has nearly superseded the old mode of hand-lne fishing, which will account for the increase of their catch.

The catch of lobsters as you will perceive is still on the increase. The fact of an additional canning establishment having been erected, and a sharper competition with increased facilities for the prosecuting of the fishory by the owners of the several establishmentw, which no doubt has been prompted on by the steady market abroad, will I think account for such increase. But I cannot help thinking that such an enormous drain as is now upon that fishery, will soon, if continued, bring it to an end, and I would again raise a warning voice against the total destruction of so Jucrative a fishery, and ask that more stringent measures be adopted for its protection.

The other or minor fisheries have been about the same as previous years.
From personal observation and from alì the information I have obtained I am unsler the impression that those fish which resort to the fresh water are steadily on the increase, especially salmon and trout.

I am happy to inform you that the close-season bas been strictly kept, and that no violations in other respects have come to my knowledge during the season, although I have had considerable trouble in settling disputes respecting salmon net mooring, which I hope has been done satisfactorily to all parties concerned, without the necessity of appealing to law for such purpose.

There are not many mill dams in the district which are injurious to the fisheries, although a few may be to a small extent; and in this respect I would name one on the south-west branch of Salmon River, the fish-way on which has been carried away.

During Mr. Rogors' visit to the district, I got him to visit this dam with others. Hegave orders to the owners to prepare materials to build a new one the coming season, which no doubt will be done. There is also a dam and a waterfall on the south branch of the river, at the Intercale (known as Hughes' Brook), which if proper fish-ways were erected, would open up a large string of lakes,in the wildorness for the resurt of fish. This I think is required, whenerer it can be conveniently done, as it has now becomo pretty certain that fish will not resort to, or remain in small rivers after the forest has been cat away, and the waters thereof become unsheltered and exposed to the heat of the sun.

## Joun Macdaniel, Overseer.

The decrease in the prosecution of the fisheries in this district may be attributed to several causes.

1st.- Many of those who were previously engaged in fishing have turned their attention to the more remunerative employment of gold-mining.

2nd.-The decrease in the value of fish and the scarcity of bait, the pist season, have been the means of diverting their energy to something else. Herrings have been scarce all the season, and hence the small catch of codfish and haddock.

3rd.-The dams on the rivers prevent the free access of salmon and alewives, and many of the tish-ways are ill-calculated to allow the fish to pass. The most of them have been constructed merely for the purpose of avoiding the charge of openly violating the law.

The close-season bas been strictly observed in this district.

## HANTS.

## Timothy O'Brien, Overseer.

I am sorry to say my report differs very little from last year. Thero has been a falling off in the catch. There was about the same number of boats engaged this season as the past. The sole cause, I believe, is the scarcity of tish.

The use of woirs is, I fear, the cause in a great measure, and I must again $r$ commend them to be prohibited altogether in our county or the owners be compelled to put a piece of net in the centre of each, and thus allow the small fish to escape.

Some complain vory much of the sawdust being allowed to go into the stream. I have had to look very closely in orter to enforce obedience.

The several close-seasons have been observed. I think the fish have had a fair chance of ascending the Shubenacadio River, as I examined it and removed all the obstructions I could find.

## Halifax.

## Jobn Fitzaerald, Overseer.

In the catch of mackerel there has been a largo increase over that of last year but the catch of cod has not been much in excess. In other kiads of fish the catch has been an arerage one, with the excoption of herring and salmon, the former being exceedingly scarce. In August about twenty thousand barrels of mackerel were lost to our lishormen, owing to a severe gale from the south-east, which compolled them to take up their seines and let the fish go.

With the exception of the disputes between the fishermen of Dover and Prospect already known to the Department, no other infringements upon the regulations or disagreement among them have come under my notice. Our fishing industry is prosecuted with much harmony and good temper, a circumstance perhaps remarkable where so many pursue the occupation.

Being under the impression that the nets with bottoms in them used by the fishemmen of Liargarot's Bay and Prospect were trap nets, I have during the past two
years made them discontinue the use of them. They eontend they are not trap nets, as the fish can, after getting in, find their way out; and besides, that the mesh is so largo (a material difference betwoen them and the real trap nets) that no small fish are destroyed, and morever that no other fish than silmon are evor caught in them.

The lobster factories closed in the month of Angust.
I have been informed by Warden Mason that he never saw no many fmall saimon around Margaret's Bay ay his fall; and Mr. Coolen, of Shad Bay, told me that one day while watching his mackerel seine, he saw about two hundred small salmon swimning under his boat. This was at the outlet of the Nine Mile River.

There are seven fish-ways in my district, two on each of the following rivers, viz:-Hosear, Indian and'Ingraham Rivers, and one in Hubbard's River, all of which are in excellent order with the exception of the latter, which, as I have been told by Warden McLean, was not in condition to allow the tish to pass up.

The migratory habits of different kinds of fish are apparent from the fact that eight years ago dog-fish were so numerous in our waters, that two men could catch a sufficient number in a day to yield a barrel of oil, when now scarcely one is seen. A few jears ago hake were very largely caught; a man could make his two to four quintals a day. Last year there were scarcely any caught, but this year they have been slightly on the increase.

Pennet River, an oxcellent one for alewives and salmon, being now in good condition, would bo an excellent place for depositing young salmon firy.

The alewives are on the increase in Ketch Harbour Brook every year since its being cleared out.

Small mackerel have been exceedingly numorous in all the bays, creeks, and harbours along our coast this season.

An increased vigour seems every year to characterise the energy with which our fishermen prosecuto their very important calling.

## Wm. Anderson, Overseer.

With my returns I forward the petition of D. W. Archibald, Esq.. setting forth a claim for compensation for rebuilding his fish-way on West River, Sbeet Harbour. The old fish-way had been examined and passed, as he said, by all my predecessors, but I proved to him that it did not answer its intended purpose. I strongly recommend his claim as just, and trust the Department will remit him at least one-half the amount it cost. I trust you will repor t favourably, as I explained the case to you on a former occasion. I have urged the Department, and again through you do strongly recommend that something be done in this river to allow fish to ascend at any size of water. There are several reefs running across the river, spreading the stream and breaking the water, so that fish cannot ascend only in certain heights of water. Meantime, there are pools below each of those reefs where salmon lay, and poachers watch the movements of the warden, who has often to expose himself to danger and insult, as the poachers are regularly organized for that purpose, and often disguised and in the darkness of night cannot be recognised.

This is the best stream in the county of Halifax for salmon.
As there are mills on East River, between the steepness of the fish-way, which is cut through the rock, and the continued jam of loge and tampering with the regulating gates on said fish-way, few of any kind of tish ascend this river, which throws the whole ruu of fish into West River.

I have recommended in my former reports the improving of this stream. The cost would not exceed two hundred dollars.

The Chezzetcook River has no mills or dams, but the water spreads so among loose rocks at its mouth or entrance into the tide, that it is only at certain heights of water that fish can take this river. It is a good river for both salmon and gaspereaux. Fifty dollars would make a good entrance.

The fish-way at Musquodoboit Harbour has proved to be what was required. We caught in a trap, which was placed in the dam above the fish-way, 200 salmon for the

Breeding Establishment at Bedford, where they were rightly handled by Mr. Wilmot, and the egge forwarded in good condition to their destination.-

The close-season lor lobsters is giving general satisfaction, and the work of catching was better attended to. The fall berring and mackerel were a failure.

One of the great grievances now is trawl-fishing. I have not met a man-even those who are using them-but has urged me to report strongly against them. They all say it is ruining our inshore line-tishing. They also complain of trap-nets, such as are used in the western part of the Province, and trap-seines, used by the Americans in deep waters, and say that these modes of fishing break the schools, and cause the fish to leave our shores.

A number of poor people, residing at Moser's River, Sheet Harbour, Ship Harbour, and Musquodoboit River, have requested me to ask for the privilege of two days out of the week to dip alewives for the use of their families. If such privilege is given, I will see that it is not abused.

## INVERNESS.

## Mr. A. Ross, Overseer.

The cod-fishery has been good, although the returns show a falling off of 2,165 quintals; but I feel satisfied that this many or more have been sold to trading vessels, of which I get no account.

Mackerel have been very plentiful, showing an increase of 3,302 barrels over last year's catch; the most of them have been sold to traders from Prince Edward Island, who shipped them to the United States.

The herring-fishery has been nearly a total failure, showing a decrease of 1,127 barrels from last year. The cause is attributed to a heavy galc of wind at the time they struck the coast.

Hake and baddock rather short of last year. Fish-oil shows an increase of 11,219 gallons over last year, which is attribnted to two reasons, viz., the fish livers gave more oil, and a more correct statement is given than last yea:.

Salmon has been very plentiful, more so than I can recollect of. The canning establishment at Margaree has dono well, but no doubt Overseer Coady will give the number of cans. But plentiful as they were, for some unaccountable reason, they did not ascend the Margaree River until the first of September; consequently, the sportsmen did nothing. The river was well stocked with fall schools, and they no doubt found their way to spawning grounds.

I am sorry to admit that more salmon have been taken this year contrary to law than for the past eight yoars, and the question is: who is to blame. My opinion is the wardens are not placed in the proper places, as may be seen in the place where I live-there are two wardens within half' a mile of cacn other, then a space of eight miles to the next staff, where two more are appointed within a mile of each other. Then there are six viles to the Forks without any. Again, there is another wardon appointed on Lake O'Law, who is not in a position to be of any service to the protection of fish.

I hope that steps will be taken to remedy the evil, and that the different sections on this river will be equally represented, and that no officer will be drawing pay without being in a position to earn it, little as it is.

Little River Cheticamp, is the next to Murgareo River for salmon-fishing; it is really a beantiful stream running back about twenty miles, where angling could be done on a large scale. There are three natural falls that prevent the fish from going to the head waters for spawning, unless an unusual freshet should happen when the salmon and trout are ascending the river. A small sum would blast a channel in the falls, and no doubt would make it equal if not superior to Margaree River.

This River enpties into the sea and forms a large pond, and during heavy southerly winds tho channel shuts up with sand, making it impossible for any kind
of fish to come in or out. I think twenty-five dollars would open it and have it attended all the season, and I hope the Department will see the necessity of granting the money.

The atewive-fishery has been a total failure, but I am informed that heavy schools were seel coming down the river from Lake Ainslie. I havo gond reason to hope for them to be as plentiful as formerly. It will require another warden appointed to assist Warden Neil McKay, as he has signitied bis intention of resioning if some person is not appointed to assist him, as he cannot attend to it alone. It is one of the worst places in this county to protect, as all the poaching is done at night.

The other wardens under my supervision are attentive to their duts. There are no fish-ways in my district.

The several close-seasons have been well obscrved.
John Cameron, Overseer.
I beg to send you my annual report of fisheries. I find herrings more abundant in my district.

The storm of the 22 nd of September caused considerable damage to both nets and boats, and drove the fish away from our shores.

I find both haddock and cod on the decrease, and the reason is from less prosecution of that fishery.

The abuses that exist in my district are violations of the Fisheries Act, in setting nets across the rivers, and I would recommend that more wardeus be appointed, so as to have the daw better enforced.

There is only one fish-way in my district, and it has been left open during tho season.

One of the best fishing rivers at Whycocomah is very much obstructed by three large pilcs of rubbish. I am desirous that some measures will be taken to clearit out.

During absence on official business two of the nets which I seized last fall were stolen from me. I suspect a labouring man whom I left to work at home.

## KINGS.

## A. Bishop, Overseer.

I am this year compelled to state that the catch of salmon in Gaspereaux River is very trifling, compared with that of iast year. In reference to the cause, I think they do not ascend the new fish-way over the Caldar dam in sufficient quantities to keep up the fishery. Although this fish-way is the best one wo have had there, and last year many alewives ascended, for vast quantities came and were blocked below the dam, but this year very few came, and none have been seen above the fish-way.

I am of opinion that the alewives we have taken the last two or three years, are the proceeds of those wich asceuded to their spawning-beds before the river became thus blocked, and especially those which ascended the year in which the Caldar dam was torn out by the freshets.

As these fish will not return until they are three years old, we hope to have some returns in 1879 , from those which ascended last year.

The scarcity of salmon in the Cornwallis River I think to be owing to the unusual dry seasons, both this year and last, keeping the river so low that they would not ascend it.

There are in my district four fish-ways, two of which are ladders built over dams, and two are passages dug in the earth around dams, all of these have been kept open during the season; the last two mentioned work well and give perfect satisfaction. one of the others was slightly injured, but was duly repaired.

Our people are nearly all difposed to respect the law, and with a little moral suasion, I generally succeed in setting all disputes and preventing illegal fishing; I have therefore no fines to remit.

## J. E. Starr, Oe erseet.

I enclose berewith an account of fish caught in the coast fisheries of this county the past year, amounting in value to the sum of sixty-fouv thousand three hundred and ninety-nine dollars and fifty cents, being an increase of ten thousand six hundred dollars over and above that of last year, and the increase has been steady and gradual ever since 186!, when only half the present quantity was reported. Of course some of this may be accredited to more correct returns, but very largely to more perseverivg efforts on the part of the fishermen, who have been encouraged by good wholesome ${ }^{\text {a }}$ laws, properly enforced, preventing contention.

The herring-fishery has not been as good this year as last, but quite a number of mackerel have been taken, more than making up the deficiency. Line-fishery has been more generally followed this year, and in some instances with very fair success. Some of the fishermen complain of trawl-fishing, but I cannot at present see the way clear to any regulation prohibiting it. I do not know of any alteration or addition to our present laws that would be practicable or desinable.

Thore are no flsh-ladders in my district, nor have any violations of the law come to my notice, and from all the information I can obtain, I am satisfied that, since the unfortunate affray in which one man lost his life, there has been no attempt to drift for shad in Scott's Bay contrary to law.

## LUNENBURG.

## H. S. Jost, Overseer.

I now beg leave to present my report and annual return of fisheries for the Western District of the county of Lunenburg.

The value of the year's products in my district is $\$ 780,551.00$, being an increase over 1876 of $\$ 139,955.25, \$ 19,500$ of which excess is contributed by lobsters in cans, and the balance by a general increase, distributed among the remaining articles, with the exception of very few.

Daring the past season there has been one trap-net in operation in the district licensed by the Dopartment. It was located near Fire Cove, on the south-west side of Lunenburg Bay, near the entrance of the harbour. The people living in the vicinity-not connected with it-seemed inclined, at first, to oppose its use, thinking it would injure their fishing. There can be no doubt, among thoso knowing the facte, that the trap was a great convenience, and very useful this year, in being the means by which herring aud othor fish were distributed fresh among the people of the surrounding country, as they had rot been for years previously.

Bait also-which had been very scarce-was largely supplied from the trap, to the fishing boats, and also to some bank schooners.

All the fish-ladders are now in good order as I am informod by the wardens, and by my own personal observation.

Since the erection of the Gang Mills below with their dams extended aeross the river, there are neither salmon nor alewives to be seen, much less caught above.

The Gang Mill dams and their ladders have heen looked after by Mr. Rogers, who has this year again caused some alterations and improvements, making them more efficient.

The very extensive lumbering, causing such a large amount of logging on the Lahave River, is no doubt the cause of much mischief to the fisherics.

## George Redden, Overseer.

Thore is a falling off in the catch of fish of different kinds in this district this season. Herrings were very scarce, but the quantity brought from other localities helped to increase the :mount.

There has been a decrease in halse, and all line-fish along ourshores, owing to trawling, which destroys the mother fish.

There is a large number of small streams which are closed against the atewives, still those fish risit the entrance to them evory year, and if those streans, continue closed, there will still be a greater decrease in the poor man's fish.

In my opinion it is caused by sawdust and mill rubbisl. I would recommend Coleback's Brook to be cleared out the coming seanon.

The close-seasons have been well observed; poaching has been of very rare occurence in this district the past season. There are several fish-ways in this district, and have been attended to according to law.

The tish-way at Middle River Branch is not sufficient, and it is impossible to remedy it without putting the law in foree agranst the mill-owners.

All other rivers are increasing in tish, and the inhabitants will respect the law, since they find the Department restocking the rivers.

## PICTOU.

## David Marsilall, (رeersect.

It becomes my duty to report to you of the matters under my rharge, as Fish ery. Overseer for West P'ictou.

The usual statistical forms have leen filled up as carefully as posible and forwarded with my accounts of expenditure and fines.

I cannot give a report of hast yours wits appealed, as my attorney has not giren me a statement. I fear little will be added to the revenue of the Depirtment, but trust no demand will be necessary for costs.

What with new overseer, new haws, new judge, on legal efforts have not been successful, though I may say that a whole-ome check has been given to law-breakers; they now know and tear. I will be able to report more fully after court.

The fish-ways on both East and Middle Rivers and on the River John, have been bnilt under the personal attendance of our efficient fishery officer W. H. Rogers, Enr., and a great want is thereby supplied.

The presence of Mr. Rogers in the county, not only during the summer while building the fish-ways, but latterly during the fishing season, has had a grod effect; people learn that the In pector is in earnest in hivetrorts to have our rivers filled with fish.

There is a marked improvement in the number of fish in our rivers, which a few years' more care, and stiil more efficient inspection will be pleasing besides profitable.

The wardens are not equal to the duty to be performed, they have an average of ten miles to look after, and I think it is more than can be attended to properly, and if there should be any tardiness in any of them, the whole river must sutfer.

I feel that the law can be enforced, as the respectable and influential portion of the commmity are in favour of it. The increase of fish as a result of partial enforcement, speaks loudly in favour of enforcement.

Two hundred and twenty-five dollars given for the wardens in this district, ought to go far to protect the fisheries for two months.

## John McDonald, Olerseer.

In reference to this year's fishing I have to state a large increase over last year in the catch of salmon, notwithstanding a sorious drawback in the beginning of the best part of the season, by a severe storm that damaged nets then out. This favour-
able result is largely due to the enforcement of the fishery laws, thereby greatly increasing the number of salmon in onl waters.

The state of the fivers the past season was quite favourable to fish ascending to their spawning grounds, as the summer was mildly wet, keeping the rivers in an even flow without the occurrence of rushing freshets to muddy the water and obstruct the fish by the accumulation of rubbish.

The close-season has been generally well observed on the coast, but in some of the river: attempts wore made to evade the law; the more so, as many strangers were in the district working on the Eastern Extension Railway. Against several parties I instituted proceedings, but failed to convict from want of sufficient cridence.

## QUEENS.

## S. T. N. Selelon, Oeverer.

The fishing interest of this county has not been a success this season, a rariety of alvorse circumstances being the callee; the most important of which were strong winds, when tho migratory fish would come into our bays, harbours and rivers at the feason they come on the coast.

By this I mean that salmon and alewives are late and uncertain if the prevailing wiods are from the castward and cold.

Herring are taken in small quantities carly in the spring, but they are more pleutiful in July and Angust, when they come into our bays to deposit their sparn (in sandy bottoms ; at this time they are fat and good.

Trap-fishing was not succesful this season, but they rendered much valuable service to bait tishermen, to our own and American vessels.

Lolster-tishing has resulted most favourably to that class of fishermen and the factories, and it will be largely extended next season.

Opinions difter regarding the clase time for lobsters, but here it gives general satisfuction, and perhays no tetter time conld be named for their protection, and suit the varied interesis of the jeeple.

Very early in the spring, before the nsual time for alewives, quite a school of them went up the rivers, bit after that they were uncertain and few in number, adrerse wind and weather being the canse.

Satuon were in god number on the Melway River; they eame in early; several were taken by the Indians with rod and lite amons the toating ico in the last week of January and part of February, and we have reason to suppose a very large proportion goes up to the head waler, as there is no obstruction and a bigh run of water.
$I$ regret to say salmon and alowivos-fishing does not give me satisfaction. I anticipated a larger increate; all care is used, and the fish-ladders are called good, but our fish do not seem to go up them. I would recommend that fishing for salmon should le from Monday morning at o o'duck to Thursdiy afternoon at 6 o'clock. Onr rivers are blocked up with nets, for there are so many who set them. Our present law allows the entire week tior tisbing.

On the Melway River there are fom fisb-passes from twenty to thirty feet wide, at the end of the large dams; these are most satistictory and ample. From thence to Ponhonh are four tish-ladders, and one each at Brookfield, Pleasant and Westfield Rivers.

On the Liverpool River a fish-ladder was built according to a plan from the Department and wis approved by Mr. Venning and fishery officers. At Tancook dam, a very fine ladder was built in 1875. pronounced good by the inspectors, but they do uot seem to suit our fish. There is also a fish-hole at Cowie's dam; Broad River has three fish-ladders, and at Port Mouton Mills there are two.

Generally the fishery laws are respected by mill-owners, but the lobster fishermen will violate the law when they can.

The law for trap-fishing is so far satisfactory, and these station- require several visits during the fishing season.

I disapprove of trawl-tishing, and if it cannot be stopped on the outside banks it can be stopped in the harboure under Dominion control.

## RICHMOND.

## Edward II. Ballam, Overseer.

I have to report as follows regarding the tishery district under my supervision. The returns this year show a falling off in the following:-Herring 6,000 barrels, cod 7,000 quintals, haddock 10,000 quintals, and lobsters 17,000 cans.

The fisheries have been prosecuted with more ardour this year than the past. Haddock did not seem to be less plentiful, but they would not take the bait from the hand-lines, owing to the vast number of trawls set in every direction, around twenty miles of coast.

There in a spot of ground inArichat Harbour under Robins Cape, where haddock have resorted trom time immemorial for the purpose of spawning, but this year the fish abandoned that spot and none were taken there, which is supposed to have been caused by trawling, and the only remedy that would apply would be to do away with this mode of catching haddock altogether.

I have had no information of any breach of the law with regard to the river fisheries in my district this year.

## J. Cameron, Overseet.

I am happy to report a large increase in the catch of fish this year over that of last. This gratifying result is owing to a more abundant supply of fish this season on the greater part of the coast, and to a more vigorous prosecution of the coast fishery; a greater number of vessels, boats, men, \&c., having been employed than herctofore, which will be seen by reference to the statistical return forwarded herewith.

A slight falling off has taken place in a few of the several branches of this in. dustry, while there has been a marked increase in others-notably, mackerel, cod, herring, and lobsters. I must say, however, that I do not believe the aggregate increase is really so great as one would infer from a comparison of the fishery statistics of this year and last. It is due, in a great measure, to the fact that I bave been enabled this season to obtain more aceurate information than unual.

I am satistied that the Department cannot be too strongly impressed with the necessity of adopting such measures as will prevent the use of trawls in any mannor in our fisbing grounds. There can be no doubt that, besides destroying large numbers of tivh, there appliances are specelily and surely driving the haddock and codfish from their usial haunts. No matter how vigilant fishory-warders may be, instances of daily occurrence escape their notice. When trawle are left in the water unattended, the fish which get caught on them die in a short time, and are shaken off the hooks; they then lie rotting on the bottom, and provent the line-fish from remaining in such places. These are arguments advanced by fishermen, and one which appears to be confirmed oy the fact that, when haddock arrived on the coast last season, they could be taken quite near the shore on their usual grounds, but began to move off into deep water as soon as the use of trawls was commenced.

I am not aware of any abuses existing in this district, other than the use of trawls, which I consider an abuse in reality.

There are no fish-ways under my supervision; and the close-seasons have been strictly observed.

The quantity of fish used for home consumption I estimate at 2,500 brls., and the value at $\$ 10,000$.

## SHELBURNE.

## Samuei. Muir, Overseer.

There is a decrease in the catch of all kinds of fish, as compared with that of last year. The dectcase in mackerel is due to the strong north-east winds in the fishing season, which kept them out of the bays.

There bas been a small catch of cod, pollock, and haddork; the most experienced fisherman is unable to account for it. Sume think that trawl-fishing is the cause; no doubt it is injurious, but !t would hardly account for so sudden a change. As compared with last year, there is about the same quantity of men engaged in the fishing as last season.

Herrings have been srarce, but I cannot give any particular cause for it. Some say fishing is injurious to them.

Salmon and alewives have been scarce this season, even in the rivers and brooks where there has never been any obstructious. There are six mill-dams on Shelburne River, all with good ti, b-ways. Mr. Rogers had a new fish-way built, according to the Government plan, at the lower mill-dam on the Shelburne River, wbich, I think, will prove to be all that is required, as the fish a-cend it very easily.

A resident warden is much needed on the upper end of Shelburne River. I would recommend Robert Irwin, Ohio, as a suitable person. On one of my visits up Shelbutne River, I found three eel-traps, with a quantity of small alewives in them, which I destroyed, but I could not find the owners of them. It is eighteen miles from the nearest warden to where those traps are set.

Mr. Rogers bad a new tish-way built on Jordan River in the summer of 1876 ; and in the spring of 1877 the heavy rains tad ice carried the mill-dam away, and the fish-way with it, and it way late this sumner before the mill-owners commenced building a new dam. I ball a tish-way partly built, when the heavy rains prevented me from finishing it, but w 11 attend to it when the water is low enough. There are eighteen tish-ways in my district, all in good order at present, except Clyde River, which will requite some attention next summer.

The several close-sejsons have been well observed. Lobsters bave been more plentiful than last season.

The quantity of tish usel for home consumption is 4,000 barrels herring, and $\mathbf{4 , 0 0 0}$ quiatels dry fish, chiefly pollock; total value, $\mathbf{8 3 4 , 0 0 0}$.

## VICTORIA

## John W. Burke, Overseet.

You will find a large increase in all kinds of fish, especially the cod. The codfish this season is far before last; one reavon is capelin struck in on our shores in abundance, and brought an immence lot of cod after them. The capelto had not struck before for ton yearm.

Net-tishing was very good also, but most of the mackerel were taken with the -hook.

On account of not having any wardens at Ingonish, I took the liberty of hiring a man for each river of most importance, which proved satisfactory, to the benetit of the close seavon, as the intruders were disturbed they for fear of loosing their netsgave up the business. I paid each man, as will bo seon in my diary. If the Government does not approve of my astion I will bear the loss.

I would strongly recommend two wardens for Ingonish; one for Clyburn Brook and anotber for South Harbour Brooks. Should this meet your approbation, appoint Thomas Burns sen., for Clyburn Brook, and Donald McLeod for South Harbour Brook.

The entrance of Brook Cove was closed during the summer.
Our new harbour is now shnowing its benefit on the coast, as more than eighty
rent vessels found it a place of refuge. different vessels found it a place of refuge。

## YARMOUTH.

## Enos Gardner, Overseer.

Herewith please find return of fisheries, for the county of Yarmouth, lob-terfor the year 1877, which shows an increase, over last year, of about twenty-four thousand dollars.

The haddock and lobsters being made up at a much reducel price, also makes considerable difference. There were twenty-two more vessels engraged in the fishing than last year, but the shore-fishing was not as good. Fish were as plentiful, but there was considerable bad weather: and the latter part of the fishing seawn, fiesh bait was scarce; the most of them, however, havo made saving voyages. The bank fishermen all made good trips. The mackerel-fishing in the county was grood, and the largest quantity taken for many years past. This has helped largely in making up the total amount of the fishing industry more than it was last year, and the large catch is owing to the fishermen hiving licenses for trap-netw, which appear to be a sure way of catching mackerel, and in fact the only way they can be successfully and profitably taken. I visited these trap-nets during the fishing seison, and my opinion is, that they are no injury to the other fisheries. The fish oftal was generally carefully removed, and the tisbing grounds were not injured in any way. Therestill exist some little prejudice from the net dishermen, but it in fast dying out, and most of the fishermen are joining in applications for licenses for trap-nets, of which there will be a large number put in next year.

The alewive-fishery on the rivels was a very poor one, and the salmon-fishing was very good. The freshet on the river has been gool duriner the whole neason, and the figh had a grod passage and plenty of water out. Very large quantities of young fish have come down the river this antumn, and I trusi next yeur to have a better report of the alewive-fishery on the rivers.

The close-seasons have only been well oberved where the parties have been watched closely. They will not observe the law it they can avoid it.

The wardens generally hase been vigilant, and I have peronally given the river a good lookng-after on the closedays. One person, for fisning on sunday, was kept in close continement in the jail at Tusket dor twenty days, this had a gond effect, ad I think by rigilly enfurcing the law when they are canght, that the close days will be better olserved.

There aro two tish ways in this county, one at Carlcton, the other at the Gingmill, Kemptville; they were both put in under the direction of fishery otficer, W. H. Rogers, Eaq, and pronounced by him efficient. In my opition they do not give a lansage for fish that is required at these important places. On the 2!th of May lant, I was at the Carlton mill-dam, the lalder was in good repair, and large quantities of alewives were nuder the dam at fon of tha lather, and I could nee no reason why they should not go up. I shat off the water fiom the ladeler and tound three alewives in the wing, about half-way up; in : boout half-an hour shut off the water again and found six alewives about the same distance up-it about a half hour I again shut it oft and did not find a fish. The fisb appear to come up under the dam, play awhile, and fall back into the lake, which is very near, and there they are mostly caught up with nets. l'ursons who live above the Carleton mill sily there are rery few fish get by and none of any consequence caught. I visited the ging mill in company with Mr. Rogers, 15th May last. He pronounced the ladder all right, and found one alewive dead half way up in the laddor. There wats nol any quantity of fish in the river at that time, and it was not a good chance to know if ally quantity would go up. I am informel by persons who live above the mill that no fish of any consequence get up, and the ladders have not been satisfactory to the public who are interested in the fishery. Mr. Rogers having had large experience in fish-ladders, and these being put in under his direction and pronounced by him all that is required, of course I could not give any suggestions that would likely make them more efficient.

There are two lobster factorics in the county, one at Little River, the other at Luwer Argyle. I have lookod after them personally, and the law has been strictly observed, and the offal has been carefully removed and used as manure. The managers at these factories are woll disposed and will do all in their powor to see that the law and regulations are well observed.

## GENERAL REMARKS.

It being my second year in office I intended making myself more thoroughly acquainted with overy county, and on the 18th April I took the train for Annapolis County as I had not had the opportunity of visiting it before. There I found the fish-ways in a very unsatisfactory state, more especially on the Nictaux River, where they all required to be rebuilt. There is a good deal of complaint about the mill on the Arnapolis River allowing the sawdust to fall into the river.

There are a great many opinions in reference to those up-right saws, and the almost impossibility of keeping the saw-dust or a large proportion of it frour going into the flume; those opinions are too true, as they would have to be either differently |built, or an officer to watch each mill while sawing as the remoring of onc board in each side of the shaft will allow ncarly all to fall into the water, thoreby saving what they think to be a great expense.

I travelled through Digby, Yarmouth, Queons, Shelburne and Iunenburg, and arrived in Malifax the 2nd May, and there received instructions from your Department that my services would be wholly required on the duties of the Fishery Conmission.

My report of the 12 th May, 1877, will, I think, show the state of the different counties visited and the improvements required.

Before assuming the duties of the Fishery Commission I addressed a letter to W. H. Rogers, Esq., fishery officer at Amherst to meet me and have a consultation in regard to his movements in attending to the duties requiring immediate attention the ensuing season; that being arranged I returned to Port Milgrave, there to pick up whatever information might be beneticial to the Fishery Commission.

Since my appointment to office it has been my study to have both the river and coast tishery protected by good regulatious, and in as far as my practical experience would dictate, have advised with the different officers under me and have introduced some regulations, which I hope may be a wholesome check to many, and a general good to all interested in the fisheries of Nova Scotia.

The general feeling is now to see the Fishory laws respected and obeyed, and in all my conversation in traveling I never met a man but what expressed his opinion fully that our river-fishery was improving.

My statement of fines this year, I am pleasel to say, has decreased, which, in a manner, shows that the laws are complied with.

The report in reference to the tish ladders I will have to leave to W. H. Rogere, Esq., who had the superintendence of them the past season.
'There is one matter I wish most respectfully to call the attention of the Department to, that is to make it imperative upon the Overseers to have their returns forwarded to the Inspector before the 10th of December, as the delay in forwarding them causes a great deal of trouble and delay in making up the statistical report as in a great many cases they have to be roturnod for correction. I did not receive some returns till the 20th January, 1878.

My whole time being occupied from 5th May 10 the 20th September on the Fishery Commission, I am unable to point out or refer to as many matters an I fully expected to do when I first made my tour in the spring; but I have had to report on a great deal of unfinished business that was left unsettled before I came into office, which I hope may be satisfactory and put an end to further applicatious.

There is another matter which I will more fully enter into whon I take up the diary accounts to report upon.

First-The difference of pay and important work of some Overseers, and the travelling fees charged, comparing the differont counties and the accounts rendered me.

Secondly-The importance of a revision and roadjustment of the statf of wardens to have them placed in localities more suitable to guard the river fisheries.

It is pleasing to see the great improvements made in stocking the rivers by $A$. B. Wilmot, Esq., of Bedford Hatching House, whose labours are indefatigable. He not only has $1,500,000$ ova for that establishment, but has supplied the New Brunswick House with $\because 00,000$, and I hope, after a few years, we may see all our rivers partially re-stocked with this valuable fish.

It is to be hoped that the same steps may be faken to improve the shad that have been getting scarcer every year.

## I have the honour to be, Sir, Your most obedient servant,

WM. HENRY WYLDE, Inepector of Fisheries for Nova Scotia.

## No. 9.

# REPORT OF W. H. ROGERS, Esq., FISHERY OFFICER FOR NOVA SCOTIA, ON TLIE STATE AND CONDITION OF FISHWAYS IN NOVA SCOTIA DURING THE SEASON OF 1877. 

Amierst, IN.S., 31st December, 1 s77.

Hon. A. J. Smith,<br>Minister of Marine and Fi*heries, Ottawa.

Sir, - I have the honour to submit the following Report and remarks upon the fisheries of Nova Scotia:-

Having, during the jear 1876, personally superintended the erection of a number of new fishways in the western counties, I was naturally anxious to see for myself how they would work, and accordingly went to Yarmouth County during the early part of May, that I might be there when the alewives entered the river. The mill dams in this county being so far up the rivers, the fish are late in reaching them, and after waiting for two weeks I fond that I would be too late for the fish in the more eastern countics if I remained in Yarmouth until the fish reached the ladders. I, therefore, was obliged to leave without sceing the fish ascend, but have since received letters informing me that they had gone up without any difficulty.

While in this county I seized a number of nets which I found set illegally. They were sold ly Mr. Gardner. I also had a number of poachers fined, who I caught fishing during weekly close time, with blackened fices. I destroyed one man's boat, he having fled to the woods, and his face being blackened, could not be identified; however, his boat and implements were seized, and as I could not turn them into money they were destroyed. I think that it will be found tho presence of a general offier daring the fishing season was attended with much good, as poachers are generally more afiaid of such than local offcers, tor strangers can come upon them when a person who they know could not, and loral officers are often intimidated by local circumstances which a stranger does not care for.

## SHELBURNE COUNTY.

I found the fishway on the lower dam of the river Clyde out of repair, owing to a heavy fieshet in the spring, and although it was a small job to repair it, neither the local officer, the owners of the mill, nor the inbabitants, took the troublo to havo it done, although the fishing season was noarly through when I arrived there. I would have impused a fine on the ownors, but the concern was in bankruptes, and I could not find out who would be responsible. I had the ladder repaired, when the fish went up quite readily. The old dam next above, which is the only other one on this fine river, has gone out, and will not be rebuilt, so that the lower one is the only obstruction on the whole river.

On the Roseway River, at Shelburne, I found the pass around the dam, made by tho late overneer, Mr. Ryer, a total tialare, as the water was too Iow in the river during the fishing. season to supply enough for the fish to ascend, and this I have found, in my experience, to be most always the case with "by-waters" or "dugways" round the end of the diun. The wooden fishways are, when properly built, far superior, for many reasons, the most important being that they can and ought to be built so as to admit sufficient water whether the river or pond is high or low.

The poople of Shelburne were considerabiy excited over the matter, for the river has heretofore always supplied alewives for bait for cod-fishermen, earlier than it could
be obtainod anywhere else, but last year it was an entire failure. To rumedy the evil they had determined to have one-thind of the dam removel, and when thes found that I was about to build a worden fishway over the dam, a deputation of some thirty citizens arrived at the dam and were determined that I should take the dam down; this, of course, I refused to do, but informed them that I was going to send the fish up over the dam by means of a wooden ladder. This idea caused a good deal of merriment amongst the good citizens, as they, in their wisdom. had utterly condemned wooden ladders long ago, as they always had and always would be a failure, and the dam being fifteen feet bigh no fish could be got over it. I, however, proceeded with the work, amid sundry threats to tear it down as fast as I would build it. However, in due course it was finished, and the fish went over the dam is readily as if no dam had been there, which much astonished and delighted the people.

On the Jordan River, where I had last year built two new fishways; I found the people congregated at the foot of the ladder dipping the fish as they camo up. I took their dip nets and destroyed them in their presence. The ladder, which proved to be a little too steep, I had regulated; the dam next above had been carried away by the spring freshet; the ladder, which also went, would be rebuilt during the summer. While in the county I caught and punished a number of poachers by seizing their nets, \&c. I am compelled to say that the local officors in this county are by no means as vigilant as they ought to be, but they promise to do better.

## QUEEN'S COUNTY.

The fishways in this county appear to work well, and needed no improvement. My stay here was therefore but short; Mr. Sellen, the indefatigable overseer of this connty looks well after his duties, and the law is much more enforced here than in many other counties.

## LUNENBURG COUNTY.

At Bridgewater I found the fishway out of repair, and, no fish in the river, as the season had paseed, and the alerives had left before I got there. Messrs. Davidson \& Son, with their usual liberality and promptness, supplied me with men and material, and I had all the fishways-two on the lower, and one on the uppe. dam, thoroughly repaired and improved, so that there can be no difficulty for ang kind of migratory fish to ascend, though the dams are sixteen or seventeen feet high.

The great difficulty bere is, that there is a settlement of Indians located at one end of the dam, who fish night and day with all sorts of appliances, Sunday and Mondar, without let or hindrance, filling the fishways with rocks so that the fish cannot pass up. The warden either does not or cannot prevent them, hence the necessity of another officer to assist him. This is a most important matter, as the river can never improve while these Indians are allowed to kill all the fish. Mr. Just, the overseer, lives twelve miles away, and cannot be ofter: on the spot to look after them, still I think he ought to do more in that direction than he does.

There are some fishways on smaller streams in this county, which will, next year, require improving as well as some new ones to build.

## HALIFAX COUNTY.

The fishways on the rivers at Margaret's Bay were in good condition, and working well, and the officers looking well after the fisheries. The alewive fishery at Ketch Harbor is steadily improving, as the result of opening the rivers or runs between the lakes in 1872.

I did not visit East Halifax during the past summer, and cannot, therefore, say anything as to the state of the fishways in that section, but no doubt Mr. Auderson will look after them and report to Mr. Wylde.

## CUMBERLAND COUNTY.

A new fishway was put in a dam on the Tidnish River; also one on the Gasperaux River, at the head of Bay Verte. The fishways on the River Philip arc out of order, and as all the fish that could be caught at Oxford were needed for the Bedford Hatching House, I did not think it necessary to have them repaired. At Wallace, the fishway on the lower dam has proved to be too steep for alewives, and since its construction an alteration in the dam has rendered it still more ineffectual; the owners promised to bave it repaired last summer during my absence, but did not do so. I am not sorry for this, because it is most likely that it would have been improperly done, unless I was on the spot to give directions, which I find to be necessary in almost every instance. Next summer I shall see that this is done.

## COLCHESTER COENTY.

The fishway on Waugh's River allows the fish to pass up, but it will need some improvement next year. I spont a week or so at Tatamagouche last fall looking after poachers, and was out several nights in rain and cold, but succeeded in capturing several illegally set salmon nets, and also destroyed some boatsin which we found fresh salmon and nets. There are some fishways in the western part of the county which will have to be rebuilt next year, as they never worked well.

## PICTOD COUNTY.

The fishways in this county have been in a bad state for some time, but I had new ones built, one on Mr. Wier's dam, being the lower one on the River John; the noxt one above also would have been built, but the fall rains came on before it was finished, and raised the water so high that we were obliged to abandon it till next year.

On the East River a good fishway was put on Grant's dam, also one each on the two dams on the west branch of this river, these are all good fish-ways, and there will be no trouble for tish to go up. I also had the ladder on the dam of the Middle River repaired and improved. I constructed a good ladder on the dam at the Garden of Eden, ou the west branch of the St. Mary's river, owned by Mr. Cameron. These ladders are all built on the most approved principles, and under my own personal inspection, and I will be 1 esponsible for their working all right.

Last fall I spent some eight or ten days and nights about the harbours and rivers of this county with a bout and crew of men, to the great annoyance of poachers in general. Several nets were seized and loft with the officers.

There is a fall on the west branch of the St. Mary's river in this county which should be removed, as it obstructs the great body of alowives in their passage up to the dam, at the Garden of Eden, where I built the new fishway. Here the people gather and kill most of the fish. The oxpenditure of somo twenty or thirty dollars would remove the difficulty, which can only be dono in summer when the water is low. You remember I wrote you when at Halifax last summer, but before I received your reply the water had risen so high that nothing could be done until next year. I hope this matler will not be lost sight of as it is of great importance.

## ANTIGONISH COUNTY.

I built a good finhway on John Fraser's dam on the South ricer, also one on McDonald's dam next below Fruser's, the only two obstructions on the river. There are several other dams requiring new fishways in this county which will have to be looked after next year.

GUYEBORo' COUNTY.
There are several new fishways needed in this county which will require our attention next summer. When I arrived there it was too late in the season to do anything on account of the streanis being much swollon by the fall rains. I, however, personally, either in company with Mr. Wylde or Mr. Tory, visited all tho dame in the County, and left bill of scautling and lumber with directions to be ready for next year.
hing's county.
Mr. Bishop, the Overseer in this county, does not seem to have much contidence in wooden fishways, partaking of the popular prejudice, which is met with almost everywhere among the people who have had no experience. He seems to be determined to belicve that while alewives ascend the fishway, that it is not sufficient for salmon. I do not think it will be necessary here to refute his fallacies in detail, as it is sufficient to say that he never saw but one or two fishways in his life, and being a local officer, and only coming in contact with the fisheries of his own district, he fancies that the falling off of the alewives in the Gaspereaux River is entirely owing to the mill-dam, while the same decrease has taken place all over the Dominion, and on rivers, such as the Tusket in Yarmouth, as well as others, where those obstructions do not exist. It is quite likely, I think, that he will be astonisied at the abundance of alewives that will swarm the rivers next year, as there are influences effecting the movements of fish of all kinds, over which man can have no control, and whish is beyond the reach of the wisest and most experienced to account for.

## ANNAPOLIS COLNTY.

The fishways in this county are in a bad state, and will need rebuilding and repairing next summer.

## ALEWIVE FISHERY.

It will be seen by consulting the fishing returns for the past three years that the catch of these fish has fallen from about 14,000 barrels in 1875 , to 7,000 barrels in 1876 , and 5,000 barrels in 1877. The shrinkage is not confined to any particular locality, nur can it beattributed to local causes such as mill dams or illegal fishing, because the same results are observable as well on rivers unobstructed as upon those overfished, or which are obstructed with dams, and besides, the dams have been better provided with fishways during the past nine years than ever before. I, therefore, conclude that there must be some cause for the uncertain movements of these fish beyond hnman ken. It may be that the haddock and dogfish, which have been more abundant than usual all around our coasts during the past three years, have devoured and frightened away these fish as well as the herring, which also shews a large falling off in the catch. Whatever may be the cause, one thing is certain, unless there is a change for the better very soon, this fishery bids fair to be annihilated.

There should be a weekly close time for this fish all over the Province as there is now in some counties. I would, therefore, recommend the passage of an Order in Council prohibiting the catch of alewives in Nora Scotia from Thursday evening at 6 o'clock until Monday morning at 6 o'clock, and that no fish be taken at any time witnin thirty yards of a fishway.

## SMELT FISHERY.

These fish are beginning to attract the attention of our people since the opening of the Intercolonial Railway, and should be protected from improper fisbing. I would, therefore, recommend the immediate adoption of a close time the same as that of New Brunswick, and that no nets be used for their capture of less than one and one-half inch mesh extension measure.

## SHAD FISHERY.

This fishery also shows a falling off, but not to the same extent as the alewive fishery. In my opinion this arises chiefly from overfishing. Brush weirs should and will have to be prohibited sooner or later if we are to retain this fishery, and drift nets should be very inuch surtailed in their length, say six fathoms to each boat. I am aware that many influential people are interested in the weirs, and a hard fight would be made orer their abolition, still it will have to be'done. These fish, in my
opinion, do not spawn in our rivers, but come down here from American rivers to feed on the shad worm, which is found in great abundance in the waters and on the mud flats of the Bay of Fundy, and on which it is known the shad feeds. I feel satisfied that this is the case, because the few shad which enter our rivers for spawning purposes do so with the alewives in the latter part of May and up to the 20th June, while the Bay of Fundy shad are not caught until the 20 th June, and are then quite fat and no spawn in them, and, besides, there are more than ten times as many shad caught in the bay as enter our rivers, and, again, they are a different looking fish, being much larger and darker on the back tban the bay fish. It is seldom a shad is seen in our small rivers among the alewives. I am not informed as to the quantity that enter the St. John River carly for spawning purposes, but I think it will bo found that they are quite insigniticant as compared to the large quantities which swarm the bay in June and July. I think it will be found that as the Americans improve their shad fisheries by artificial culture and protection our bay shad fishery will correspondingly improse-time will tell. These are a most delicious and valuable fish and should not be destroyed, but more stringent laws shauld be enacted for their protection and preservation. They could also be cultivated to great advantage, I think as much so as salmon, and there are great natural advantages in the Province for the prosecution of fish culture of almost any description.

## LOBSTERE.

It will be seen by the returns that these fish show a large increase over the previous year; the prices in foreign markets having somewhat improved, the business has been much enlarged. The close time for these, is not yet as it should be, the season being from twenty to thirty days earlier in the western and southern extremities of the Province than in the eastern. There should be that difference in the close time, as all fish spawn earlier or later, as the water is warmer or colder. Many of our lobster packers being branches of American firms, who carry on the same business in their own country, put up our lobsters with American labels, and they pass in foreign markets as the production of the United States; this practice is not fair to this country, and, 1 think, should be prohibited.

## FISHWAYS.

These structures always will be liable to get out of repair, and will require a careful inspection, with a view to repair, each year, by a competent general inspector, because the rivers, at certain seasons of the year, are liabla to high freshets, which often carry away, not only the fishway, but, in many cases, dam, mill and all. Such an officer, after a time, would become pcrsonally acquainted with the peculiarities and difficulties to be overcome in each stream, and, would conseqnently be the better able to locate and direct the construction of each fishway to much greater advantage than a local officer without any experience; this I hate proved in this Province during the past two years. I will venture to affirm that there are more otfective wooden tishivays over dams, from twenty-two feet high and downwards, in this Province, than in any other part of this Dominion. I do not mean, however, to affirm that the system is yet complote, but, in a year or two more, I hope to be able to make it as near so as it is possible to do.

## STATISTICS.

Although the returns for the past year do not foot up to as large a sum as the previous ones, it does not indicate a falling off in the fish crop, for the prices at which fome of the items are made up are less than the previous year. At the same prices : : a adopted in 1876, our returns would toot up several hundred thonsand dollars more than that year. While herring have largely fallen off, mackerol have largely increased; cod have also fallen off to some extent, while haddock and hake have about held their own.

I find continual, and almost universal complaints against the practice of trawl fisbing, and a desire for a prohibitory law ; but such a law would be most difficult and expensive to enforce, as officers for its enforcement would need to be supplied with vessels and men to continually traverse the coast during the fishing season; and as this mode of fishing is practised at all distances from the sbore, by Americans as well as our own people, the enforcement of a law would be attended with great difficulty. This, with the practice of throwing fish offal on the fishing grounds, are the two most deatructive and suicidal acts or practices indulged in by our fishermen, and it would be one of the greatest blessings to them, as well as advantages to the country, if both could be effectually prohibited.
> have the honour to be, Sir, Your obedient servant,
W. H. ROGERS, Fishery Officer.

No.
Return showing the Number, Tonnage and Value of Vessels and Boats and Quantities o Fish, and the Total Number of Men employed,


RECAPITULATION. -


## 10.

engaged in the Fisheries; Quantity and Value of Fishing Material ; Kinds \&c., in the Province of Nova Scotia, for the Year 1877.


ANNAPOLIS.

| Kinds of Fish. | Quantities. | Rate. | Value. |
| :---: | :---: | :---: | :---: |
|  |  | \$ cts. | \$ cts. |
| Haddock ......... ........ ....... .............. ............... | 1,255 cwts. at........... | 350 | 4,392 50 |
| Halibut. ..... ................... ................. ......... | 32,000 lbs. "'......... | 006 | 1,920 00 |
| Shad ......... ................................... ................ | 5 barrels " ${ }^{\text {".......... }}$ | 800 | 4000 |
| Bass .................................. ........................... | $1,000 \mathrm{lbs}$. "........... | 006 | 6000 |
| Trout ......... ........ .................. ........ ........ ........ | 700 do "".... ...... | 006 | 4200 |
| Fish Oil................. .................. .............. ....... | 1,800 gallons " ........... | 065 | 1,170 00 |
| Fish used as manure........ ......... . ...... ................ | 1,478 barrels "........... | 050 | 73900 |
| Total .......... .......................... | 位 |  | 78,053 50 |

Return showing the Number, Tonnage and Value of Vessels


RECAPITULATION.-

and Boats engaged in the Fisheries, \&c.-Continued.


ANTIGONISE.

| Kinds of Fish. | Quantities. | Rate. | Value. |
| :---: | :---: | :---: | :---: |
|  |  | \$ cts. | \$ |
| Smelt.. | 400 lbs. at... | 006 | 240 |
| Eels........... ................. . .......................... .... | 100 barreìa ". | 900 | 9000 |
| Oysters...... | 230 do " | 300 | 6900 |
| Fish Oil....... | 450 gallons ". | 065 | 2925 |
|  |  |  | 63,129 00 |

Retubn showing the Number, Tonnage and Value of Vessels


| Kinds of Fish. | Quantities. | Rate. | Value. |
| :---: | :---: | :---: | :---: |
|  |  | \$ cts. | \$ cts. |
| Salmon, Fresh, in ice......... ............................... | 16,300 lbs. at.. ........... | 015 | 2,445 00 |
| Mackerel......... ........ ................. ....... ............. | 100 brls. "............. | 1000 | 1,000 00 |
| Herrings... | 2,080 do " | 400 | 8,320 00 |
| Alewives .. ...... ....... ... .... ..... ........ ................. | 430 do " "........... | 350 | 1,505 00 |
| Cod ......... ....................... ............................... | 235 cwt . ", ............ | 425 | 99875 |
| Pollack .................... .............................. .... | 165 do "............. | 350 | 57750 |
| Hake........... ................. .................................\| | 150 do "............ | 350 | 52500 |
| Balibut.. . ............ .............. ....... .................... | 2,500 lbs. "............. | 006 | 15000 |
| Shad................. ........ ......................... .......... | 1,025 brls. "............. | 800 | 8,200 00 |
| Bass ................ ..................... ........ .............. | 275 lbs. ".. ........... | 006 | 1650 |

and Boats engaged in the Fisheries, \&c.-Continued.


CUMBERLAND.


Returv showing the Number, Tonnage and Value of Vessels

and Boats engaged in the Fisheries, \&c-Continued.


COLCHESTER.


Return showing the Number, Tonnage and Value of Vessels and


Boats engaged in the Fisheries, \&c.-Nova Scotia-Continued.


## Return showing the Number, Tonnage and Value of Vessels and



Boats engaged in the Fisheries, \&c.-Nova Scotia-Continued.


CAPE BRETON.

| Articles. | Quantities. |  | Rate. | Total. |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\Phi$ ets | \$ cts. |
| Halibut....... | 48,300 lbs. | ....... | 006 | 2,898 00 |
| Shad ..... | ${ }_{7}^{2} 2$ barrels | " ${ }^{\prime}$ | 800 0 | 1600 46500 |
| Trout .... | 7,750 lbs. | " | $\begin{array}{lll}0 & 06 \\ 0 & 06\end{array}$ | 46500 1,40400 |
| Smelt.... | -184 barrels | ، | 900 | 1,656 00 |
| Oysters.. ............... | 85 " | " | 300 | 25500 |
| Lobsters ..... . ........ | 48,942 cans | " ...... | 015 | 7,341 30 |
| Fish Oil...... | 13,877 gallons | " ${ }^{4}$ | 065 | 9,020 05 |
| do Guano.. ............. | 18 tons | " ..... | 1500 | 27000 |
|  |  |  |  | 191,127 80 |

Return showing the Number, Tonnage and Value of Vessels


RECAPITULA

| Kinds of Fish. | Quantities. | Rate. | Value. |
| :---: | :---: | :---: | :---: |
|  |  | $\$$ cts. | \$ cts. |
| Salmon, Fresh, in ice | 4,300 lbs. at.............. | 015 | 64500 |
| Mackercl | 504 brls. " ...... ........ | 1000 | 5,040 00 |
| Herrings. | 2,872 do ".............. | 400 | 11,488 00 |
| Herrings, Smoked, ${ }^{\text {a }}$ in hoxes. | 2,700 boxes " .............. | 025 | 67500 |
| Cod | 21,175 cwt. "،............. | 425 | 89,993 75 |
| Cod Tongues and Sounds | $42 \mathrm{brls}$. " ${ }^{11}$............ | 700 | 29400 |
| Pollack | $11,636 \mathrm{cwt}$. ",............. | 350 | 40,726 00 |
| Hake | 8,904 do ".............. | 350 | 31,16400 |
| Haddock | 23,233 do ".............. | 350 | 81,315 50 |

and Boats engaged in the Fisheries, \&c.-Nova Scotia.-Continued.


TION.-DIGBY.


Return showing the umber, Tonnage and Value of Vessels and


Nort.-About 8 per cent. of the
RECAPITULATION.—

| Kinds of Fish. | Quantities. | Rate. | Value. |
| :---: | :---: | :---: | :---: |
|  |  | \$ cts. | \$ cts. |
| Salmon......................... ............ ........ ........... | 219 barrels, at ......... | 1500 | 3,285 00 |
| $1{ }^{1 /}$ Fresh, in ice..................................... ..... | 6,330 lbs. " | 015 | 94950 |
| "4 Smoked....................................... .......... | 6,370 " "6........ | 015 | 80550 |
| 16 in cans ..... .................... ......................... |  | 015 | 65520 |
| Mackerel ............................... ... ................... | 9,639 barrela " | 1000 | 96,390 00 |
| " ${ }^{\text {a }}$ in cand......... ..................................... | 2,400 lbs. "1 ....... | 015 | 36000 |
| Herrings .......... ..................... ........ ............. | 15,129 barrela " ......... | 400 | 60,492 00 |
| Alewires................. .... .... ......... ................. ...... | 109 " " ......... | 350 | 55680 |
| Cod........... ................. .................. ......... ........ | 15,836 cWt. "........ | 425 | 67,30300 |
| Cod Tongues and Sounds ................................ | 65 barrels " ......... | 700 | 38500 |

Boats engaged in the Fisheries, \&c.-Nova Scotia-Continued.

above is used fur home consumption.

GUYSBOROUGI.


Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, \&c.-Nova Scotia-Continued.


Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, \&c-Nova Scotia-Continued.


## Return showing the Number, Tonnage and Value of Vessels and Boats engaged in"the Fisheries, \&cc.-Nova




Return showing the Number, Tonnage and Value of Vessels


RECAPITULA

| Kinds of Fish. | Quantities. | Rate. | Value. |
| :---: | :---: | :---: | :---: |
|  |  | \$ cts. | \$ cts. |
| Salmon | $46 \frac{3}{3}$ brls. at ........... | 1500 | 70125 |
| Salmon, Fresh, in ice....... | 1,800 lbs. "........... | 015 | 27000 |
| Herrings ...................... ............................... | 82 brls. " ..... | 400 | 32800 |
| Cod | 85 cwt. `........... | 425 | 36125 |

and Boats engaged in the Fisheries, \&c.-Nova Scotia.-Continued.



Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, \&c.-Nova Scotia-Continued.



Return showing the Number, Tonnage and Valne of Vessels and Boats engaged in the Fisheries, \&c.-Nova Scotia-Continued.



RECAPITULATION.-INVERNESS.

| Kınds of Fish. | Quantities. | Rate. | Value. | Kinds of Fish. | Quantities. | Rate. | Value. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\$$ cts | \$ cts. |  |  | \$ cts | $\$$ cts. |
| Salmon ............. ............... | 98 brls. at .......... | 1500 | 1,470 00 | Make ........................ ........ | 1,015 cwt. "*........ | 350 | 3,552 50 |
| do Fresh, in ice ............. | 9,108 lbs. "،........... | 015 | 1,306 20 | Haddock ............................ | 1,591 $\frac{1}{2}$ do " ${ }^{\text {c........ }}$ | 350 | 5,570 25 |
| do Smoked ........... ........ | 1,510 do " | 015 | 23100 | Halibut ............................... | 4,850 Jbs. ".......... | 006 | 29100 |
| do in cans .................... | 33,100 cans "............ | 015 | 4,965 00 | Trout | 600 do "..... ..... | 006 | 3600 |
| Mackerel ............ ................ | 10,183 brls. "............. | 1000 | 101,830 00 | Fmelt | 1,522 do " $\ldots \ldots . . . .$. | 006 | 9132 |
| Herrings ........... .............. . | 12,500 do ", ............ | 400 | 54,300 00 |  | 72 brls. ".......... | 900 | 64800 |
| do Smoked, in hoxes.... | 5010 boxes " $\ldots . . . . . . . .$. | 025 | 12509 | Lab bitrs ..... ............. ....... | 100 cans ".......... | 015 | 1500 |
| Alewives | 650 brls. ", ............ | 350 | 3,325 00 | Finh dil ...... .............. ...... | 25,956 galls. "........ | 065 | 16,871 40 |
| Cod $\qquad$ $\qquad$ Cod Tongues and Sounds | $\begin{array}{rr}30,905 & \text { cwt. } \\ 19 & \text { brls. } \\ \text { b }\end{array}$ | 425 700 | 131,728 75 | \|/ome Consumption ...... ...... | ....... ......... ....... ..... | - . $\cdot . .$. | 36,297 30 |
|  |  |  |  | Total ...................... | $\cdot \cdot$ |  | \$358,906 72 |

Return showing the Number, Tonnage, and Value of Vessels and


Note.-Those exported are shipped to the United States.

RECAPITULATION.一

| Articles. | Quantities | Rate. | Value. |
| :---: | :---: | :---: | :---: |
|  |  | \$ cts. | \$ cts. |
| Salmon, frest, in ice.. | 4,600 lbs., at .. | 015 | 69000 |
| Mackerel........................... | 1,445 brls. "\% | 10 100 | 14,450 00 |
| Herrings................. | 5,445 " " | 400 | 21,780 00 |
| do Smoked, in boxes. | 4,000 boxes "... | 025 | 1,00000 17500 |
| Alewives............. | 1,775 brls. " .... | 360 425 | 17500 7,54375 |
| Cod...... |  | 4 4 3 50 3 | 7,643 1,575 7.00 |
| Haddock.... | 2,000 " " ........ | 350 | 7,00000 |

Boats engaged in the Fisheries, \&c.-Nova Scotia-Continued.


About one-fourth are consumed in the countr.

KING'S CODNTY.

| Articles. | Quantities. | Rate. | Value. |
| :---: | :---: | :---: | :---: |
|  |  | \$ cts. | \$ cts. |
| Shad | 995 brls., at ... | 800 | 7,960 00 |
| Trout | $1,000 \mathrm{lbs}$. "c... | 006 | 6000 |
| Smelt. | 4,000 " " | 006 | 24000 |
| Eels | 14 brls. " | 900 | 12600 |
| Fish Oil | 1,555 galls. " | 065 | 1,010 75 |
| Fish used as manure.. | 2,930 brls. " | 050 | 1,465 00 |
| Total. |  |  | 65,075 60 |

Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, \&c.-Nova Scotia -Continued.





Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, "\&c.-Nova Scolia.-Continued.


|  | Aspoto |  |  |  |  |  |  |  |  |  |  |  |  |  | 120 |  |  | 8,135 00 | do |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 | Sandy Beaches.............. | $1{ }^{2}$ |  | ..... |  |  |  | \|........ | ..... | ........ | ......... |  | ..... |  | 120 |  | ...... | 2,713 00 | do |
| 14 | Bland ford.. .................. | 5 | 700 |  |  |  | 200 |  |  |  |  |  |  |  | 900 |  | ... | 21,352 50 | do |
| 15 | Little Tancools.............. |  | 200 |  |  |  | 450 |  | ............. |  |  |  | ....... |  | 650 |  |  | 6,247 50 | do |
| $\bigcirc 16$ | Brg Tancook.............. |  | 500 |  |  |  | 750 |  |  |  |  |  |  |  | 1250 |  |  | 21,000 00 | do |
| 17 | Deep Cove ...... ..... ... | 20 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ...... | 12,550 00 | do |
| $\begin{array}{cc} \circ & 18 \\ \ldots & 19 \end{array}$ | Iron Bound <br> Fish used fresb in District of Chester. |  | 290 | $\cdots$ |  |  | 100 |  |  | ......... |  |  |  |  | 300 |  | ..... | 4,79500 6,17500 | do |
|  | Total............ | 318 | 109110 | 86 | 8840 | 7614 | 17988 | 228000 | 30 , ..... | 14100 | 11500 | 155 |  | 348000 | 82890 | 140 | 671 | 952,860 00 |  |

RECAPITULATION.-LUNENBURG.
Kinds of Fish.

Return showing the Number, Tonnage and Value of Vessels and


RECAPITULA

| Kinds of Fish. | Quantities |  | Rate. | Value. |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | \$ cts. | \$ cts. |
| Salmon, Fresh, in ice | 115,055 lbs., |  | 015 | 17,258 25 |
| Mackerel.......... | $51 \frac{1}{2}$ brls. | " | 1000 | 51500 |
| Herrings.................... ....... | 320 " | " | 400 | 1,28000 |
| Halse .... ............ | $108 \frac{1}{2} \mathrm{cwt}$. |  | 350 | 37975 |
| Truut....... | 1,065 lbs. |  | 006 | 6390 |
| smelt................... ............... | 3,370 |  | 006 | 20220 |

Boats engaged in the Fisheries, \&c.-Nova Scotia-Continued.


TION.-PICTOU.


Return showing the Number, Tonnage and Value of Vessels and


RECAPITULA

| Kinds of Fisl. | Quantities. | Rate. | Yalue. |
| :---: | :---: | :---: | :---: |
|  |  | \$ cts. | \$ c! |
| Salmon, Fresh, in ice...... do Smoked $\qquad$ | 36,050 lbs. 1,200 4t | $\begin{array}{lll}0 & 15 \\ 0 & 15\end{array}$ | 5,407 50 |
| Mackerel..................... |  | 015 10 | 118000 |
| do in cans. | 1,635 barrels " "...................... | 1000 | 16,350 00 |
| Herrings ....... | 2,638 barrels " | 015 | 90000 |
| Alewives | 2, 60 do " | 400 | 10,552 00 |
| Cod |  | 350 425 | 210 00 |
| do Tongues and Sounds | 91 barrels ، ......................... | 425 700 | $\begin{array}{r} 96,85750 \\ 63700 \end{array}$ |

Boats engaged in the Fisheries, \&c.--Nova Scotia-Continued.


TION.-QUEENS.


Return showing the Number, Tonnage and Value of Vessels and


RECAPITULATION.—

| Kinds of Fish. | Quantities. | Rate. | Value. |
| :---: | :---: | :---: | :---: |
|  |  | \$ ${ }_{15}$ cts. | $\$ \mathrm{cts}$. |
| Salmon, Fresh, in ic....... | 4,100 bris., at .............. | 1500 $0 \quad 15$ |  |
| Mackerel............... | 17,182 brls. " ................. | 1000 | 171,820 00 |
| Mackerel, in cans | 6,000 lbs. " | 015 | 90000 |
| Herrings................ | 13,893 brls. " ...... ....... | 400 | 55,572 00 |
| Alewives ... | 646 " " ............... | 350 | 2,261 00 |
| Cod....................... | 37,330 cwt. " .............. | 425 | 158,652 60 |
| Cod Tungues and Sounds | 193 brls. " ............... | 700 | 1,351 00 |
| Pollack | 19 cw t. " .............. | 350 | 6650 |
| Hake | 730 " " $1 . . . .1 . . . . . .$. | 350 | 2,555 00 |
| Haddock. | 23,014 " " ............... | 350 | 80,549 00 |

Boats engaged in the Fisheries, \&e-Nova Scotia-Continued.


RICHMOND.


Wracre showing the Number, Tonnage and Value of Vessels and


RECAPITULATION.—


Boats engaged in the Fisheries, \&c.-Nova Scotia-Continued.


SHELBURNE.

| Articles. | Quantities. | Rate. | Value. |
| :---: | :---: | :---: | :---: |
|  |  | \$ cts. | \$ cts. |
| Haddock. | 5,305 cwt., at. ...................... | 350 | 18,567 50 |
| Halibut .. | 9,000 lbs., if ...................... | 006 | 54000 |
| Eels....... | 12 barrels, " ......... .... ........ | 900 | 10800 |
| Lobsters....... | 957,000 cans, " ....................... | 015 | 143,550 00 |
| Fish Oil........ | 48,549 galls., " ...................... | 065 | 31,556 85 |
|  |  |  | \$649,376 85 |

Return showing the Number, Tonnage and Value of Vessels and


REOAPITULATION. -

| Kinds of Fish. | Quantities. | Rate. | Value. |
| :---: | :---: | :---: | :---: |
|  |  | \$ cts. | \$ cts. |
| Salmon... .......... | 184 barrels at. | 1500 | 2,760 00 |
| Mackerel..... | 1,495 do " | 1000 | 14,950 00 |
| Herrings ......... | 1,498 do "1 | 400 | 5,992 00 |
| Cod ....... | $26,335 \mathrm{cWt}$. $\quad$ | 425 | 111,923 75 |

Boats engaged in the Fisheries, \&c.-Nova Scotia.-Continued.


VICTORIA.


Return showing the Number, Tomage and Value of Vessels and Boats engaged in the Fisheries, \&c.Nova Scotia-Conlinued.


Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, \&c.Nova Scotia-Continued.

$\dot{\text { Return showing the Number, Tonnage and }} \underset{\text { Nova Scotia-Continued. }}{ }$ Boats engaged in the Fisheries, \&c.-RECAPITULATION-YARMOUTH,

| - Kinds of Fish. |  | Quantities. | Rate. | Value. |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | \$ cts. | $\Phi$ cts. |
| Shlmon, Fresh, in ice.................................... .............. ..... ............ | 16,900 lbs., | at $\qquad$ $\qquad$ $\qquad$ | 015 | 2,535 00 |
| Mackerel $\qquad$ $\qquad$ | 10,318 barrels, | "........................................... | 1000 | 103,189 00 |
| Herrings..... ..... .......... ...... ........................... ..... ...... ...... ...... .... | 2,680 " | is $.1 . . . . . .$. ................. ....... ...... | 400 | 10,720 00 |
| Alewives....................... ........ ..... ..... ................ ..... .. .................... | 1,724 " |  | 350 | 6,034 00 |
|  | 63,501 cwt., | 4 .. .................... ....... ........... | 425 | 269,379 25 |
| Cins Tongues and Sounds. | 797 barrels, | " ......... ...... ... ......................... | 760 | 137900 |
| Pollack | 7,939 cwt., | 4 | 350 | 27,786 50 |
| Hake $\qquad$ | 3,400 " |  | 350 | 11,900 00 |
| Haddoek............................... ......... ..... ................... ............ . . .... | 13,66t ${ }^{\text {a }}$ |  | 350 | 47,474 00 |
| Halibut........... ...... ................ . ..... ...... . ... ......... . ................ ..... . . . . | 89,300 lhs., | " | 006 | 5,358 00 |
| Troat ... ... .......... ................ ......... ............... . ..... . . . . . . . . . . . . . . | 3,100 " | " | 006 | +18600 |
| Smelt | 29,150 " | 16 | 006 | 1,749 00 |
| Eels ............. ........ ............... ............... ................... .. ...................... | 237 barrels, | 4 | 900 | 2,133 00 |
| Labsters | 110,000 cons, | * . ................... .............. ....... | 015 | 16,500 00 |
| fish (nl ............................... .............................. ................................. | 37,795 gallons, | " ...................... ....................... | 065 | 24,566 75 |
| 1 it ¢ iuano ..................................... ....... ....... ...................... ..... | 3 330 tons, | if ..... ............................................ | 1500 | 5,250 00 |
| '.f used as Manure.............. ........ ............. .............. .. ......... ........ | 3,330 barrels, | " ............... ........ ...................... | 050 | 1,665 00 |
| - Total....................... ................. ............. |  | . $\cdot$...................... .... $\cdot$....... ....... | ..... ......... | 538,295 50 |

Recapitulation showing the Total Number, Toniage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, (in the Province of Nova Scotia), for the Year 1877.


Recapitulation showing the Total Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, \&c., Nova Scotia-Continued.


## RECAPITULATION

Of the Yield and Value of the different Fisheries in the Province of Nova Scotia during the Year 1877.
Kinds of Pish.

No. 11.

# REPORT OF W. H. VENNING, Esq., INSPEC'IOR OF FISHERIES FOR THE PROVINCE OF NEW BRUNSWICK, FOR THE YEAR 1877. 

St. Jonn, N.B., 31st December, 1877.<br>Sir,-I have the honour to submit the following Report on the Fisherics of this Province during the past year.

## SALMON FISHERY.

The application of the license system to salmon nets has worked well, and fishermen generally have been better satisfied with the license fee levied on the nets, than with the old mode of a rate on the catch. In issuing these licenses, preference has been given to the old occupants, and they have thus obtained an official recognition of privileges heretofore beld only on sufferance. In some few instances, efforts have been made by riparian owners to dispossess their neighbours of stands occupied by them for many years, but the issuing of licenses to old occupants has prevented this injustice. The facilities now offered by rail for getting fresh salmon to American and distant Canadian markets have caused a partial abandonment of the former mode of preserving this fish for export by the process of bermetically sealing in tin cans. This process is now used only to a limited extent, principally in filling order: for the European market. The increased demand for fresh salmon by the local dealers has given a great impetus to the fishery in every locality where it is carried on, and there is a strong disposition on the part of fishermen to evade the requirements of the law, which requires closer attention on the part of oversecrs and wardens. Many of these are actively engaged in fishing, and there is too much reason to believo that their private interests and public duties are antagonistic; the pursuit of the former leading them to neglect and slight the proper performance of the latter. In districts where the facilitios for poaching are great, this conflict of self-interest with duty is hard to reconcile. Theso remarks aro particularly applicable to the county of Northumberland, where alnost every fishery officer is interested in fishery pursuits, and the consequence is that more illogal fishing is done on the Miramichi River and its branches than in any other county in the Province. The wardens are appointed at small yearly salaries, not sufficient to induce them, for tho sake of the office, to give up fishing. In many cases complaints are made that these men are too intent on their own fisbing to look much after that of their neigh bors, and the consequence is that a degree of laxity and carolessuess has grown up that calls for some immediate remedy.

The destructive practice of "drifting" for salmon off the mouths of rivers is becoming more common, and some stringent and effective means to put an entire stop to the practice, is loudly called for: It is alleged that, outside of three miles from shore, the jurisdiction of fishery officers ceases, and that they have no authority to enforce the Fisheries Act beyond that limit. A case is now pending in which this quostion is being tried. Should it be decided that our present law is insufficient to prevent this destructive practice, it will be absolutely necessary to procure the requisite legislation to supplement it; for should drifting become general, the salmon fishery on our coasts, and in all our rivers, will be rendered profitloss, and a great injustice will be done to all who now pay a license fee for the privilege of fishing in accordance with the laws, by those who claim exemption from all law.

## BASS PISHING.

The only counties in which this fishing is pursued, to any great extent, are Giloucester, Northumberland and Kent. In St. John River, bass have greatly increased since the enforcement of the close-time; but the fisli taken there are used almost entirely for home consumption. In the first-named county, bass are taken principally by hook and line; in Northumberland and Kent, by scoop nets through the ice. In Gloucoster, the catch of this fish is increasing; while in Northumberland and Kent it is sensibly diminishing year by year. There can be no doubt that this decrease has been brought about by two causes. Tho first is want of protection to gravid parents; the second is the great distruction of young fiwh. Formerly, the seines were the great source of this destruction; but now that their use is happily prohibited. another and a much larger cause has arisen. The close-time extended orly from April to September, and this has not been suffieient to foster and protect the fishery. Bass taken after the 1st March, are gravid fish, with spawn and milt largely developed; consequently their capture, after that date, destroys, not only the parent fish, but all their progeny. Under the licenses issued, which restrict the use of nets from 1st October to lat March, I had strong hopes that the threatened extinction of this fish in Northumberland would be averted; but the great destruction of young bass taken in the bag nets, used for the capture of smelt, will more than counterbalance all the good effects I anticipated from then. This enormous destruction is greatly to be deprecated, and I cannot too earnestly urge the adoption of immediate measures to put a stop to it. Were this done, the prohibition of seining adhered to, the close-time rigidly enforced everywhere, there is a fair prospect 'that this valuable fishery will be preserved as an inportant source of employment and wealth. Bass are now bringing to fishermen from 9c. to lie. per pound, and are consequently more valuable to them than salmon, which brought onls 6c. per pound, the past sea-on. The catch, however, is not so large as that of last winter, and unless the destruction of young bass is immediately stopped, that of next winter will be still smallor. The results of the great waste of gravid fish that has been caused of late years by spring fishing, are now plainly to bo seen in the falling off which marks this winter's yield. Nothing short of the measures I have urged will keep up the supply of this valuable fish. The experience of the past has proved that the nets set ostensibly for bass, after the lst September, have taken more gravid salmon than bass, and the profit obtained from the latter does not compensate for the loss sustained by killing the former. Hence. it will be advisable to confine all bass tishing between the 1st September and the freezing of the rivors, to hook and line, by which mode nearly as many bass will be taken as the nets capture, and a serious destruction of gravid salmon will be prevented.

SHAD FISHERY.
This fishery has been failing for some years. The principal cause of this, at least in the St. John and Miramichi Rivers and in the Bay of Fundy and Dorchester Bay, I believe to be excessive fishing. In all these places set nets or drift nets are constantly at work. While the shad are in these waters, and the unequal contest between the reproductive powers of the fish and the destructive powers of the fisherman cannot much longer be mantained. I can suggest no remedy for the eventual extermination of this fish, for it comes to our waters only to spawn, stays but a short time, and then leaves for haunts unknown to our dishernen. If not caught while in our waters it will not be caught at all, and I know of no restrictions that would not be considered a hardship by those who pursuc this fishery.

Early in the month of May, I had constructed, after a pattern furnished me by S. Wilmot, Esq., twenty boxes, such as are used by Seth Green, the well-known American shad-hatchor. I also had made a shad net of 80 fathoms, that could be used either as a bar net and pound, or as a seine. Having got these necessary implements ready, I visited Belyea's Point, Grand Lake and Washademoak Lake, and made personal inquiries as to the most favourable place for taking the parcut shad when ready to spawn.
$1--e 14 \frac{1}{2}$

I ascertained that at Belyea's Point, on the St. John, the shad caught were not ripe, and that very seldom was a spawning fish taken so low down the river. At Grand Lake I found that the fish were scattered over a large extent of water, and that great difficulty would be experienced in taking a sufficient number at once. At Washademonk I learned that, in previous years, large numbers passed up this lake and ascended the Canaan River for some distance to spawn. As the river is narrow where it empties into the lake, I concluded to stretch a bar net, leading into a pound, across the channel, hoping by this means to secure each tide a sufficient number of fish to provide eggs and milt for one box. I arranged with Overseer Hetherington to employ the necessary assistance, set the net, and inform me when the fish made their appearance. He continued fishing fiom the lst to 12 th June, with no success, never taking more than three or four fish each tide. On the 14th June, just before the full moon, when, from all accounts, the largest run of fish might be looked for, I went up to see if some more effectual means could not be devised to secure the parent fish. After consultation with a number of fishermen, I soncluded to go to a part of the river where, at the foot of a rocky ledge, over which the fish had to pass, was a deep pool, in which they rested before making the ascent of the rapid. By converting the bar net and pound into a seine and sweeping this pool, I was assured by old residents that a large number of fish would be taken. Hoping for the best, but feeling doubtful of success from the fact that the set nets in the lakes had, so far, taken but a few dozens of fish, where formerly they took hundreds, I sent ten of the batchingboxes to Overseer Hogan, directing him to make preparations for taking shad on the North-West Miramichi, where formerly very large numbers used to be seined.

We then continued fishing with the seine for two days without any success, seldom taking more than two or three fish at a haul. These we tried to lieep alive urtil a sufficient number might be secured to stock one box with eggs, by placing them in a partially submerged boat through which the water flowed freely, but they always died in a few hours.

Finding the seine useless, I converted it again into a bar-net, and stretched it entirely across the head of the pool, in such a manner that it would prevent any fish from passing upwards. I then instructed Overseer Hetherington to keep the net set until my return, and crossing over to A pohaque station, a distance of about 18 miles, I took the night train to Miramichi, where I arrived on Sunday morning. Or Monday the 18th June, in company with Overseer Hogan and Mr. Sheasgreen, I went up the North-West, and using the seine taken from Alex. Henderson, spent the whole day in fishing at a place where formerly hundreds of shad were taken at a single haul. We took but 30 fish, 24 males, and 6 females, which latter had already spawned. Giving direction to Mr. Hogan to continue fishing until the full of the moon, and explaining to Mr. Sheasgreen how to use the boxes, I returned by night train to Apohaque and Washademoak, where I arrived on Tuesday the 19th June. We continued fishing on Wednesday without success, and on Thursday, 21 st, news of the great fire in St. John rendered it necessary for mo to return at once and look after the books and papers of the office; but which, to my dismay, I found had been entirely consumed.

Subsequent advice from Overseer Hogan informed me that no better success attended his further efforts. The very few fish taken at each haul of the seine, and the impossibility of keeping these alive until the requisite proportion of males and females could be secured to make manipulation a success, rendered all his efforts unsuccessful.

The result of my experiment led me to believe that the stock of breeding fish was very small this season, and the limited number taken in the set-nets on both rivers goes to strengthen this belief. This may be an exceptional season, but I very much fear that excessive fishing in the past has greatly reduced the numbers of this valuable species. The shad resorts to fresh water only to deposit its spawn, and it is a matter for grave consideration whether it should not be protected while in our rivers for that purpose. The spring shad, like all other fish on the point of spawning, is comparatively worthless, and much inferior to fall shad, which has regained condition after this exhausting process.

While I much regret the want of success that has attended my efforts to carry out the Minister's wishes, I am glad to state that the expense incurred will not be lost. Everything procurred for the work, except the boxes, will be available for use at the Hatching House, this fall. The net was made in a manner adapted for taking the parent salmon, and would obviate the necessity of having one specially made for that purpose which would otherwise have to be done. The pans and dip-nets will also be needed here, and all the other articles provided for this experiment will be found useful at that establishment.

## GABPEREAUX FISHERY.

As I predicted in all my former reports, the use of seines in the Miramichi, and the excessive netting of gaspereaux, which resort to our rivers only to spawn, has almost exterminated this fish in the county of Northumberland, where formerly an annual catch of some thousands of barrels was not uncommon. In all other counties there has been a great falling off in the catch, and I see no grounds for hope that this fishery will ever regain its former importance. On the contrary, I think there is every reason to expect that it will continue to diminish, year by year, simply because the reproductive powers of the fish are not sufficient to keep up the supply in the face of the yearly increasing numbers of those who engage in their capture. As all the fish that are taken are parent fish on the point of spawning, it eannot reasonally be expected that an undiminished supply of young tish can be kept up. Experience is too strong on this point to be ignored. In Dennis River, Charlotte County, which, a few years since, was opened to the ascent of the slim remnant that remained, they have increased rapidly under the fostering care of a more enlightened public opinion and a faithful officer. For the first three years no tishing at all was allowen. Then one day in the week was set apart for fishing; this continued two years, and the tish continued to increase. For the last two years, fishing has been allowed two days in the week, which gives abundance of fish for home consumption, and yet allows the parent to keep up the supply. In Nova Scotia, the same results have been obtained, but not more than three days' fishing in the week is allowed.

If a similar measure of protection could be enforced in all our waters where gasperaux now resort, it is possible that the species might yet be saved from extinction. The experiment is well worth trying, and no hardsbip can be reasonahly complained of, for the catch at present is so small that it affords prefit ncither to the fishermen nor the dealer. What I would urge, as a last effort, to preserve this very valuable and useful food fish, is to prohibit fisbing everywhere for three years; after that to allow fishing only two days in each weok until it was shown that the increase would permit three days' fishing in each week. Bcyond this, I am porsuaded, the natural increase of the fish will not allow. There are some localities where, no doubt, this entire prohibition for three years will be complained of; but it has come to a simple choice between two evils-the deprivation for three years, with a prospect of better fishing afterwards, or the total deprivation for all time, by a law of natire from which there is no appeal.

## HERRING FISHERY.

The reduction of the license fee on herring weirs in Charlotte County has given great satisfaction to the fishermen, and all weirs aro now under license. Most of the owners have willingly paid the fees; a very small number being now in arrears. The yield bas been very good, and large quantities are now being taken and sent to market in a frozen state, at remunerative prices. During the last season, a new mode of curing the small fish has taken the place of the old method of pressing them for oil and pumice. Establishments are being started where they are put up as "Sardines," and this is found to be much more profitable than any other mode of curing them. This industry bids fair to grow to large proportions, and will greatly enhance the value of the herring fishery. In Gloucester and Northumberland the catch bas been about an average one and the quality better than usual. In Charlotte County, while the catch was good, the quality was inferior, compared with past years.

## SMLELT FISHERY.

This fishery, which first grew into importance last winter, is now being pursued on a still larger scale, from Shediac to Gloucester; but experience proves that the use of bag nets is very destructive to young smelts, young bass and tom cods, or "frostfish." From observations recently made in Miramichi, and from evidence collected there, from fishermen as well as officers, I have reason to believe, that for every ton of marketable smelts exported, it ton of small smelts, young bass and tom cods is wasted. It is found impossible to cull them out and restore them to the water alive. This great destruction is much to be deplored, especially that of young lass; which fish, when mature, is of more value to fishermen than any other species. Even salmon brought them last summer only 6c. per pound, while bass are now selling on the ice for 9 c . and 12 c . per pound. Besides this, the great quantity of smelts caught in bag nets overstock the market, and keep prices so low that there is little or no profit either to fishermen or exporters. It is a question for grare consideration, whether the proper protection of the fisheries will not require the prohibition of bag nets everywhere, for no fishery can long stand the drain so large an annual dentruction will make on it. This enormous waste of young smelts and " frost fish," mustinecessarily have a most injurious effect upon the coast fisheries, for it destroys the food or bait which attracts the deen sea fishes to our coast and bays. When the accustomed supply of food cannot be found, owing to the waste of the anadromous fishes that produce it, the deep sea fishes will desert our coast, and seek in other waters that slupply which ours no longer afford. For this reason, the close-time for smelt should commence on the 15th February, and continue until the 1st July, to prevent the waste of spawning smelts, which are now used in great quantities for manure, in all localities where this fish is found. A special report upon this fishery has orecently been submitted to the Department, and the facts therein set forth, call loudly for some remedial action.

## LOBSTER FISHERY.

Tho eatch of lobsters continues to increase, but the average size of the fish continues to diminish. The increased cateh is caused by the larger number of persons engaged in the fishery, to supply the demands of new factorios that are constantly being opened. The decrease in the size of the fish is eatsed by this excessive fishing, and the time is not far distant when the average sizo will be so reduced, that the business will yield but small returns. In some localities, it now takes about three lobsters to fill a one pound can, and as each of these requires the same, or cven more, handling, as a five pound fish, it follows that, while the labour is increasing, the protits are diminishing. The present close-seasons for the sereral localitios have not yot been in operation sufficiently long to enable me to form a correct judgment of their effects. In some places the canners thomselves are asking for more protection, while in others, they complain that their operations are impoded by a close-searon that commences too early. I still hold the opinion I bave so often expressed-becase accumulated experience proves it correct-that the closetime in not yet sufficiont to give this sholl-fish the protection necersary to foster its multiplication and growth,

TIIE OYsTER FISHERy.
The yield of the beds that now remain is every year becoming less, and the average size of those taken is now so small that there is no protit in the fisbery. The close-time is not sufficient to allow the parents to multiply and tho young shellfish to grow, and no natural bed can stand constant raking without boing exhausted. A no means of artificial culture bare yet boen adopted in this Province, the total extinction of the existing beds is not far distant. As I stated in my last annual report, I am convincel that nolhing will now sare them but a compulsory rest of several years, and ats thi, is the lesser of the two evile, - the other being total extermi-nation,-I ara more firmly of opinion that this last resort should be adopted at once.

## TRAWL OR BULTOW FISHING.

Complaints against this mode of fishing still continue to some extent, hut many of our own fishermen, in self-defence, are now resorting to it, although they consider it injurious to the inshore fisheries, where cod, hadlock, hake, pollock and halibut, are becoming scarcer every year. In my last annual report I gave the objections generally urged against the use of trawls, which 1 now repeat for the information of the Department. First,-these trawls give all our best tish to American fishermen, because of the great extent to which they use them. Second,-they kill a very large number of small and useless fish, that are wasted. Third,-they keep the fish off shore by the large quantity of bait used, and prevent them from coming into bays where our small-boat fishermen can get them. In convection with this mode of fishing, is the bancful practice of throwing gurry or offals on the fishing grounds. The use of trawh encurrages this practice, as the vessels will not voluntarily leave the fishing grounds to dispose of it otherwise, and the distance from shore renders it impossible for our overseers to detect and punish the wrong-doers, without a suitable vessel and sufficient help to enforce the l:lw by vigorous measures. The subject is of great importance to the fisheries of the Bay, and 1 urge its careful consideration with a view to abating the evils pointed out.

## ST. JOHS HARBODR FISHERIES AND DRIFTING FOR SALMON.

In many former reports I have called attention to the manner in which the salmon fishing is pursued both inside and outside the Harbour of St. John. In these and in several special reports and official letiers now on fyle in your Department, I have pointed out the injurious effects produced by the practice of drifting for salmon and have urgerl its total prohibition. In consequence of the great distress caused by the disastrous fire in June last, you very kindly and considerately concluded to put no restrictions on the catch of this fish, in order that its price might be kept down for the benefit of the sufferers. Advantage was taken of this timely concession, and an unusually large catch of salmon was made by drift nets. This was allowable under the pressure of a great public calamity, but if the piactice is allowed to continue unchecked, the worst results must inevitably follow, and the aalmon fishery of the whole river must be destroyed. The allowance of this mode of fishing is most unfair to those who, by law, are compelled to take and pay for licenses before they can set a salmon net, because the drift nets in harbour and bay break up the sehools of fish and present them from entering the rivers. While all other salmon fi-hers are compelled to pay a license fee, thene drifters, under the plea of fishing outside of the jurisdiction of the Fisheries Act, claim exemption from all its provisions. If this plea is good and the Act does not apply to a distance beyond three miles from shore, some additional legislation will be necessiry, for should drifting become general throughout the Province, as it will if the above plea is good, the speedy extermination of the salmon is inevitable. The St. John drifters, having depleted their own waters, are ravenous after the compact and unbroken schools of our northern estuaries, which hitherto have been protected from the vandalism of the drift net. All my experience as a fishery officer strengthens my conviction that no possible kind or degree of protection can save the salmon fisheries from destruction it tho use of drift nets off the mouths of ricers once becomes common. This subject is of such vital importance to the vers existence of the salmon fisheries on our coasts and in our rivers, and it involves such grave consequences to tho great body. of our fishermen, that I cannot too strongly urgo its immediate consideration, with a view to obviate the worst results. It canoot be expected that this great number of fishermen will continue to pay a license fee and obey the laws, while a small number of drifters are allowed the free use of illegal and unlicensel nets in the very mouths of our rivers and in the run of the unbroken schools of salmon that are approaching them.

## SAWDCST AND MLLL REFUSE.

Complaints still continue to be made of the quantities of mill refuse that find their way into all our rivers. There is littlo disposition on the part of mill-owners
generally to obscrere the law, and in consoquence of the rapid multiplication of mills, the evil is increaving rather than diminishing. There can be no doubt of the injurious effects of this refuse on the river fisheries, and their preservation loudly demands a strict enforcement of the law.

## FISH CULTURE.

In my last annual rep ret I called attention to the great falling off in the fisheries of the St. John River, owing to several causes inseparable from advancing civilization. Anong these is the formation of new settlements and the clearing up of the wilderness, the extension of lumbering operations, the multiplication of mills, and iucreasing tishing. All these causes combined are so altering the old condition of things that it is not surpuising to find the fish supply yearly diminishing. The only remedy for this natural result is the extension of artificial hatching. A Salmon Hatchery at some suitable place on the St. John River, whence its several tributaries could bo restocked, and the main river receive annual accessions to the natural increase, would tend greatly to restore this fishery, by counteracting the causes of failure above specified. You will perceive bv the roports of the several officers that they nearly all urge this as the only mode by which the stock of salmon can be kept up in the seven counties through which the St. John River flows. Thero is no river in the Maritime Provinces where an extensive hatchery would so well repay the expense of its establishment and support, and I beg to commend the matter to your favourable consideration.

The following remarks on the fisheries of the several counties, and the returns accompanying them compose the substance of the Reports received from the several District Overseers.

## bestigoulie comnty.

Overseer Mowat, of the New Brunswick Division of this county, reports the catch of salmon to be ten per cent over that of last year. The license system and the change of the rate from the catch to the net has given great satisfaction, and all have taken licenses and paid the fees without a nurmur of discontent. Even those who formerly opposed it, now will sive it their approval and support. Neither bass nor smelt fishing is pursued for commercial purposes in this county, although both species frequent the eatuaries. The mackerel and herring caught in this division are of good quality. They are uned principally for home consumption. The lobster fishery is pursued in the lower portion of the division, but the principal fishing is done on the Quebec side.

Overseer Ferguson, of the Coast Division, reports more than an average catch of salmon, thongh the fishermen were not propared for the appearance of the fish so early as the 14 th May, and, consequently, did not secure any of the first run; but this made the fishing unusually good in the river. Owing to the increased demand, in consequenco of the ercction of a fieezer at Now Mills, and another at Campbelton, the fishermen obtained good prices and prompt payment. He says:-"I am happy to inform you the license system has proved most satisfactory this year, and grumbling has entirely disappeared. The catch of herring has been smaller than usual, which is owing chiefly to a heavy storm that drove the ice in large quantities upon the shores, and prevented fishermon from getting out their nets in proper season. The lobster fisbing was much retarded by the destruction of the canning establishment of New Mills, and it was late in the season before it was in a condition to resume work. Codfish and mackerel were plentiful, but our fishermen do not follow these very closely."

GLODGESTER COUNTY.
The returns from this county show rather more than an average catch in all descriptions of fish except gasperaux, which have been steadily failing for some years.

Overseer Hickson reports that the catch of salmon in the upper part of his district, about Madisco, was very small; but in the lower portion, about Salmon Beach
the catch was the largest known for many years past. So that, taking the whole division through, the aggregate catch was greater than last year. The license fee on the nets is much more acceptable to fishermen than the former rate on the catch, and, though some of thom still consider it too high, the guarantee of security contained in their licenses is considered by them a great boon. The river fisheries yielded a better return than last year, and tho Nepissiguit was fairly stocked and well guarded. The run of grilse was large, and a good season is looked for next year. The Téte-agauche and smaller streams had good stocks of salmon and trout, and but little poaching was practiced. Considerablo difficulty was experienced in getting correct returns of the smelt catch, owing to the refusal of shippers to give any information on the subject. In the early part of the season, prices ruled high; the catch was large, the quality grood, and both fishers and dealers did a good and profitable business. This continued until the bags neta in Miramichi glutted the markets with large quantitios of small and inferior fish, which caused prices to fall from 9 cents and 10 cents por pound to 4 cents and 5 cents per pound for No. 1 fish of the best quality. While the band-caught fish of this county were bringing the fishermen 4 cents and 5 cents, those caught by the bag netsin Miramichi brought only two cents per pound, and the latter so glutted the market that our shippers ceasod to buy, because there was no margin left for protit. Overseer Hickson adds:-"The more I see of the business, the firmer is $m y$ conviction that the interests of the fisheries, of the fishermen, and of the dealere, will be best served by the total prohibition of bag nets everywhere. The catch will be smaller, but the quality will be better, and prices realized by both fishermen and dealers will be better; while the wholesale destruction of young and unmarketable smelts, and of young bass will be prevented. Had the bar nets not been stopped in this harbour, and the young fish preserved from waste, the fishing of this winter would not have been worth pursuing. With such waste as the bag nets cause, especially those of such small mesh, no fishery can escape from destruction."

Overseer Landry, of Pokemouche district, reports a better catch of mackerel, but not so good a catch of herring as last season yielded. This falling off in herrings he attributes to lingering ice on the shores during the time of spring fishing. While the catch of bass has increased, that of gasperaux has diminished, which he thinks is caused by excessive fishing in past years. The cod fishery gave about an average catch, but this branch of fishing is not pursued on so large a scale as the facilities offered would justify. The smelt fishery hat grown into large proportions, and this fish is now one of the most important articles of commerce in the district.

Overseer Savote, of Tracadie district, reports a good catch of codfish, herring and gasperaux, with a more than usual catch of mackerel, which were very plentiful. The catch of trout was fair, and that of smolts large, until prices fell in consequence of over stocked markets. All the overseers in this county urge the extension of the close-time for smelts till 1st July, to prevent the spawning fish from being used as manure.

## NORTHOMBERLAND COUNTY.

Overseer Williston, of Bay du Vin and Escuminac district, reports a better catch ${ }^{n}$ of all kinds of fish than he has known for the past three years. He describes the great destruction of young bass and small smolts, consequent on the use of bag nets, and is of opinion that this is unaroidable, because the fish die before they can be restored to the water. He recommends that the regulations passed in March last, prohibiting the seining of bass and gasperaux, be kept in force in this district.

Overseer Robichaud, of Neguac district, reports the herring fishery to be a failure, owing to the ice remaining in shore late in the spring; but be describes the mackerel and salmon fisheries as yielding a better return than that of last year. The bass fishery is pursued only with hook and line in this district, and in common with all other localities on the Miramichi River where this fishing is pursmed, there has been a falling off at Neguac.

Warden Join Doyle, the newly appointed officer for Bartibog and Tabusintac head waters, reports that he has prevented much illegal fishing on these streams. A party of two men found by him preparing to spear on the 15th September, pleaded ignorance, and on promising never to repeat the attempt, after the law was read and explained to them, were allowed to go without punishment, Mr. Doyle considering that the object in view, of protecting the fish, would be as well answered by not punishing this first ignorant offence; but he warned them that a repetition of it would be followed by immediate punishment. He reports both salmon and trout as plentiful in the rivers. He reports an olstruction at the mouth of the Eskedillock, a branch of the Tabusintac, famous for its large trout, which prevents their ascent, and he urges the expenditure af a small sum to claar it away and open a passage for the fish. I consider this a necessary measure, as this stream is one of the best angling ones in the Province, and it would be a matter of regret that it should remain closed to the ascent of the fine trout that frequent it.

Overseer Russell, of Portage Island and Burnt Church division, reports the catch of salmon nearly double that of last ycar. Bass hare been in great demand by local dealers, and more attention has been paid to this fishery the past season than in former years. In consequence of this. the catch has been three times as great as that of last year. He reports but a small catch of herring, owing to the scarcity of this fish; butas to the cause of this scarcity he gives no opinion. Large preparations were made for pursuing the smelt fishery this winter, and good returns were expected, as the catch last winter was large in proportion to the nets in use. He deprecates the waste of young bass and smelts, but sugrests no mode by which this can be prevented, as the fish die before they can be put back into the water. He recommends that the close-season be extended to the 1st July, in order to protect the spawning summer smelts which are used in large quantities for manure.

Overseer Perley, of Chatham, reports a good catch of salmon, but a very poor catch of gasperaux, shad, and bass. He reports the catch of smelts as very large, but he says nothing of the great waste of young lass, tom cods, and small smelts which has been going on in his district all last winter and up to the present time this winter.

Overseer Wrse reports a very poor catch of herring. and lobsters, but a large catch of salmen, especially around the Islands at the mouth of the river. Above these, on both sides, bitter complaints continue to be made of the excensive length of nets in the stands off Portage, Fox, and Baydu Vin Islands, and of the use of swing nets in the former. Petitions for and against the use of these nets have been submitted to the Department, and it is very desirable that they be decided on before the'fishing season commences next spring, as the officer liscing charge of the Portage lsland district resides at considerable distance, and it is impossible for bim to exercise the necessary supervision over that locality, especially as regards the weokly elosetime. Overscer Whae suggests that the captain of the lightship, which in stationed near that Island and the Horseshoe shoal, should be niade a fishery wthirer, with special reference to this locality. Lbe suggestion is a very good ono, and I think should be acted upon in the coming season. As this officer is provided with suitable boats and an assistant, and ats they have plenty of leisure time, the additional daty of lonking after this important fisthing place cean be very easily performed. From Black Brook to Chatham on one side of the river, and from Bartibog to Lower Neweastle in the other side, fishermen complain that the places provided for ballast are not closed in, and that it escapes with every tide and so fonls the water that their nets are rendered uselesis. In former reports I have called attention to this cauwe of complaint, and it is very clesirable that it be removed by the Harbour Minter requiring the ballant ponds to be made tight and secure. Mr. Wyie reports that a consilerable number of fisherman, having obtained licences under promines of paying the fee as soon as they realized the money from their first catch of salmon, now refuse payment. This county is the oniy one in the Province where salmon fishermen are in arrears, because it was the only one in which licenses were issued on credit. The
only cure for this dishonesty is to forbid officers issuing licenses until the fee is forthcoming, and, in the case of these delinquents who are now in arrears, who have broken their promises, to issue them no licenses for next season until that fee and all arrears for last year are paid up. The men who now refuse to pay are well able to do s, , and not one of them can plead noverty or inability to do as all their neighbours have done. He describes the smelt tishery as having grown into large proportions; but the bag nets dostroy very large quantities of sinall and unmarketable smeits, and a very large number of bass. Out of the catch of one net on the 15 th inst., he collected 500 young bass; out of another net on the 20 th inst., 600 young bass were collected ; on the morning of the 22nd inst., Overseer Hogan collected over 300 bass from ono haul of two nets, and all these were only a portion of the actual quantity destroyed by four nets in three nights' fishing. In no other county in this Province or in Nova Scotia are fishermen so blind to their own interests, nor in any other county would they so foolishly destroy the young stock upon which their future employment and profit depend. Some remedial measure for this shameful dostruction is absolutely necessary, for nothing can be hoped from the voluntary efforts of fishermen, as present gain at any future loss, seems to be their ruling motive.

Overseer Hogan, of Newcastle and North Esk district, reports a good catch of salmon; better than for several years past. He says the license system works well, and is more satisfactory to the fishermen than the old rate on the catch. All the fees have been paid in his district, and no arrearages are due. The bass fishery is being pursued very vigorously; the large price obtained for this fish oftering great inducements to engage in its capture. He finds it impossible to superintend so large a district without help, and asks permission to employ an assistant for the three months daring which this fishery is so largely pursued. All the wardens in the bass district are engaged in the fisbery, and are more intent on fishing than on a proper supervision of their limits. Mr. Hogan protests earnestly against the onormous destruction of young bass and unmarketable smelts by bag nets, and expresses his conviction that, if allowed to continue, both the bass and smelt fisheries will be ruined. He also urges the extelsion of the close-tinc for smelts from 15th Felruary to 1st July, and the rigid enforcement of the close-time for bass everywhere on the river.

Overseer Cusuman, of Upper Nelson and Derby, reports salmon plentiful during the whole summer, but gasperaux very ecarce; not orer eight or ten harrels having becn caught where formerly several hundreds were taken annually. This officer reports that: "Close-seasons in my district have been attended to; wardens and myself have been attentively on duty." But ho adds that, among the abuses existing in his district are " firing pistols and guns and throwing rocks at and into the officers" canoes; all this is done in the night, so that the parties cannot bo recognized." This may possibly account for the numerous complaints that have been made of illegal fishing in this district, and of the case with which the regulations are said to be violated. The steamer "Andover," which plies on the river through the district of this officer, has several times carried away nets set completely across the channel, and that, too, during the close-time, when no nets should be allowed. Information has been given me by respectable and reliable men that tishing is openly carried on in this district during the close-season. into the truth of which I am now enquiring. The result of this investigation will be subinitted to you as soon as completed.

Overseer Underhill, of Blackville district, sends the briefest and most metgre report, as follows :-"The salmon fishing has not been as good in my district this year as last. There was a very good run of salmon went up the river this fall. There has been some illegal fishing done from Campbell's Bar to the forks of Cain's River. I think it would be advisable to appoint a warden at Camplell's Bar." From otber sources I have very definite information which goes to show that nore lawlessness exists in this district, and more illegal fishing is done there, than in any other division on the whole course of the river; and as this is the key to all the upper waters, it is most important that the regulations should bere be vigorously enforced. Spearing, drifting, Sunday fishing, and illegally set nets are the rule in this district, which
could not possibly exist if the overseer and the wardens under him did their duty. The remedy is beyond my reach, and the evil requires to be dealt with from headquarters.

Overseer Thomas Tayloz, of Blisefield district, reports a smaller catch of salmon than he hits known for any season since he has been an officer. He attributes this to two causes: first, the great quantity of logs running in the early part of the season; second, the extent to which illegal tishing is pursued in Blackville, the division immediately below, in consequence of which it is almost impossible for a fish to pass it. He urges a better supervision of the wardens in Blackville and Derby, and a more strict attention to their duties on the part of the overseers and wardens of these districts. He says:-"It seems to be of little use for an officer in one district to be at his post, while others are very derelict in their duty. The fishermen praise the negligent and persecute the diligent. To my certain knowledge, in one district below me, several persons have been allowed to fish as they pleased." Overseer Taylor asks permission to purchase a canoe, to enable him more conveniently to get over his district. As this request is reasonable and the canoe is much needed, I would recommend that he be authorized to procure one.

Overseer Freeze, of Doaktown, alno reports very few salmon in his district. The extreme lowness of the water offered great facilities for poaching in the parish of Blackville, and but few fish could pass the bars and shoals that abound in that part of the river. He reports Gaspereaux as nearly extinct in this district, where formerly large quantities were caught every spring. The seines have effectually done their work of destruction, and nothing but the most careful protection will now save the remnant that is left. My conviction is that nothing short of a few years' rest from fishing, even with set nets, will enable the small stock that is left to successfully fight the battle of existence.

Overseer Cameron, of the upper district of the south-west, reports a great falling off from the catch of last year, both in salmon and gaspereaux, the only migratory fish that reach the head waters of the river. Of the latier, not five barrels were caught, and for all practical and useful purposes, the fishery is extinct, as its pursuit will not repay tie cost of material and labour. The decrease in salmon he attributes to the cxcessive fishing and poaching in the lower districts. He expresses his surprise that a single salmon got up to his division, and states his beliof that were it not that the first run ascend while the freshet is too high to allow nets to be set, or spears to be used, the upper pools and spawning beds would be without a single tish. The few that reached the pools afforded but indifferent angling this season-ibe number caught not amounting to one-half of what was taken last year. Mr. Caineron states his belief that every year will be getting worse, as long as nets are allowed so high up the river. As I have always plainly stated my convictions that nets should never be allowed on the spawning grounds of salmon, I must agree with Overseer Cameron, that as long as they aro allowed there, the fish will become scarcer. This is no mere theory, but a conclusion founded upon the experience of ten years and a mass of ficts that can neither be denied nor explaned away. In my last annual report of the state of this division, which was not nearly so bad as that now described by Overseer Cameron, I concluded as follows:-_" In no other river in the world, that I am aware of, are salmon allowed to be netted on their spawning beds, after running the gauntlet of innumerable nets from the mouth of the river, upwards. The comparatively few fish that reach their accustomed spawning grounds after escaping the toils that benot their ascent from the time of entering the river, should be allowed to perform procreativo functions undisturbed. In former reports I have expressed this conviction, and every year's experience only strengthen it."

## KENT COUNTY.

Overseer Sutherland, of the upper division, reports the catch of salmon in this county as less than that of last year. Gaspereaux were so scarce that he calls this fishory a failure; but lobsters were plentiful, and the business was largely pursued.

In consequence of the small catch of salmon, more attontion was given to cod and mackerel, and the quantities caught of these wero much in excess of previous yoars. But these branches of tishing aro not pursued as rigorously as the facilities offered would justify. The fishing grounds are only a short distanco from the harbour, and on the completion of the breakwater now in course of erection, schoonors and boats will have good shelter in any galc. The smelt fishery has not been so largely pursued; low prices and overstocked markets rendering it less remunorative than formorly. Overscer Sutherland recommends the piohibition of bag nets to prevent the great destruction of small smelts, and the extension of tho close-time to lst July, to prevent their use as manure.

Overseer Conmier, of the lower districts, reports an increase in the catch of all kinds of fish, except spring and fall herrings. The falling off in these he attributes to unfavorable weather. He reports the oyster beds as rapidly fuiling owing to constant over-fishing. The close-season is not sufficient to foster their growth, and no means have yet been taken to increase tho supply by artificial culture.

## WESTMORELAND COCNTY.

Overseer Deacon, of Shediac division, roports a good catch of lobsters, which is the principal fishing pursued in his district. His returns show a large increase over last year. There are now three canning establishments in operation, and two new ones are being erected. He says: "On consulting with the proprietors of these, I find them all anxious to have the close-season from the 20th July to the 15th Aagust, which would be one montli earlier than it is at present, and I would strongly recommend the change to be made." He reports the oyster beds as nearly cxtinct, and says :-"On the 22nd August, I employed two men and a boat to test the oyster beds. I tried five, and during the afternoon I did not get over two dozen. Unless something is done to preserve them, all will, in a short time, become helplessly extinct." He reports salmon as steadily increasing in the Shediac River.

Overseer Dafidson, of Bay Verte district, reports the herring fishery as unusually good last spring at Bay Verte and Bay Side. The fishways in the dams across Tidnish and Port Elgin Rivers, will now enable gasperaux to ascend, and he anticipates a large increase in this fish in future; but I much fear his hopes will be disappointed if the fish are allowed to be taken for the first three years after their return.

Overseer Cormier of Dorchester Bay division, reports an average catch of ${ }^{2}$ shad, but the fish were not so large as usual, The decrease in size was more observable in those caught during the last of the season. Mr. Cormier is of opinion that the brush weirs in the district below are injurious to the fishery in consequence of the number of small fish destroyed by them. He recommends that weir-owners be compelled to provide openings with covered nets of a mesh sufficiently large to allow the small fish to pass through. But experience in other places shows that this does not accomplish the end in view. The fish keep together and will not sift through; the receding tide leaves the weirs dry, and all its contents, large and small, are taken. There is no doubt that these brush weirs are a destructive mode of fishing, and in view of the falling off in the shad fishery everywhere, it is a matter for the consideration of your Department whether it will not be advisable to prohibit them, and confine ahad fishing entirely to net. By this mode, all the small fish will escape and go to keep up the supply. Of the few salmon that still frequent the head of the Bay of Fundy, considerable numbers are taken in shad nets, and this effectually prevents their increase in the Petitcodiac River.

## ALBERT COUNTY.

Oferseer Akerley reports an increase of salmon and shad in this county, which are used almost entirely for home consumption. Herring and Gaspereaux are caughtin small quantities, and line fishery is pursued to a limited extent; but the business is not followed for commercial purposes, the people being mostly engaged
in lumbering and agriculture. The fishways in the county have been kept open during the proper seasons, but in Pollet and Coverdale Rivers they do not appear to be of much use, as the salmon that now frequenl them are few in number and small in size. The great increase of lumbering operations on these rivers since the railway has given it an outlet, has wrought such changes that no hope remains of ever restoring them, and Mr. Akerley is of opinion that they ought to be exempted from the operation of the Fisheries Act, as the lumbering interest is now of much greater importance than any fishery interest that remains or can be restored. I fully agree in this opinion for the maintainance of fishways on these rivers is a sonre of expense to mill-owners, but of no perceptible benefit to the people.

## victoria connty.

Overseer McClusiex reports the mallest catch of salmon and sbad that bas ever been taken in the county. Twelve barrels of salmon and six of shad comprise the sum total of the returns. When it is considered that the Tobique River was formerly the great anwing ground for St. John salmon, and that below its mouth and all along it, course large quantities uned to be taken, it will bo seen how great is the falling off, and how serions is the danger of their total extinction in that river. This danger is increased by illegal tishing and spearing salmon in its upper waters. Overseer McCluskey says it is all bat impossible to detect and prevent this, in consequence of the great extent of willernes: and the distance between the wardens. I would strongly urge, as I did in my last report, that Mr. Mecluskey be authorized to employ several special guardians next seatson, who should camp on the rivor, in these wilderness portions, and remain there until atter the spawning season. I know of no other means of arresting the depredations of lawless men, and protecting the breeding tish, which it has now become mo:e important to do than it erer was beiore.

CARLETUN COTNTY.
Overseer Harrison, of this county, reports ats follows:-"I am sorry to have to say that there continues to be a falling off yearly in salmon, shad and bass. The latter appear to have left this part of the river altogether. Very littlo salmon tishing has beeu done in the county this scason, and the fishermen say that they cannot catch enough to pay for the labour of setting and tending their nets, as the sawdust and mill rubbish fill them upalmost as soon as they are set. Those who did anything wont down to York County and tished there, and I am told that some of them did pretty well. Urerseor Brown told me that there was a fair run in York, but very few of them now come up to Carleton. $A$ s long ats tho mill-owners are allowed to throw their sawdust into the water, it appears to me it will be useless to try to protect the tisheries in this county. I have called your attention to this difficulty in all my former reports, but the trouble is getting worse year after year."

## YORK COUNTY.

Wardens Brown and Campbell's reports from this county are but a repetition of their remarks last yoar. Fishing hats been even worse, and still fewer men have pursued the business. The same complaints are made of the bad effects of mill refuse and sawdust from mills in the upper county. There seems to be but little use in enforcing the law in one cominty, while the mills above do as they see fit. Until the law is rigidly onforeed in all counties alike, Mr. Brown sees no hope of any improvement. I repeat here the closing romarks of his last year's report, in the hope that some action may be taken next season :- "I would, therefore, urge that the law relating to sawdust and mill rofuse be strictly enforced throughout the whole lonjth of the St. John River, and that every man, whether rich or poor, be doalt wit ${ }^{\prime}$ : ilike."

## sunbury and queev's dounties.

Overseer Hoben rejorts an incrase of salmon fishing in Quech's County since the license fee bats boon rated on the net in place of the catch. While the take of shad is diminishing, that of bass is increasing, and those takon by hook and line
often weigh from thirty to thirty-five pounds. Gaspercaux are yearly leooming seareer, the catch last season did not reach one-half the average quantity. The rivor fishermen attribute this to the recently bnilt breakwater at Negro Point, at the entrance of St. John Harbour; but this is evidently not the cause, for the catcli on the outside of this shows a large falling off from previous years. The real cause of this decrease is the over-fishing which is commenced outside the harbour, and is pursued as far up the river as the fish ascend, and as long as they remain. The fish caught in these counties aro used wholly for home consumption, and as almost every settler has some kind of fishing tackle, and catches more or less fish for his family's use, it is very difficult to get at the aggregate quantities caught; the returns given are, no doubt, short of the truth.

Overseer Hetherington of Washademoak and Canaan district, reports a great falling off both in sham and gasperaux. This, he very correctly attributes to the real cause-overtishing, both in the harbour of St. John and at the north of the lake. Basw, he reports as increasing in numbers since the close-time has been enforced. Salmon were more plentiful than they have been since 1836, but as their past scarcity had made it unprotitable to prepare nets for their capture, the people along the lalse were not provided with means to take them. As they did not reach the rupids on Conatan River until the close-season had commonced, they had free pasage to their spawning grounds, and could be seen in large numbers in the pools. Mr. Hetherington says: "I have visited every stream of importance, and find that Providence is doing much to bring about a return of salmon, by swceping away the dams that have barred their ascent to their accustomed spawning places. I am happy to state that I find a disposition on the part of most of the millowners to do what they can to keep refuse and sawdust out of the streams. At Grand Lake and Salmon River the law is not as well observed as it might be, and an nverscer in this locality, who will fearlessly do his duty, is much needed. If a salmon hatching house could be established on the Main River, and a few thousands of young firy distributed every spring among the tributaries that formerly were good streams for salmon, l think they would soon be restocked, and assist very materially in keeping up the supply of this valuable fish, which, I regret to say, seems to be getting scarcer every year."

## king's countr.

Overseer DeVeber of Westficld and Nerepis district, reports a better catch of salmon than that of last year, which was very small. Shad were very scarce, and gaspereaux a total failure. Both these species have been failing rapidly in numbers for some years, and their decrease, especially that of the latter, is a great loss to the people of the district, who harealways considered the gaspereaux as a great boon, being the first fish that enters their water in the spring, and coming as it doos, just as their store of winter provisions is consumed, it enters largely into the consumption of many families. This year they did not catch sufficient for home use, while formerly they were able to send considerable quantity of smoked fish to the St. John market. $\mathrm{Mr}_{1}$. DeVeber rightly attributes the falling off to overfishing and the great destruction of young fish which was formerly caused by the weirs in the st. John Harbour. This cause of complaint is now removed; but there is not much prospect of the stock being increased in the face of such excessive fishing as is now pursued along the whole course of the river. He says :-"I have no hope of a permanent increase in salmon. The only thing that will, in my opinion, ever replenish the waters of the St. John is a hatching house, located at some suitable place on tbe river, from which the several tributaries can be supplied with young fish," and he urges on your Department a favourable consideration of the matter.

Overseer Gosline reports a similar decrease of shad and gaspereaux in the Kennebecasis and Hammond Rivers. He says :-"There seems to be but small hope of restoring these as salmon rivers, although a considerable number still ascend both. The facilities for killing them in the shallow pools are so great, and the disposition on the part of the settlers to protect the:n is so small, that but few escape. The
young fry that were placed in the upper waters of the Kennebecasis in the spring of 1876 did well, and large numbers of parr and smolts were to be seen, this summer, but I fear most of them have been caught by the boys with hook and line. It is simply impossible to prevent this by coercive measures, and until a better state of feeling is shown by the residents, and more enlightened views incutcated on their children, I doubt if it will be of any use to contrive to supply fry that will have but small chance ever to become salmon." I fully agreo with Overseer Gosline, and as the restocking of these sureams would be solely for the benefit of the farmers and residents who own the lands bordering on them, and since these show no interest in the matter, and do not seem to give the experiment even their moral support and assistance, I cannot advise that any further attempts be made to confer on them a benefit which they appear to value so lightly, and appreciate so little.

## ST. JOHN COUNTY.

The great bulk of all the fishing in this county is done outside and inside the Harbour of St. John. Salmon, bass, shad and gaspereaux are the principal fish caught, and these are taken by drift nety and weirs. Both these modes of fishing are dostructive, and, as regards salmon, drifting is illegal, being forbidden by the Fisheries Act. In consequence of the great distress and privation caused by the disastrous fire in June last, no restrictions were placed upon fishing, in the hopo that cheap fish food would be supplied to the sufferers. The consequence was that more than an average catch of salmon was made.

Oversmer O'Brien states that in the bay, outside the harbour limits, and at distances varying from three to ten miles from the shore, there was about 75 boats between Partridge Island and Leprean, with about 500 fathoms of net to each boat. This onormous string of meshes, equal to 42 miles, almost constantly in the water, made it impossible for any quantity of salmon to get past them, and hence the fishing, both in harbour and river, was very poor. Gaspereaux fishing was a failure, being about the poorest ever known, and although the weirs were with great difficulty kept closed Saturday nights and Sundays, still the numbers that ascended the rivor were smaller than usual. There can be no doubt that past overtishing has seriously diminished the stock of this valuable fish. The herring tishing in the bay the past year has been the best ever known, and several additional vessels are now hitting out for the coming season. Overseer O'Brien concluded his repor't with the following remar'ks:-"The growing business of the port, the increasing traffic of tug and ferry steamers and vessels of all kinds, about the harbour, together with the outfow from sewers and the discharge from the gay works, will doubtless cause a falling off in the harbour tisheries, and many old fishermen affirm that they are already very seriously decreasing from these causes."

Overseer Skillen, of St. Martin'a district, finds it impossible to get full retnrns of the catch in his division this year, because a large number of mall vessels that resort there to fish never come to shore, but, having made their fares, left for home or a market. He reports the fishway at Salmon River a great success, and gives a just meed of praise to Mr. E. H. Foster, the manager of the mill, for his cace and attention in keeping it clear of rubbish and easy of access. Large numbers of fine salmon have been seen above the dam, anl there is every reason to believe that this fine river, so long closed to their ascent, will soon become as famous for salmom as it was when the abundance of its fish gave it the name it bears. No impediment now exists to prevent the free ascont of tisll in Mosher's mill stream, and numbers of salmon have this fall gone up to spawn. Nothing in the shape of mill refuse, except a small portion of sawdust, is now allowed to go adrift from any of tho ten mills in this district. From the construction of these mills it is impossible to prevent this, and I do not consider it necessary to put any serious difficulty in the way of the milling interest. Overseer Skillen has accomplished a great worlk, and I have much pleasure in bearing testimony to his energy and his attention to the onerous duties of his office.

## charlotte cotnty.

Overseer Ctrran, of St. Croix District, reports a considerahle incroase in all the fish firequenting the waters of that division. He says: "The fishways, seven in all are in good working order, and have been kept so during the past season. The in crease in salmon has been very noticeable, and they have now extablished spawning beds in the several tributaries of the St. Croix. Alewives still continue to increaso, and this scason have been of larger size. Considerable quantities lave been taken all along the Denis stream. I have succeeded in getting a new tishway in the dam at Sherman's Mills, which will give greater facilities to the tivcent of the tish and oper up new spawning places at the head of the stream. We had an unusual run of mackerel in this district, a thing unknown for years. Large quantities were caught and cured for home consumption, and our towns were well supplied with fresh mackerel sold in the strects. Lobsters have been a marketable article in their season, their size being larger and their quality better than usual. This year the American authorities have appointed an overseer on their side of the river, and be is energetically enforcing regulations which have been wr) long entirely neglected. In consequence of this, much of the mill refuse from the American side has been kept out of the river, and the weirs have had a much boter catch of fish. There was an increase in the number of weirs, and a still large number will probably be built next year. The tax has been paid without complaint, and I allowed tishing on Tuesday and Friday of each week, which enabled the people to get all they wanted for home use. I must again call the attention of the Department to the great need of a fishway at Salmon Falls. It is the only place on the river where the fish have not now a free passage, and I would recommend the construction of one immediately." I regret to inform you that, since writing his report, Overseer Curran has departed this life, and the fishery service has lost one of its most intelligent ant fatithful officers. Devoted to the work in which he has been so many years engaged, Mr. Curran gave to the service indomitable perseveranco, unwearied patience and much intelligence. When he commenced his duties not a fish could ascend the St. Croix beyond Baring; both salmon and gaspereaux had become almost extinct in a river which formerly teemed with them. He achieved his most earnent wish and he lived to see the fruits of his labours. His reports show how much the well-directed efforts of one faithful officer has been able to accomplish in the face of opposition that might well dishearten even a more sanguine man. He has left behind him the best record of his faithfulness as an officer and his usefulness as a citizen. More pretentious men than honest Pat. Curran might well be proud of the monument his own efforts have erected to his memory. He has opened and restocked with two most valuble food fishes, one of the finest rivers and two of the largest chains of lakes in the Dominion. It now devolves on his successor to preserse his work, and it will require a man of no ordinary ability to fill his place.

Overseer Cunningham, of Inner Passamaquoddy Bay, reports a decrease in the catch of herring; but as prices were better than last year, fishermen have not lost. A new branch of industry is likely to arise in all the herring districts of Charlotte. The small herrings which formerly were pressed for oil and pumice aro now being eured as sardines, and, so far, the result has been satisfactory and profitaple. Mr. Cunningham says it is contemplated to start an establishment for the cure of sardines in his district next summer: Mackerel have been more plentiful this year, and a considerable catch was made. Haddock and hake have given about an average return, but complaints are still made of the use of trawls or bultows. Pollock have been plentiful this year, and the returns show a larger catch. The lobster fishery has largely increased in this district. Last year 48,000 cans were put up in St. Andrews; this year 76,800 cans were turned out, and an increase of 35 tons was made in the quantity sold fresh for American markets. The close-season was strictly observed, but it required constant attention on the part of the overseer to prevent spawning and undersized lobsters from being destroyed. Trout fishinir in the Chamcook Lakes was very.good, and a movement is on foot to stock them with " land-locked
satmon" from Grand Lake, on the St. Croix. If this project can be successfully accomplished, -and the only difficulty is the protection of the fish-these lakes will become the best angling waters in the Province. Overscer Canningham complains that his salary is not sufficient remuneration for the work his district requires of him; and as he is a good, faithful, intelligent officer, I think lis services entitle him to fivourable consideration.

Overseer Best, of Beaver Harbour and Latète district, reports a good catch of all kinds of fish; bat the largent increase is in herrings, of which the cauch waty very large. Cod, hake, and haddock have given good returns, but Mr. Best complains that bultows or trawls are having injurions effects on all line fisbing, and that American vessels throw offals upun the tishing grounds.

Overseers Lord and Brown, of West Isles, report a good yield of the several fisheries in their divisions. The catch of pollock has been exceptionally large. Cod and hake have also given good returns, but haddock has not been so plentiful, which they both attribute to trawl fishing outside. There has been a large falling off in smoked herrings; but this does not arise fiom any scarcity of fish. A new and more profitable market has been found for them, and large quantities have been taken to Eastport, where they are put up as sardines. This new mode of curing will make tho fisheries much more protitable to their owners. Lobsters wero plentiful, and have increased much since the factory at Deer Island was closed some ycuss since, but the catch has not been very large. Overneer Lord complains that hisduties oceupy much of his time, and that the salary he reccives is not remuncration sufticient for the work done. This district is an important one, and his services are valuable. I would respectfully commend his case to your firvourable consideration.

Overseer McLaughlin, of Grand Manan district. furnishes, as usial, a long and interesting report, the malin portions of which I give in his own words. He says :-" I have the pleasure to report an encouraging increase in all branches of the fisheries in my district, oxcept in moked herrings, which, compared with last year, show a large decrease. The catch of cod, pollock, hake, hadlock, horrings fresh and pickled, and lobsters equals, if it cloes not surptis that of the best year's on record; in lact, line tishing has been wood all the wewr round, with good fishing at the present time (31st December). Nut tishiner for herrings was exceptionally good the first six months of the year; since which, there has been a gradual falling off in quantity, with an extraordinary leanness in quality. I am told by American tishermen, as well as our own, that mackerel also aro lean and poor in quality this yoar. I am at a loss to acconnt for this leanness in herring and mackerel, unless it arises from an exceptional absence of fish foorl in our waters, which may also account for the comparative scancity of both these tish in North American waters for the last six months. Would it be prisililo that a scurcity of fish food on the coasts of North America has compelled the herrings to resort to the northern wasts of Earope? If so, wo may casily account for the return of areat shoals of herrings to the waters of Denmark, which has bcen reported in European newspapers and trade returns. The increase in lobster fishing is encouraging. Last $y$ cur two canning housce put up 120,000 cans: this yoar there is but ono house, and yet, the increase is 30,000 cans, with fewer hands employed in the fishery, This is the best proof that can be offered of the great importance of a proper close time, which should, in my opinion, commence 15 th July instead of 1st August. Warden Gilmour has been vigilant in the performance of his duties at North Head. He is still in need of a suitable boat; the allowance of $\$ 30$, which was made for this purpose, is insufticient to procure a suitable boat for the service. I tried, in Grand Manan and St. John, to purchase one, but could not get one that would be of service in our waters for less than $\$ 100$. I hope the Department will see the necessity of this expenditure. I have had no complaints from Whitehead Island, and therefore I have no doubt that Warden Carroll has attended to !is duties. The only part of my division that now suffers from the visits of predatory fishermen, is the "Three Islands." lisolated as they are, being situated about six miles from my residence, at the spawning grounds,
their harbour makes a snug retreat for fishermen who seem to take a pride in being lawless. More than seventy five fishing vessels found whelter in this small harbour during the fall months, As my attention is almost constantly required to look after the spawning grounds and lobster tishery, and as the sea is generally very rough between the mainland and the "Three Islands," my boat is too smill to allow me to visit the place as the interest of the fisheries requires. Consequently, the fishermen often behave in a lawless manner, both as regards the Fisheries Acl and the right. of the proprietors of Islands. I therefore respectfully suggest that Mr. David Ingalls, the owner of two of the Islands, bo appointed warden of "Thrce Islands," to serve under instructions from the overscer, with a small salary, say $\$ 30$ per annum. Mr. Ingalls is an honest, upright man, and often suffers from the illegal acts of the fishermen who frequent the locality. As he is supplied with boats, and always has a number of men in his employ, he can easily enforce the law if he is commissioned to do so. With the exception here mentioned, the law is well olveyed, and good order reigns throughout my district." I am aware of the facts inentioned by Mr. McLaughlin, and 1 believe that the appointment of Mr. Ingalls will bo of great service, and be the means of putting a stop to the last remnant of disorder that now remains in Grand Manan. I would therefore respectfully urge that Overseer McLaughlin's request be at once acceded to, so that the new warden may enter upon his duties at once. The small outlay of his salary will be well repaid by the important services he will render.

A perusal of the foregoing reports will nhow several important facts that require consideration from the Department. They show that there is a very serious falling off in the stock of all the anadromous fishes that frequent our riveis. They show that this decrease has been caused by over-fishing and insufficient protection; that these causes are still actively at work-the fishing increasing and the protection becoming less-while all the causes of diminution that follow in the train of rapidly increasing settlement, are in full activity. They show that everywhere the stocks of shad and gaspereaux are in imminent danger of extermination. They show that the lans and smelt fisheries are being conducted in most wasteful and destructive modes. They show that the harbour and river fisherics of St. John cannot possibly stand much longer the annual drain made upon the rapidly decreasing stocks. They show the oyster beds all but extinguished. But they also show that proper close-seasons and due protection to the breeding fish, foster and increase the supply. As all experience in this and in other countries proves that nothing is to be hoped from the foresight or prudence of fishermen, nor from their voluntaly adoption of any of the means that will protect and prolong the supply; that they will continue this overfishing and these wasteful modes of fishing that liave been described in the foregoing pages, the question that presents itself for your consideration is this: Which is most advisable-that such protection as is necessary to preserve the fisheries from sure destruction shall be made compulsory and fishermen be called on to submit t" what will be only a partial deprication, and perhaps only a temporary one-or, that they be allowed to go on in the old wasteful ways, with the certain result, that ere long, they will be compelled, by a law of nature from which there is no appeal, to submit to a total and permanent deprivation of this great gift of a beneficent Provicence, and one of their great sources of employment and wealth; a deprivation from which no earthly Government can save them ; from which no Department can extricate them, and which no unavailing regrets will ever restore them? The question is not a difficult one to decide; and although most of the fishermen will protest against measures which are for their own benctit, aud ignorantly or seltishly strive to prevent their adoption, still I am persuaded that a large number of them are intellegent and sensible enough to see that this is the least of two evils, and that by cheerfully submitting to it, they will avert the wreator one and escape the consequences that they see clearly enongh are inevitable under the present mode of carrying on the fisheries. Long before I was a fishery officer I had given this subject much thought, and from youth I have had exceptionably good opportunities of 1 -e $15 \frac{1}{2}$
observinis it. Since I have been an officer I have given the service my best efforts, both physical and mental. I have laboured to investigate and understand the natural history and habits of our several varieties of fishes; I have tried to trace the causes that liave led to their yearly decreasing numbers; I have given faithful and true reports of facts as I have found them in the several localities where the fisheries are carried on, and I have submitted the conclusions arrived at after mature and deliberate thought. These conclusions are in keeping with thrise adopted by much abler men in other countries, where the same causes have produced the disastrous effects I am striving to have averted. These reports and these conclusions are on record-they speak for themselves-the former can be verified by all who will take the necessary trouble, and the latter can be judged of by all who have given the subject the necessary attention. For doing this I have incurred much ill-will from those who see in an honest officer only a personal enemy; much misrepresentation and abuse from those who have sought to make political capital out of the dissensions and conflicting opinions of a class of men not very tolerant of interference at any time, but much less so when their prejudices have been excited and they have been led to believe that both the Government and its officers are inimical to their interests. I appeal to the record and ask to be judged by my work.

I have the honour to be, Sir, Your obedient servant.

Hon. A. J. Smitit,<br>Minister of Marine and Fisheries, Ottawa.

W. H. VENNING,<br>Inspector of Fisheries, N.B.

Return showing the Number, Tomnage and Value of Vessels and Boats and Quantities of Fish, and the Total Namber of Men employed,

12.
engaged in the Fisheries; $\dot{Q}$ uantity and Value of Fishing Material ; Kinds \&c., in the Province of New Brunswick, for the Year 1877.


Return showing the Number, Tonnage and Value of Vessels and


Boats engaged in the Fisheries, \&c.-New Brunswick-Continued.


Return showing the Number, Tonnage and Value of Vessels and


Boats engaged in the Fisheries, \&c.-New Brunswick-Continued.


## Return showing the Number, Tonnage and Value of Vessels and



Boats engaged in the Fisheries, \&c.-New Brunswick-Continued.


Return showing the Number, Tonnage and Value of Vessels and


- Brush .

Boats engaged in the Fisherips, \&c.-New Brunswick-Continued.


Recapitulatiun showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men employed, \&c., in the Province of New Brunswick, for the Year, 1877.


Recapitulation showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, \&c.New Brunswick-Continued.


## REOAPITULATION

Of the Yield and Value of the Fisheries of New Brunswick during the Year 1877


NO. 13.

## REPORTS ON THE FISHERIES OF TIIE PROVINCE OF PRINCE EDWARD ISLAND, FOR THE YEAR 1577.

## King's County.-Martin MoInnis, Overseer.

I herewith enclose my second report for the yeir ended 31st December, 1877, containing the fishery statistics of my division, King's County, Prince Edward Island. The fishery season just ended has proved much more prorluctive thitn that of last year, owing to the large quantity of inshore bait; it continued on the north side of the Island up to the last of June. As the smelt and capelin move to deep water, the codfish follow, making it difficult to pursue the fishery. A very serious injury to the fisheries of this county is, throwing over gurry or offals on the fishing grounds, by American and Nova Scotia fishing vessels. The overseers can control them only to a very small extent. Haddock have been scarce on the north side of the Island, while hake have been plentiful on the south of King's County, owing to the muddy bottom. There has been a large increase in the catch of mackerel, owing to the ice leaving the coast much earlier this seacon. Herring was rather warce on account of high winds in the carlier part of the season. It was of an excellent quality to the east of the county, where the ice leaves much earlier than to the westward of the Island. The gaspereaux fishing has alwags been a valuable resource to the inhabitants of this county; almost all families having boats and nets are accustomed to catch more or less for home use, and the failure of last year is a cause of great regret; the people say it is in consequence of a bridge composed of brush work thrown across the inlet of the lake, causing the wholesale destruction of the gasperaux. Salmon fishing, since the railroad has been finished, is much better, there being an opportunity to transport it fresh to the different markets of the Island; this will in a great measure, I have no doubt, render the trade more profitable to all partics engaged in salmon fishing. Since the laws against the destructive practice of seining salmon are enforced, the fish come more plentiful in the rivers of the county. The smelt fishing in this county is assuming considerable importance, and will require to be looked after, from the manner they are taken, with bag and scoop nets in the spawning season. I would, therefore, suggest the propriety of stopping such violation of the Fishery Laws. Eel fishing bas increased in all the rivers of King's County, owing to an improvement in the mode of setting traps and nets, and to better compliance with the Fishery Laws. Oyster beds upon the coast and in our rivers and estuaries are not materially increasing, owing to the large quantity of mud washed upon the oyster beds spring and fall, which injures the oysters. Lobster fishing is carried on by five establishments for canning in King's County. I have closely watched this tishery for the past two years to form an idea of the spawning season; it is difficult, as there is no particular time for the spawning of lobsters in this Island, owing to the different localities they resort to, but varies according to the temperature of the water. Last season the female lobsters carried egge to the last of May and up to the end of September. My opinion is that the lobsters spawn twicc a jear on the shores of this Island, in the months of May and August. The gield of lobster fishing has considerably increased this seavon. Trout tishing has greatly increased during the past year, owing to efforts made by the wardens and nayself to prevent violation of the law.

Warden John McGuire prosecuted four of parties before two Justices of the Peace; the case was tried, and he failed to prove illegal fishing against the parties at Morelle River, but it served the purpose of deterring others

Besides a considerable increase over last yoar in the fishing for trade, about onefourth more is used for home consumption. The Fishery Laws have been well complied with in King's County.

Qdeen's County.-Isaac Thompson, Overseer.
According to your instructions, I have collected and now forward the statistics of Queen's County, Prince Edward Island. You will ohservo by the accompanying return that the mackerel fishing of the pastreason has been far more productive than in the
previous year, [the number of barrels taken in 1877 being 15,082 , agrainst 7,767 in 1876. The herring and cod fisheries have proved almost a failure, in consequence of the ice remaining on the shores until the first of June; the herring were thus prevented from entering the hays or approaching the shores, and, as the cod-fish follow the herring in spring, both were too far from land to admit of the prosecution of the fishery in open boats.

## Lobsters.

A canning establishment went into operation at Point Prim on the 15 th of September. It is the only one of the kind at present in this county. But lobsters are taben in considerable numbers and sold frees in Charlottetown market. I estimate the value of those thus disposed of at about $\$ 240$. A mongst these fresh lobsters, I observed spawn-fish occasionally throughout the summer. With a view to ascertaining the condition of the fish, I went to Souris a few days before the close time commenced. I saw large quantities of lobsters at the eanning establishment here; very, few, however, had spawn upon them. But on the reopening of the fishery at Rustico Bay, nearly all the lobsters were ppawn fish. This induced ine to pay a second visit to Souris. There I fonnd nearly all the fish bard-shelled and elear of spawn; while those taken at Point Prim from the 15 th September till the 1st of November were nearly all soft-khelled. I infer from these facts that the lobster enters the baysand calm waters to spawn, and as it docs not appear that spawning fish arejgenerally taken on the open coast, it would seem necessary to their preservation that the close time within tine harboure should be prolonged.

## Oysters.

I found it very difficult to procure accurate returns of the extent and value of the opster fisheries. The principal beds being in the vicinity of Charlottetown, many persons occasionally ongage in the business. They sell the oysers they tako either by the busbel unshelled, or shelled by the quart, keeping no account of the proceeds. I have given the value of this fishery as nearly as I could ascertain it, though probably somewhat under the actual amount.

Some infringements of the law occurred, but my endeavours to prevent them were unsuccessful. The station of the nearest wardeu is nine miles from the oyster beds, and. as tbe fishermon use a boat and station a watch on shore, a stranger has very little chance of detecting them. Probably the illegal tishing might be put a stop to by appointing a warden in Cbarlottetown where the oysters are sold.

Trout.
In addition to the recommondations contained in my report of last year, I would suggest that the eighth clause of ::1 Vic., chap. 60, be applied to this Province, as $I$ consider it would be a great benefit to the trout fishery. I received information of illegal fishing being carried on at the mouths of the streams emptying into the ponds at Blooming Point. I wont personally to the places indicated, but without success; subsequently, I employed a man to watch thero, who succeeded in seizing a net set across tho stream, but found no orvincr for it; the illegal fishing, however, was stopped.

## Sulmon.

There has been a good run of this fish; they were up the Winter and West Rivers in large numbers. There bas been no infringement of the law brought to my notice
with regard to salmon.

## Alewices.

"The run" which was opened in the carly part of the season between Bedford Basin and the ponds at Blooming Point, allowed large numbers of theso fish to reach the spawning grounds. On the 121 h and 13 th of June, I examined the ponds at Now London. There are two frequented by alc wires, one near the residence of the Hon. Senator Montgomery, and the other noar Mr. Campbell's mills; the former is sunall with a small run from it which requires to be scoured, after which no fishing should
be allowed for a year or two until the pond is restocked. The other pond is large, with a good stream from it; large numbers of fish fiequent it, but if not protected they will soon be destroyed. I would recommend that a person be appointed at or near Campbell's mille to look after those ponds. The alowives are all used for bait and home consumption; but I was unable to ascertain the quantities taken with anything approaching precision.

All the mackerel taken are sinipped to the United States, except those that are sold at Charlottetown market. These I estinate as equal to from 200 to 300 barrels.

If desired, I will |procure at the Custom House, atter the close of navigation, a return of all the mackerel exported to the United States from all the ports, and forward to the Department. I am aware that parties in Georgetown bought mackerel in Tracadic and Covehead, which may have been cleared from Georgetown, and might this appear twice on the returns.

One American vessel lay in Tracadie harbour all summer, and her crew fished with boats outside; their fare was 150 barrels of mackerel. An American subject also lived on shore, and fishing with one boat took 30 barrels.

On the whole, it appears from the returns, that notwithstanding the partial failure of the cod and herring fishery, the total value of the fisheries of this county for the year 1877, exceeds that of the previous yoar, by the sum of $\$ 87,150.05$; the respective values for these two years being for 1877, $\$ 206,275.10 ; 1876, \$ 119,225.00$.

> Pringe County.-John Clark, Overseer. Tryon, Lot 28.

From this place to Bedeque there are a few boats kept by the farmers who catch herring and mackerel for home consumption, but none for sale. Mackerel come into the Straits very plentifully, but the farmers are too much engaged on their farms to atterd to tishing ; thoy only catch what thoy want for home use.

## Summerside, Lot 17.

This is a smart little business town, where ship building is carried on vory oxtensively, but not much fishing done; allhough there are large quantities of fish sbipped from this port, get they are not caught here, but come in by rail and otherwise.

Some two or three miles from Summerside is Bedeque Bay, once colebrated for the best oysters in the Lower Provinces, but over-fishing has completely extirpated them.

## dunk river, lot 25.

This river empties into Bedeque Bay, and passes out Bedeque or Summerside Harbour. It is said to be the best on the Jsland for catching trout, and salmon come up abundantly in the month of September and remain until late in November, and are very hard to protect from the poachers who come up there in the dark hours of the night disguised so and armed to the teeth that they are hard either to catch or identify; they go there blackened and so disfigured that it is difficult to swear to them. The wardens caught two of them, took their boats and twenty-five salmon, but the men made their escape.

## EGMONT BAY.

This is the next fishing ground. There are about thirty boats and sixty men engaged in the fisbing business. The principal shippers of fish are the Hon. Joseph Arsenault and David Rogers, Esq. The fisherics are not very vigorously prosecuted here, although the mackerel are very plenty outside in the months of July and August; but the harbour not being good rotards the fishing very much. A little dredging would be a great benefit to the fishermen here. From Egmont Bay to the West point there are several rivers and creeks whore trout and salmon frequent, such as Enmore and Pierre Jacques. From Miminirash to North Cape there are Black Pond, Skinner's Pond and Neal Pond, all good fishing stands. At Skinner's pond there are three large stages kept by F. Larkins, Joseph McIntyre and Gilbert Poirier; also eight small stages owned by different parties. At Neal Pond there are
five large stages owned by James Morrisey, Thomas Caio, William Larkin, Angus Gaudet and Alexander Horten, and ten small stages belonging to different parties up to the North Cape. From the North Cape to the Run there are several fishing stages owned by James Datvidson, P. Morrisey and others.

## TIGNIGH BREAKWATER.

This is a very important place. The breakwater built by the Dominion Government answers an excellent purpose, it makes a splendid shelter for boats, and schooners of forty tons can come in and find good shelter from the north-east storms which have proved so destructive to life and property on this shore in years not long gone by. At this breakwater the Hor. J. C. Pope does a large fishing business, and a few chains further south is the establishment of Hall \& Myric. This firm does the largest fishing business on the Island, beside a very large mercantile business.

## WEST POINT, LOT 8.

There is no fishing done here of any importance, the farmers catch what they want to use. But from this to Campbellon, Lot 4, there are several small fishing stages and a great many barrels of both mackerel and herring taken, and some cod and hake; these are all sold to the shippers and accounted for otherwise.

## CAMPBELLTON, LOT 4.

There is quite a fishing business done bere, principally by John A. Matheson Esq., who also carries on a large tishing business at Big Miminigash.

## LItTLE KIMINIGASH, LOT 3.

The IIon. Richard Reid does a large fishing business here; has shipped from this place one thousand barrels of mackerel this season.

## BIG MIMINIGASH, LOT 3.

This is one of the mostimportant fishing places in all this countr. Therc were nearly 5,000 barrels of mackerel, besides cod, hake, bass, and lobsters taken here this season. Tho harbour needs to be improved very much. The can and spar buoy is a great benctit to the fishermen. A number of small schooners and boats from New Brunswick find shelter here. A few thousand dollars laid out in building a breakwater and lighthon: ${ }^{\text {w }}$ would make this the best fishing place in the county.

Fiom IIall and Myric's establishment to Cascumpec Harbour there are several small fishing stages with about 40 boats and 120 men employed in the tishing business. They catch mackerel, herring, cod, and salmon on this shore. The herring and valmon are principally used at bome.

## CASCUMPEC HARBOUR.

This is the only harbour of refuge on this side of the Island where vessels can make in a storm, and it is not as grood as formerly, owing to two other runs breaking out through the sandbills; these runs or harbours let off a great portion of the water in Cascumpec or Holland's Bay, leaving less to pass out of the main harbour, consequently there is less current to carry out the sand, which, during heavy storms lodges on the bar, causing the water to be much less on the bar than before those runs broke out. If these runs could be stopped it would make eighteen feet of water on the bar, where there are only twelve now; eighteen feet was the depth on the bar before these runs broke out. This is a very important harbour, not only as one of refuge, but there are a great many large ships built up those rivers overy year. The Hon. J. C. Pope does a large business at Cascumpec Point; he has launched three this season from his jard at the point.

The Hon. John Yeo builds ships every year up Mill River, Lot 5, and on Lot 10 river. There are several vessels loading produce at the wharves at Cascumpec just now; the harbour is as free from ice as in midsummer.

## CASCUMPEC BAY.

This is a large bay extending from Cascumpec Point, on the north, to Lot 11, on the south, about four miles across, each way, with three large rivers emptying into it, Lot 5, Lot 10, and Lot 11 ; these rivers are very deep, averaging five fathoms of water; and from five to ten chains in width. There are oysters in abundance up all these rivers; most extensive oyster beds; and at the head of the tido on all these rivers trout are taken in abundance, and salmon come up in spawning time.

## the narrows or lennox passage.

This is a narrow streak of water running between the land and the sandhills from Cascompec Bay to Richmond Bay. Down these narrows are very extensive oyster beds between'Squirrel Creek and Lennox Island; the oyster beds are owned by Messrs. Popo and Hunt, where they ship large quantities every year. The next place we come to is Bedford River, which is famed for good oysters.

Up the river is the residence of the Hon. William Richards, a gentleman doing a large mercantile and shipping business. The Honourables Jamos and John Yeo build ships here and do a large businoss otherwise.

$$
\text { PORT HILL, LOT } 13 .
$$

This is where the Honourables James and John Yeo reside; they are extensive shipbuilders and farmers, but never engage in tishing. This place is west of Fichmond Bay.

## RICIIMOND BAY.

This Bay reaches from Port Hill on the west to Prince Town on the east, and from the shore of Lot 17 to Malpee Harbour, and contains several small islands, which are named Hog, Courtin and Fish Islands. Oyster fishing is most vigorously prosecuted in this bay; there were fourteen thousand barrels of oysters fished bere this season and shipped to the Dominion of Canada. Herring are also caught here in abundance during the month of May.

## PRINCE TOWN, LOT 18.

The fisheries are not vignrously prosecuted here, although it is convenient to the outside shore. The inhabitants are too good farmers to attend to fishing. There are only two or three parties who engage in fishing, and they do a very good business in mackerel, cod and herring. There is one lobster factory, owned by Henry McNutt, Esq., who puts up large quantities of lobsters.

The fishing this year has been a pretty fair average catch, especially on the western shore, from Campbellton to the North Cape. Mackerel fishing was much better on the eastern side-the fish were never known to be more plentiful than this season, but would not take bait in the hot weather. The fisheries have been worth about $\$ 47,000$ more this year than last in this district.

In reference to the protection of the fisheries, I have no trouble in this district, with the exception of Dunk River and on the south side of Richmond Bay. At Dunk River it is impossible to keep those old poachers off; the wardens say they cannot protect the river unless the law is more stringent. They should be sent to the penitentiary.

At Richmond Bay I have some trouble to stop them from taking oysters in the close season, there being no wardens on that side of the Bay.

In regard to fisbways, there are none in this district. I brought it to tho notice of the Department last year, but have had no orders to have any built. There are two or three mills that might require them, but as there were none under the local Act, and as I have not been instructed to build any, I have not insisted on having them.

## Return showing the Number, Tonnage and Value of Vessels and Boats and Quantities of Fish, and the Total Number of Men employed,


14.
engaged in the Fisheries; Quantity and Value of Fishing Material ; Kinds \&c., in the Province of Prince Edward Island, for the Year 1877.


Return showing the Number, Tonnage, and Value of Vessels and Boats


Nots.-Fish used for local consumption is included.
engaged in the Fisheries, \&c.-Prince Edward Island.-Continued.


Return showing the Number, Tonnage and Value of Vessels and Boats


Recapitulation of the Number, Tonnage and Value of Vessels and Boats and Quantities of Fish, and the Total Number of Men employed,

engaged in the Fisheries, \&c.-Prince Edward Island-Concluded.

engaged in the Fisheries; Quantity and Value of Fishing Material ; Kinds $\& c$, in the Province of Prince Edward Island, for the year 1877.


## RECAPITULATION

## Of the Yield of the Fisheries of Prince Edward Island, during the Year 1877.

| Kinds of Fish. | Quantities. |  |  | Prices. | Value. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | \$ cts. | \$ cts. |
| Codfish | 13,590 | cwt. |  | 425 | 57,757 50 |
| Herrings ............................. ........ .................... | 9,493 | brls. |  | 400 | 37,972 00 |
| Mackerel...................................... ...................... | 4.1,462 | " |  | 1000 | 404,620 00 |
| Haddock .............................. ....... ................. | 129,048 | lbs. | 4 | 006 | 7,742 88 |
| Hake..................... .............................. ........' | 7,429 | cwt. | " | 350 | 26,001 50 |
| Salmon, Pickled................................ ........... |  | brls. |  | 1500 $C 15$ | $\begin{array}{r}450 \\ 1,460 \\ \hline\end{array}$ |
| do Fresh, in ice........... ........ .................... | 9,440 | lbs. |  | C 15 | 1,416 00 |
| Alewives . ................................. ................... | 745 | brls. |  | 350 | 2,607 50 |
| Trout .................................... ...................... | 33,700 | lbs. |  | 006 | 2,022 00 |
| Bass................ .............................. ..... ........ | 2,200 | " |  | 006 | 13200 |
| Halibut ...................... ......... ........ ........ ........ |  | " |  | 006 | 1200 |
| Smelts.............. ..... ........ ........ ....... .............. | 2,200 | " |  | 006 | 13200 |
| Eels..... ........................................ . .......... |  | bris. |  | 900 | 15300 |
| Cod Tongues and Sounds................................. |  | 4 |  | 700 | 1,634 50 |
| Opsters. ............................. ....................... | 20,850 | " |  | 300 | 62,550 00 |
| Lobsters, preseaved in cans.............................. | 663,900 | cans |  | 015 | 99,585 00 |
| Fish Oil...... ........ ........ ...... ......................... | 8,074 | galls. | " | 065 | 5,248 10 |
| Fish used for local consumption in the Counties of Prince and Kings ......................\| 53,00000 |  |  |  |  |  |
| Total Value of the Products of the Fisheries in 1877 do do do 1876 |  |  |  |  | $\begin{aligned} & 763,03598 \\ & 494_{1} 967 \end{aligned}$ |
| Increase. |  |  |  |  | 268,068 90 |

$\qquad$

No.

## Return of the Number and Value of Vessels, Boats, Nets, \&c., together with


the Yield and Value of Fish in the Province of Ontario, for the Year 1877.


Return of the Number and Value of


Vessels, Boats, Nets, \&c..---Ontario-Continued.


Return of the Number and Value of Vessels.

*Tugs.

Boats, Nets, \&c.-Ontario-Continued.


## Return of the Number and Value of Vessels



Boats, Nets, \&c.----Ontario----Continued,


Return of the Number and Value of Vessels,


Boats, Nets, \&c.----Ontario----Continued.


Return of the Number and Value of Vessels,


Boats, Nets, \&c.-Ontario--Continued.


Retuix of the Number and Value of ${ }^{-}$


Vessels, Boats, Nets, \&c.-Ontario-Continued.


Return of the Number and Value of


Vessels, Boats, Nets, \&c.-.-Ontario-Continued.


Recapitulation of the Number and Value of Vessels, Boats, Nets, \&c., together with the Yield and Value of Fish, in the Province of Ontario for the year 1877.


Nots.-1,345 special permits for angiing were issucd in 1877 ; 90 spears, $\$ 270 ; 12$ trout lines-4,900 rods- $\$ 149$.

Recapirulation of the Number and Valne of Vessels, Boats, Nets, \&c.-Ontario-Concluded.


## RECAPITULATION

Of the Yield and Value of the different Fisheries in the Province of Ontario during the Year 1877.


## No. 16.

## SYNOPSES OF FISHERY OVERSEERS' REPORTS IN THE PROVINCE OF ONTARIO, FOR THE SEASON OF 1877.

## LAKE SUPERIOR DIVISION.

\author{
$\left.\begin{array}{l}\text { Josepir Wilson, } \\ \text { James Dickson, }\end{array}\right\}$ Overseers.

}

Comparative Statement of the yield and value of the fisheries in thiy divition:-


Overseer Dixon reports having visited all the stations in his district and found the fishery laws and regulations well observed. In $186 ;$ there were fiffeen fishery licenses issued and seventcen fishing boats in this division; the catch amounting to 1,502 barrels. This season there wore twelve licenses granted and twenty-one boats fishing ; the catch amounting to 2,94 , barrels, an increase of 1,446 barrels in the catch. About twelve per cent. of the catch was white fish. The principal fishing pursuit in this district during the whole summer is trout; white fish appear 01, the fishing grounds only late in the fall and remain in some localities until the ice t:ated fishermen in Thunder Bay being engaged fishing on the 15 th of Decomber with great success. On that day 700 white fish were caught with a small quantity of nets. In order to ensure better success, fishermen in this part of Lake Superior would require to stay over winter on the grounds, or, at any rate, until the ice forms.

The price of fish is higher in Chicago and other American markets than in Canada; the fish put up for Canadian markets being in poor condition. The fish are pickled in just enough salt as will keep them in cold climates, but when shipped east they spoil very quick. The consed uence is that, farmers having lought one o two packages for home use find that they soon spoil, and will purchase no more. In the United States, merchants will not buy Lake Superior fish unless properly inspected and branded. Were our own merchants to adopt this rule, it would much tend to increase the demand and raise the price of white fish and trout in Ontario. The close seasons were well observed.

Overseer Wilson reports the catch of fish in his division as good, and no noticeable falling off in the yield. The following statement shows, as near as can be ascertained, the quantity and value of tish used for home consumption in this district:-


The elne season for whitefish and salmon trout gives general satisfaction. The extension of the ciose time for speekled trout to the first of May, was attended with beneficial results. This Overseer paid a visit to Nepigon River in August and found everything satisfactory. Angling was better than for two yearsapast, the water keeping in proper condition during the whole of the season. The system of compelling foreigners fishing in this stream to do so under special permits, for which they are required to pay a small fee, continues to work well. Twenty-four permits were granted this season, sixteen of which being to foreigners. The fees received amounted to $\$$ l:, which covers the cost of guardianship. The close seasons were well observed. Mr. P. McIntyre was prosecuted and had to pay $\$ 4.50$ fine and costs, fo: having fished during the close cason in 1876.

## MANITOULLN ISLAND DIVISION.

G. B. Abrey, Overseer.

Statement of the total yield and value of fisheries in this division, for the year 1877:-

Whitefish, brls....................... ............... .................... 1, 368
do lbs.
,
do No ........................................................... 2,000
Trout, brls.......................................................... 1,63:3
Total in barrels................................................ 3,021
Value.......................................................................................20,10
Overseer Abrey reports a far increase in the yield of the fisheries of his division. The close scasons were well obscrved. Captains and Pursers of steamboats are now careful not to accept,any fish suspected of having been caught after the close season. $A$ lont 500 barrels of fish were used for homo consumption in this disteict.

## LAKE IIURON DIVISION.

$\left.\begin{array}{l}\text { James Muir, } \\ \text { A. C. McKinnon, } \\ \text { David MeMastee, }\end{array}\right\} \quad$ Ocerseers.

Statement of the total yield and value of the fisheries in this division for the year 1877.

| $\begin{gathered} \text { Whitefish, } \\ \text { do } \\ \text { do } \end{gathered}$ |  | $\begin{array}{r} 51 \\ 1,181,000 \end{array}$ |
| :---: | :---: | :---: |
| Trout, | b.ls | 2,594 $\frac{1}{2}$ |
| llerrings, | ". ........ | $4,26{ }^{2}$ |
| Bass, | " | 70 |
| l'ike, | " | 2 |
| Pickerel, | " ......... | 524 |
|  | Total in barrels. | 13,409 |
|  | Value. | 109,007 50 |

Overseer Muir makes"no special report, having merely sent the fishery statis-
of his division. lics of his division.

Overseer McKinnon reports a derrease in the catch of fish in his division as compared with that of provious yoars, which is mostly attributable to a slight falling off in the winter fishing. The several close-seasons were well observed, and no vio-
lations of the fishery laws were reported. The present close-time appeard thre
 mend any change. As near as c:an be ascertainerl, about two-thirds of the fish caught in this division are uned for home consumption. Fishermen in this division will not send their fish to American markets so long as they can dispose of it at remunerative prices on olir own markets. Mr. Hilliard has built a good fishway on his milldam, on the Maitland River, near Goderich. It is the only fishway in this division.

Overscer I). McMister reports twenty-five boats engaged in fishing during the year, in his division, with twenty seines and seven thousand rods of trout lines, giving employment to twenty-two men durins the seators. The catch of herring is twenty-tive per cent. below that of last year, whilst in other kinds of fish it is about the same. The decrease in the catch of herring se attributed to a less vigorous prosecution of tishing and incorrect returns. All the fish caurht in this division were sold for home consumption on t'e sut, excepting pickerel which is exported to United States markets. The price of tish was on an average, ten per cent lnwer than in previous years. The close-se:sisn for pickerel is the only one liable to be broken in this district; this was effectually prevented this season by the ice remaining on the shore until the close-season was over.

## GEORGIAN BAY DIVISION.

$\left.\begin{array}{l}\text { James Patton, } \\ \text { Shuel Frazer, } \\ \text { G. S. Miller, }\end{array}\right\}$ Overseers.
$\left.\begin{array}{l}\text { Alex. Proulx, } \\ \text { Wm. McGown, }\end{array}\right\}$ Guurdians.

Statement of the total yield and value of the fisheries in this division, for the year 1877 :-


Mcssrs. Patton and Mills meiely send in the returns of the eateh of fish within their rexpective divisions, and make no special reports.

Overseer Frazer reports the present tishing soason as not so profitable as that of last year. He seems to be under the impression that the pollution ot wtreams by sawdust and mill rubbish has more to do with the diminution of several kinds of fish than is generally supposed to be the case. The close seasons were fairly observed; the stormy weather experienced during tho close-time for whitefish having issisted this Overseer to enforce the law. There is but one fish way in that division, on a small stream in the township of Medante. The value of fish caught and used for home consumption in this division amounts at least to $\$ 1,000$ a year.

## LAKE ST. CLAIR AND THAMES RIVER DIVISIONS.

## $\left.\begin{array}{l}\text { Pbter McCinn, } \\ \text { F. McRae, }\end{array}\right\}$ Overseers.

Comparatite Statement of the yield and value of the fisheries in this divisions :-


Oversecr McCann reports a falling off in the cateh of fish for the last two seasons in the River Thames, west of Cashmere. Fishermen differ in opinion on the causes of such decrease. Sime attribute it to high water at the time when pickerel runs; others to the thicknes of ice, almost closing the channel of the river, or to too many liots for the size of the strem; but they all agree in stating that stopping seinehauline for coarse fish during the close-seamon will incroase the catch. There were more fish caught in the castern portion of the river this season than for several years past. The heavy ice going down the river last spring slightly injured some fishways, but they were all efficiently repaired during the summer except one, which is now being completed. Several complaints were made to this Overseer last prins with regard to the refuse from oil works going into the river. He visited the several works, and the proprietors, with the exception of three; tanked the most objectionable parts of their refuse; the three will, it is expected, soon do the same. By visiting the works once a week, Mr. Mecamu experts to be able to put an end to all complaints, and no material injury will be caused to tish in the stream.

Overncer Mclaze sends no report.

## DETROIT RIVER DIVISION.

Ed. Boismier, Overseer.
Comparative Statement of the yield and value of the fisheries in this division :-

|  | 1876 | 1877. |
| :---: | :---: | :---: |
| Whitefish, brls. |  | 615 |
| do lbs.. |  |  |
| do No | 73,275 |  |
| Trout, brls. |  |  |
| Herring, " | 60 |  |
| Maskinonge " |  | $\pm$ |
| Bass, " | 2 | 14 |
| Pike, " |  |  |
| Pickerel, " | $\pm$ | 10 |
| Coarse Fish, " | 117 | 217 |
| Total in barrels. | 1,051 $\frac{1}{2}$ | 860 |
| Value. | 02550 | 800 |

Overscer Boismier reports a decrease of fully one-third in the catch of whitetish in Detroit River and in that portion of Lake Erie comprised in his division, as compared to that of last year. He also states that the fish-breeding establishment at Sandwich did good work this season in spite of several obstacles thrown in its way. From $20,000,000$ to $25,000,000$ egge were gathered, and the number of good eggs now in process of hatching will amount to atbout $21,000,000$. Considerable trouble was experienced in obtaining spawn, owing to the refusal of some fishermen to draw out the fish at the proper season. Eggs were obtained from the following parties: D. Norvell, Esfl,Turkey Isfand; A. Rankin, Esq., Bois Blanc Island; Messrs. Meloche, Gerard and Clark, Fighting Island; and Mr. Daniel Meloche, Detroit River.

## POINT PELEE DIVISION.

## William Prosser, Guardian.

Comparative Statement of the yield and value of the fishries in this division :-


Dir. Prorm stater that the quantity of tix caught this season cannot be compared with that of prevors years, it being late in the spring when pound-nets were set, owing tusormy weather. Several pounds canght nothing, others were torn and made useles, laring the bost part of the fishing season Fall fishing did not prove much better; the same stormy weather was experienced, heavy gales blowing alternately from east and went, dentroying nets and causing all sorts of damage.

## POINT PELEE ISLAND DITISION.

Janes Cummins, Guardian.
Comparative statement of the yield and ralue of the fisheries in this division:$1876 . \quad 1877$.
Whitefish, brls
do 1 ls......................................... 1,800 10,400
do Nos
Trout, brls. Herring, " .......................................... 201 90
Maskinorge, "

Pike, "
Pickerel, "
Coarse Fisb, " ............................................ 14 15
Total in barrels................ $\frac{966}{} \quad \begin{array}{r}167 \\ \text { Talue.......................... } \$ 1,36100 \\ \$ 1,08000\end{array}$

## LAKE ERIE DIVISION.



Comparativo statement of the yield and value of the fisheries in this division :-


Overseer McMichael, whose division comprises that portion of Lake Erie fronting on the county of Kent, reports a decrease in the catch of fish, caused by stormy weather during the fall months. Several pound-nets were carried away; the greatest part being seriously damaged. Some were destroyed three times during the fishing season. The close-seasons are reported as being strictly observed, and fishermen give no trouble on that account. All the fish caught is disposed of in the locality. This Gverseer recommends a change in the close-season for whitefish, and that the same be extended ten days later, so as to read from 10 th to 20 th of November.

Overveer Bingham, who has charge of that part of Lake Erie fronting on the County of Norfolk, reports the catch of fish as being greater this year than in 1876, owing to a larger number of fishermen being engaged in this business. The season was, however, a sevcre one, the ice being very late in breaking up. Very few fish were caught during the spring. By the latter part of the season, heavy gales of wind occurred which caused great damages to pound-nets set in exposed localities. Some of them were entirely blown out. Had pounds been uninjured, the catch would have been considerable, the fish having visited the shores of this division in large numbers immediately after the gales, when some nets were still under repairs. The greatest portion of the fish caught in this division was taken by two pounds.

Overseer Law's district comprises the Grand River, from its mouth to Calcdonia, as well as that portion of Lake Erie fronting on the county of Haldimand. He states that the yield of the fisheries in his division was larger than in 1876. Angling was also very good, and a large number of fine maskinonges were caught with hook and line. A small percentage of the fish caught in this tivision are neer for local consumption ; the rest is exported to the States. Violatious of the fishery laws are frequent between Dunnville and Cayuga, but it is a difficult thing to detect offenders, as the people will give no information to the fishery officers.

## NIAGARA RIVER AND LAKE ONTARIO DIVISION.

## J. W. Kerr, Chas. Gitlchrist, $\}$ Overseers. Andrew Hughson, $\}$

Comparative Statement of the yield and value of the fisheries in this division.-


Overseer Kerr reports that during the season fifty-one persons were fined for violating the fishery laws in his division, and that he also confiscated about 500 yards of gill nets for similar offences. The total value of the fisheries in this division during
the soason amounts to $\$ 28,943$, which compared to last year's yield, shows an increase of $\$ 7,65 ; .50$. The catch of siscos was large. These fish seem to have adopted the feeding ground of the whitefish in Lake Ontario and driven the latter away. The catch of whitefish and salmon trout was unusually small. This is partly to be attributed to the large quantities of these fish being shipped from Meaford, Collingwood and Southampton, and other places in Georgian Bay, to Toronto, deterring Lake Ontario fishermen from carrying on this branch of industry with as much energy and activity as heretofore. Herring fishing was fair and the fish caught of a superior quality. Burlington Bay was teeming with ypawning herrings during the latter part of November and early in December. Fishermen who obtained spearing licenses did not, however, make no goni a catch as in proious years, owing to stormy weather. Sperkled trout still abound in the upper branches of Credit River, and they require protection. Saimon were accidentally caught at several places in Lake Ontario ; one was caught at the month of the Rouge, and liberated; Mr. Black caught two at Frenchman s Bay ; Mr. May, of Toronto Island, also caught two in a hauling seine and one in a gill net. A young salmon was caught by Mr: Gray, of Toronto, and liberated. At Winona, a salmon weighing five pounds was caught in a herring net. At Burlington Beach nine or ten salmon were caught in nets, the largest weighing seven pounds. This goes to prore that salmon are on the increase in these waters. At Duffin's Creek, salmon were seen from the 19 th October up to the "4th November, when the last took their departure. Mr. Ferr himself counted forty spawning beds, and there appears to latve been about fiftr-fire tish in the ereek. In Lyons' Creek, six salmon beds were observed between the Grand Trunk Railway Bridge and the Kingston Road. Three fishways were constructed during the season on Credit River, which are now in good working order; others still require to be built.

Mr. Hughson states that mill owners on the Credit River are now doing great efforts to comply with the law respecting sawdust and mill rubbish. He also reports having successfully prevented illegal fishing during Sundays and the close-seasons.

## LENNOX AND ADDINGTON COUNTIES DIVISION.

Alfret Tinight, Ocerseer.
Comparative Statement of the yield and value of the fisheriea in this division :-


The above returns show a large falling off in the yield of fishories. The fishermen complain of the scarcity of fish this season, bnt no reason can be given to explain the large decrease in the catch. The present Overseer was appointed to replace Mr . Ralston.

PRINCE EDWARD COUNTY AND BAY OF QUINTE DIVISIONS.


Comparative Statementr of the yield and value of the fisheries in these divinions:-


Overseer Wilkins states that the yield of the fisheries in his division shows a decrease when compared with that of last year, and attributes this to uniform hot and dry weather prevailing during the summer which caused the fish to abandon the shore and seek deeper and cooler water. He also reports having inspected all the fishways in his division, and found them in good order. Large salmon were to be seen in the Moira, Trent and Shannonville Rivers, the result of the fry placed there by Mr. S. Wilmot some three years ago.

Overseer Hicks reports that the fishery laws were well ob ierved in his division. The catch of coarse fish, such as mudents, bullheads, \&c., wat unsuccessful.

Overseer Plews reports the wat of whitefish and salmon-trout as small, but the yield of pickerel and bass as beiug much larger than last yeat: The close-seasons were well observed. This Overseer, as well as Messrs. Pitlen, Hutf and Conger attribute the decrease in the yield to stormy weather which prevailed during the spring and the early part of the fall.

## KINGSTON DIVISION-WOLFE ANI AMAERST ISLANDS.

P. Kiel, Overseer.

Comparative Statement of the yield and value of the fisheries in this division:-

| Kinds of Fish. | 1872. | 1873. | 1874. | 1875. | 1876. | 1877. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Whitefish, brls..... ...... ................ | 310 | 151 | 302 | 694 | 256 | 311 |
| do Ibs...... |  | 1,500 | . | ............ |  |  |
| Trout, $\begin{gathered}\text { do } \\ \text { No......... }\end{gathered}$ | . | 3,950 | ..... ....... |  |  | 310 |
| Trout, brls..................... . | 554 | 418 | 272 | 325 | 217 | 310 |
| Pike and bass, bris................. | 12 | 12 | ........ | 12 | $\ldots$ |  |
| Pike and bass, brls............ Pickerel do | 77 | 182 | 591 | 317 | 46 | 133 |
| $\begin{array}{ll}\text { Pickerel } \\ \text { Coarse fish } & \text { do } \\ \text { do }\end{array}$ | 27 | 56 | 110 | 172 | 46 | 142 |
| Coarse fish do | 166 | 217 | 639 | 647 | 564 | 539 |
| Total | 1,146 | 1,036 | 1,914 | 2,167 | 1,129 | 1,435 |
| Valne.. | \$8,310 | \$8,915 | \$11,100 | \$15,942 | \$7,446 | \$9,741 |

Overseer Kiel reports that several fishermen had to give fishing up in June and July, which is the best time for whitefish in this division, owing to the low prices offered. In some instances they were oven requested by fish dealers to suspend fishing for a night or so at a time, as the latter found it impossible to dispose of the supply on hand. The yield does, nerertheless, in this division, exceed that of last season by 306 barrels, the total value being $\$ 9,741$. This Orerseer states that the fish are increasing rapidly in his division. There appears to be in Lake Ontario double the quantity of whitefish and salmon-trout which were noticed ten rears ago. This pleasing state of things Mr. Kiel attributes to judicious fishery regulations and to their strict observance. The only places where signs of decrease are noticed are in some bays wherc hoop-nets have beon fished excessively. Mr. Kiel gives it as hisopinion, based on perwonal experience, that the drowned lands along the Ridoau Canal and some of the back lakes are the only places where hoop-nets should be allowed; theso waters being inhabited only by catfish and eels.

A temporary guardian was engaged at a small sum to watch Gold Lake. Hereports that the law was well observed.

## PRESCOTT, CORNWALL AND GAN.INOQUE DIVISIONS.

## $\left.\begin{array}{l}\text { John Mooney, } \\ \text { John D. McMillan, } \\ \text { Hugh Thompson, }\end{array}\right\}$ Overseers.

Overseer Mooney reports that the fishery laws were faithfully complied with. It requircs great activity to prevent illegal tishing. The people appear in general to be well satisfied with the law and cheerfully carry out its dispositions. The fish is evidently on the increase.

Orerseer McMillan, who was appointed during the present season, reports the fishery laws as being well observed.

Oversecr Thompson reporls no violations of the law, with the exception of some attempted spearing by Amcricans during the close-season. The poachers werechased away.

## MCSEOKA DIVISION.

Wm. E. Foor, Ouerseer.

Comparative statement, of the yield and value of the fisheries in this division :-
$1876 . \quad 1877$.

| Whitefish, | rrels | 8 | $\stackrel{\square}{1}$ |
| :---: | :---: | :---: | :---: |
| Trout | do | ${ }^{6}$ | 15 |
| Flerring | do | 18 | 17 |
| Pass | do |  | 31 |
| Pickercl | do | 2 | 32 |
|  | 'Total | 34 | 43 |
|  | Value | 240 | \$310 |

Sispenty-two gill net licenses were issued during the present season, five of which, being for commercial parposes. paid a fee of $\$ 2$ each. The rest were ssued free. Thirty-nine angling permits ware also granted. Mr. Foot says he has every reason to believe that the dishery laws were well observed, and hat illegal fishing and spearing are now the exception in his division. He contiscated only one net during the whole year. The settlers now fully realize the adrantage of having the fishery regulations well observed.

## LAKE SIMCOE DIVISION.

$\left.\begin{array}{l}\text { A. Mckenzie, } \\ \text { W. R. Young, }\end{array}\right\}$ Overseers.
Combarative Statement of the yield and value of the disheries in this division:-

| Kiuds of Fish. | 1872. | 1873. | 1874. | 1875. | 1876. | 1877. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Whitefish, brls ............ ............... | 60 |  | 116 | 124 | 5 | 268 |
| do No............................. | ..... | 4,940 | .. | 3.7 | 19,250 | -1... |
| Trout, brls ...............' ................ | 46 | 2,930. | 308 | 347 | 17.7.... | 619 |
| do fresh, No.... ................ ........... | 7 | 2,.9..... | 30 | 20 | 17,875 30 | -. ${ }^{\text {. }} 4 . . .$. |
| Maskinonge, brls ......... ...... ............ |  | 1 | ... ..... |  | 2 |  |
| Bass and Pike do ............. ..... ...... |  | 75 | .......... | .............. | 60 | 1 |
| Pickerel do ............. ..... .... |  | 2 |  | ........ ...... | 1 | .............. |
| Total in barrels........... | 113 | 203 | 454 | 491 | 543 | 933 |
| Value.. ..................... | \$1,010 | \$1,677 | \$4,390 | \$4,836 | \$5,8.30 | \$9,100 |

Overseer McKenzie states that he was unable to detect any illegal fishing during the" season. In accordance with instructions from the Department, he notified mill-owners on the Boyne, Nottawasaga, Pine and Mud Rivers, to build fishways on their dams. He reports fish-passes being built on all the streams, with the execption of two, which are in course of construction. Several mill-owners had to be prosecuted for allowing sawdust and mill-rubbish to run into the water, the "isult being that these rivers, which are amongst the best trout streams in the Province, are now comparativ ly free from this nuisance. Finting was good. Mr. McKenzie calls special attention to the number of large herinsis caight with hook and line. A man is reported as having caught alone ay man as 300 in one day. This abundance of fish was of great assistance to the poor of Barrio during the season.

## LAKE SCUGOG DIVISION.

## A. J. Harbington, $\underset{\text { John McAllister, }}{\text { Anerseers. }}$

Comparative statement of the yield and value of the fisheries in this division :-

|  | 1876. | 1877. |
| :---: | :---: | :---: |
| Maskinonge, barrels. | $47 \frac{1}{2}$ | 120 |
| Bass, barrels ........... | 3 | 2 |
| Total in barrele. | $50 \frac{7}{2}$ | 122 |
| Value.. | 50 |  |

The waters of Lave Scugog being reserved for the natural propagation of fish, and no netting being allowed therein, five hundred and thirty-one angling permits were issued to Canadian subjects. Fisbing was better than last year. The fishery laws were well observed.

## RICE LAKE DIVISION.

## Charles Gilchris't, Overseer.

Comparative statement of the yield and value of the fisheries in this division:-


Mr. Gilchrist issued 733 angling permits in this Dirision, 42 of which wore granted to foreigners; the fees thereon anounting to $\$ 140$.

## PETERBOROUGH AND VICTORIA DIVISIONS. <br> $\left.\begin{array}{l}\text { George Cochrane, } \\ \text { Janes Sutherland, } \\ \text { Daniel Bowen, }\end{array}\right\}$ overseers

Statement of the yield and value of the fisheries in these divisions for the year 1877 :-

$$
\begin{aligned}
& \text { Trout, barrels } 1877 . \\
& \text { Herring, barrels................................................ } 50 \\
& \text { Maskinonge, barrels............................................................... } 75 \\
& \text { Bass, do .......................................................... } 80 \\
& \text { Coarse fish do .................................................. } 30 \\
& \text { Total barrels........................................... } 240 \\
& \text { Value } \\
& \$ 1,420 \quad 00
\end{aligned}
$$

In Mr. Cochrane's division, the yield of the fisheries is reported as being somewhat below that of last year, owing to the low state of the water. Sawdust continues to ber thrown from mills into the stream, but the practice of throwing edgings has been abandoned. The close-soasons were well kept.

Overscer Sutherland reports the fish as increasing in the streans and lakes of his division. This he attributes to the practice of throwing sawdust and mill-rubbi-h from the mills into the water being abandoned. The close-seasons were well observed. Ten thousand salmon fry were placed in Balsam Lake last summer, aid will, it is hoped, thrive there.

Mr. Bowen reports the fish as increasing in his division, owing to the fishery laws being genorally well observed.

The fish caught in these divisions are mostly used for home consumption, very few being sold.

## CHARLESTON AND GANANOQUE LAKES DIVISION.

David Hamilton, Guardian.
Comparative statement of the yield and value of the fisheries in this division :-


Mr. Hamilton issued 18 angling permits, five of which to foreigners; the proceeds thereon being $\$ 21$.

The fish do not appear to be materially decreasing. This Overseer states, however, that a large number of whitefish were found dead in Lower Beverly and Charleston Lakes last summer, owing, it is presumed, to the impurity and shallowness of the water, which was retained for the mills at the lower end of the Upper Beverly Lake. The fishery laws and regulations, as woll as the close-seasons, were well observed.

LANSDOWNE, ROCKPORT AND BROCKVILLE DIVISIONS.
$\left.\begin{array}{l}\text { John Wallage, } \\ \text { Henry Hunt, } \\ \text { Jus. L. Thonpson, }\end{array}\right\}$ Guardians.

The local guardians of this division agree in reporting the fish on the increase: and attribute this desirable state of things to the prohibition of oet tishing. The fishery laws were generally well obervel, excepting a few caso of spearing, which were delected and soon stopped.

## MISSISSIPPI RIVHR AND LAEE DIVISION.

James McFadien, Oeerseer.
Comparative statement of the yield and ralue of the fisheries in this division :-

|  | 1876. | -1877. |
| :---: | :---: | :---: |
| Bass, barrels | 12 | 18 |
| Pike do ... | 150 | 270 |
| Piekerel, barrels . | 25 | 25 |
| Coarse Fish, barreis. | 30 | 70 |
| Total barrels. | 217 | 383 |
| Vatue...... | ,055 | \$1,845 |

Overscer McFadden reports an increase in the yield of the fishories. This he attributes to the large numiver of persons who had to resort to fishing for food, owing to want of other employment. Fines, amounting to $\$ 22$, were imposed during the season upon persons who violated the law; two nets were also confiscated.

MADAWASKA RIVER AND LAKE DES CEATS DIVISION. $\left.\begin{array}{l}\text { Joun Lron, } \\ \text { Andrew Telfer, }\end{array}\right\} G u a r d i a n s$.
Comparative statement of the yicld and value of the fisheries in this division : -


Both Messrs. Lyon and Telfer report the close-seasons as having beon well observed in their divisions.

No. 17.

## REPORT OF THE INSPECTOR OF FISHERIES FOR BRITISH COLUMBIA FOR THE YEAR 1877.

Hon. A. J. Smith,<br>Minister of Marine and Fisheries, Ottawa.

Viotoria, B.C., 21st January, 1878.

Sir,-I have had the honour to address your Department everal times during: the past fortnight on matters connected with the fisheries in this Province, in anticipation of the General Report, which I now respectfully submit.

As you will perceive by the accompanying return statement, a very great increase in the value of the fishing industry has signalised the past year, due partly to the extension of the amount of capital invested, and the increased number of firms engaged; and partly to the heavy run of salmon which last summer ascended the Fraser. For this fluctuation in the annual iun ot the walmon, no cause, other than natural causes, can be assigned; and in considering there natural causes, due regard must be had to the peculiar nature and habits of the salmon frequenting these waters, to which attention has already more than once been drawn.

This fluctuation, or, in other words, this periodical increase or deficiency of supply, has been noticed ever since the early settlement on tho Upper Fraser by the North-West Company in 1806. It has been observed by myself and former colleagues of the Hudson's Bay Company, including the late Sir James Douglas, for very many years, and therefore, I trust, will be accepted as an entablished fact ; and equally, therefore, to ascribe the strange variation to adrentitious causes, of recent origin, is to err, as I conceive, very gravely.

While anxious to avoid the appearance of dogmatism, I am constrained again to ask your attention to the faet already so often insisted upon by me, and which I now re-assert even more forcibly than before, namely: that these salmon, unlike their Atlantic congeners, do not return to the sea after spawning; they perish after that natural function is performed.

It follows that they must remain in the salt water until they attain maturity, when, impelled by the natural instinct, they resort to the places where they were bred, there to consummate the final act of their existence. I say it follows, for it is to be noticed that in the ascending shoals none but mature fish are to bo discovered. The individuals of each distinct shoal-however much the several varietiey of fish may differ from each other, as they do, in size and quality-do not differ among each other. They are all of the same, or nearly the same, magnitude; but all of equal age, so far as the conditions of size and maturity can guide the judgment. There is no variation of grilse, or other definition, by which the salmon of the Eastern, American or European streams may be distinguished.

Meanwhile, the immature fish of all the different varieties may be caught in all the narrow waters along the sea coast, varying in size and deveiopment, presumably us more or less advanced towards maturity. In these localities the salmon oagerly take the bait; but after entering the rivers neither the bait nor the artificial fly has any allurement for the ascending fish.

The inference to be drawn is, that the supply of spawners for each year will depend upon the number of young fish that descend to the sea some years previously. What the precise period of this cycle may be it is not easy to define; for accidental causes of some inscrutable nature seem to interrupt the rotation $1-e 19$
occasunilly. $M_{y}$ own opinion, and that of most others who have given attention to the suliject, is, that four years may be stated as the most probable period; and this view coincides with the observations formerly made by the officers of the Hudson's Bay, generally, in the interior. But, as I have said, it is impossible to account satisfactorily for the disturbances which occasionally occur.

I have gone somewhat minutely into the question of the death of the salmon of these water's after spawning; firstly, because I consider the fact to bear directly upon the fact of salmon preservation or propagation, by artificial means in this Province; and, secondly, because the assertion of the fact bas, I am aware, been received with some incredulity abroad, and is still, perhajss, doubtfully accepted, eren bere, by some wbo, with limited means of observation, either cannot perceive, or pertinaciously ignore facts which a more extended, or more accurate, observation would teach them are unimpeachable. In order, however, that my unsupported testimeny alone should not remain, I refer you again to the references made in my Report of last year to the Report of the United States Commissioner of Fishrries, 1872-3, pages 191, \&c.; and 1 subjoin, further, an extract from a work which 1 have only recently received from the Smithsonian institution, in which the observation of the fact is again distinctly stated.
"A substantial timber grating was built across the stream (the McLeod branch of the Sacramento) somewhat in the style of that used by Professor Rasch in the fiords of Norway. Below the tence large corrals or pens were erected, into which the salmon were gathered and retained until their spawn was needed. The grating was an entire bar to the salmon, no opening being left to permit their passing above it, and the expeciment satistied Mr. Stone that salmon which ascended the river to spawn never riturned to the sea. The namber which had passed alove the grating belore it was finished, he estimated at hundreds of thousands, while thousands crowded against its lower sides when completed, vainly attempting to pass. As to their return, he failed to discover a single live salmon, though thousands of dead ones lodged against the upper side of the grating." Professor Baird's Report to United States Commission of Fisheries, 1573-4, and 1874-5, page 23 .

The above, I may add, corresponds with the statement of Mr . Stone previously referred to, and corresponds also with observations made by myself during a series of years, long past, on the $\mathrm{U}_{\mathrm{j}} \mathrm{per}$ Fraser, under the most favourable circumstances, and with a result no less conclusive.

To the question of the erection of a breeding-house for salmon in this Province, I have already, on several occasions, adverted; and only recently I hed the honour to submit a proposition wherein the subject was brought more directly and tangibly Letter, 7 th before you. As stated in my letter, the objects to be attained are Jan., ${ }^{1878-}$ chiefly: (1) To secure a regular annual supply of fish, supplementary of the irregular matural supply before noted; and (2) To introduce the large and valuable salmon (S. Quinatt) of the Columbia River. Both these objects are of importance; but, in addition to these, there is the propagation of other kinds of fish, which might advance collaterally, though subordinately, to the first. Should the proposition submitted to you be farourably encertained, I respectfully suggest that an expert from Ottawa, who has adoquate prac ienl experience, should be cont on at as early a date as possible, to make the neccessary observation and select a site. There is no one here or hereabout who has any practicable knowledge of the subjent, though, doubtless, here as elsewhere, many a sciolist, who, if asked to undertale the work, would readily do so, and as readily spoil it.

For procuring the spawn of the $S$. Quinatt there is no position so favourable, I think, as that singested by me in my last year's report, namely, the Anon Lakes of the Columbia River. Thence, by the way of the Hagle Pass, the impregrated spawn might be ea ily conveyed to a hatchory situated on the waters of the Thompson tributary of the Fraser. A point specially favourable for the purposes of such an establishment, it struck me during my examination of the past summer, is near the issue of the Gicat Shashwap Lake, or somewhere in that vicinity. The docision
of this question, however, in the event of proceedings being taken, would necessarily rest with the experienced person who may be appointed to superintend the operation.

## ALLEGED ABUSES OF THE FISHERY DURING THE PAST SEASON.

With regard to these, while replying to your communication of the 27 th August last, 1 ventured generally to state my conviction befor hand, that some of the statd abuses did not in reality exist, and that others, if at all existing, were, at best, gravely exaggerated in the representations that had been made to you. Referring Letter, 27th generally to the tenor of that letter, I may now state that, on enquiry, I Sept, 1877- have since found that the view I had taken was not wide of the truth. To B. deal briefly with the charges, seriatim.

1. The charge that the Indiaus destroy millions of young salmon which they dry for food, and also that they wastefully destroy salmon in the spawning grounds, is, $[$ A. Grégoire's conceive, sufficiently disproved by the deposition of Mr. Antoine Grégoire, Statement, already forwarded. I may add that at erery point where I have been,
${ }^{24877}$ sept. I have enquiredrigid! and, notwithstanding the positive assertion made, I have yet failed to discover where the practice exists. Of course, should it be fonnd to exist anywhere. measures will be at once taken to stop it; for the present I an quite incredulous of the charge. With regard to the rest of the statement, as affecting the Indians, I have already more than once expressed my conviction that their modes of catching the salmon in the upper waters-to them anecessity for food--is inobjectionable. Any interference with the natives, therefore, under hastily formed judgment or frivolous pretext, would be imprudent as well as unjust.
2. With regard to the alleged waste at the Canneries.

When I first saw this charge (which by the way appeared in the newspapers) I at once inferred that the reported destruction of fish arose from some accidental cause; for I could not admit the possibility that the shrewd owners of the canneries wonld seek to buy the salmon, only to throw them away afterwards. The letter of Messrs. Fiblayson \& Lane in reply to the written enquiry which I at once made on the subject, I have already forwarded, and to it I respectfully refer you. Yon will thence perceive that, owing to an over-catch of salmon, in consequence of the enormous rush, ard the number of nets out at the outset, they were unable to cure the fish fast enongh, anl.t the weather being very hot, a large number spoiled upon their hands, and were necossarily destroyed. To guard against a recurrence of the accident, the number of nets was at once reduced, and no further loss occurred. At another cannery, too, (Messrs. English \& Co., I believe) a loass was sustained by the scalding, accidently, through discharge of steam, of a boat load of fish while in tow of a small steamer. With these exceptions I have been assured no serious loss was sustained; and I have aloo been assured, in the strongest manner by the owners of the differont canneries. that no wanton waste was permitted. At the same time I do not question that, for wint of an authority on the spot to enforce the observance of necessary restrictions, much disorder, and probably consequent waste, prevailed; and it was under this view that I had previously represented to you the expediency of having a resident fishery -,fficer at New Westminster. The authority to make this appointment I afterwards received, but to lato in the year to make it arailable for the past season.
3. With regard 10 the curing of the bellies of the salmon, and the alloged throwing away of the backs.

As mentioned in my letter previously referred to, it has long been partially the practico of the fish-curers on the Fraser to preserve these different portions of the fish separately, by salting. I have since ascertained that, at the canneries, the bellies of some of the fish are cured by salting, while the backs are canned, being found to serve the purpose as well as the unmutilated fish. This was the case in the instance explained by Messrs. Fiulayson \& Lane. Tbe bellies of the fish had already been secured by salting; the backs alone had to bo sacrificed-not of set purpose, but reluctantly, under the accidental circumstanoes rolated.

Letter, 12tin 4. Upon the subject of fish-traps, I have already reported. One trap Sept., ${ }^{1877}$ - only was erected on the Lower Fraser, and this, with my sanction, "profisheries. On that it did not interrupt the navigation," or interfere with the other was a failure. Tuo salmon only were caught; the trap was abandoned, and speedily went to pieces, I am informed. Indeed, the whole matter has become, in connection with the needless alarm hastily expressed by one or two individuals, a topic of ridicule in New Westminster. I do not think it likely that the scheme of erecting two fish-traps in that locality will again be attempted; but I perceive nothing in. the General Fisheries Act which declares the system, it attempted, to be illegal The contrivanco in question is not a trap-net, the use of which I notice is probibited, but a fascine arrangement, which is permitted (section 12, page 9).

## LEASES.

An application has been made to me by Mr. J. S. Deas, the proprietor of a cannery situated near the mouth of the Fraser, for the privilege of leasing for a term of years the exclusive use of certain "drifts" for the catching of salmon in that vicinity. This application I forward. Mr. DeCosmos, M.P. for Victoria, also spoke to me recently about a person, not named, who was desirous of obtaining a similar privilege at some point not specified along the coast. In view of the complications connected with existing Indian rights, and for other reasons, I think that this question should, for the present, be left in abeyance; and in any case be very cauliously Letter, 3 rd entertained hereafter. I refer you to my reply to your enclosure of 13 th Jan., 1878 - November last, containing copy of the letter to you of the Deputy of E.
the Minister of tho Interior concerning Indian fishing-rights.

## FISH-WAYS.

There is only one fish-way in this Province, none other, so far, having been rejorted as necessary. This is at the dam at the outlet of Shawingan Lake, alluded to in my Report of last year. On mentioning tho subject to Mr. S:uyward, the proprietor of the dam, that gentleman at once andertook to construct the way. I have not yet had the opportunity of examining it; but as minute instructions and a diagram were supplied to Mr. Say ward, I assume it to be effective.

I respectfully submit some suggestions for the repeal or modification of certain portions of tho lisheries Act, in itw application to this Province.

1. Clause 7, page 4, (Close Season for Salmon.)

That this clause be annulled. Its application would almost neutralize the fisheries. The salmon, especially of the Fraser, do not compose a single shoal of one variety, running continuously for a certain period; but a series of shoals of widely different character, following successively, at intervals, from errly spring till late in the autumn.* Were any fixed date of cessation of the fishery to be insisted on, the later shoal, running at the best irregularly, would escape entirely, the product of the fishory would be greatly reduced, while no ulterior benefit of any kind would be produced.

[^1]Newcastle, Ont., September 19th, 1877.

## Mi. Isaac Sileasgreen, Fishery Officer,

 Newcastle, N.B.Sir,-I am in receipt of your letter of the 15th instant, and am glad to hoar that the orders given you have been completed, and that you have got the House in good order for the coming season. The pipes you saly are all right; this will be found a or reat inprovement, as you can find out at once if anything goes wrong with the water. Did you fix the dam at the head, and did you put the grating on the entrance to the piles so that no large matter can possibly enter the holes? If not, have it done at once.

You mention having talsen some fish, but that ome died, and that others were let go on account of fungus growing upon them; you siy bot weather and want of motion in the scow caused this. I shonld think this loss coald not occur if the fish were not kept too long in the seow. Mr. Mogan informs me of the loss of fish, but says that small boxes had been made, which he thinks will do better; I hope they will, but the greatest secret in preventing fungus from growing npon the fish is to hadle them carefully. If they are roughly handled in taking them out of the traps or net. and when putting them into the seow, it is quite impossible to save them-they should be dippod out with a very fine meshed net, say not more than one inch mesh, or else with a plain cotton bag on a hoop; it is the nots of the meshes that scrapo the scalos off. Avoid everything that will seratch the fish or bruise them.

I think you had better let the water in your troughs and put your trays in them so that they will get perfectly clean from all effect: of varnish, \&c.

Don't fail to let me know every few days, what you are doing, both in the numbers of parent fish you have coucht, and if anything is required to make a porfect success at your establishment. Erecything must be done to make it a perfect success this year. You and Hogan must work harnoniously together in the talsing and carrying of the salmon to the ponds.

Expecting to hear regularly from you,

Newcastle, Ont., October 1st, 1877.

Mr. Isaac Sheasgreen,<br>Fishery Officer, Newcastle, N.B.

Sir,- Yours of the 24th September just reccived, and I notice you have 101 pareat fish on hand. This is very well, but do your utmost to get 150 or 200 females before season closes. Write or tclegraph, me often, how you are succeeding in the catching of the fish; also, let me know immediately when the first of them are ready to spawn ; do this by telegraph as I shall be anxious to get the news as quickly as possible, as I may run down to see you then, if in my power. I am glad that you and Hogan are doing so well. Don't send trays or anything clse away from the works without my positive orders. Use your best endeavour to make a successful business this fall and winter.

I am,<br>Yours, \&c.,<br>Samuel Wilmot, Supt. Fish Culture.

Mr. John Hogan,<br>Fishery Officer,

Newcastle, N.B.
Sir,-I am pleased to hear of your success in catching 289 salmon, as given to me in your telegram of yesterday. I think you had better get about 350 salmon, say one-half of these would be females, making 175 ; these, at say 6,000 eggs each would make one million of eggs and upwards, which would pretty well fill up the establishment. I am told by Sheasgreen that a few salmon have died from the effects of the very hot weather you have had. Of course some few will get injured and die, but with extreme care you should not loose many. Bc sure and take all the care you possibly can. I expect the Minister will visit you this fall; and as there has been so much said against the establishment and the Miramichi River generaily, I would like that every possible success should attend your work and mine at the BreedingHouse. I have instructed Sheasgreen to do everything in his power to carry this out, and I feel assured, with your assistanco and with Sheasgreen's clnse attention. I can make the Breeding-House a success this season; but I shall rely upon your good support in all matters; and you must act in concert with Sheasgreen, because a house divided against itself cannotstand. I an sorry that such a very strong feeling is operating against your old friend, Venning; be will, however, be relieved from any faultfinding this season concerning the Breeding-House, as it has been placed wholly under my control, and I look to you and Sheasgreen to assist me in making it a success. Write me often.

I am,
Yours very truly,
Samoel Wilitot,

$$
\text { Supt, } F \cdot C_{0}
$$

P.S.-Since writing the within, I have spoken to Parker, who was with you the Year so many eggs were laid down, and he says there were that year nearly 400 salmon taken, and that he laid down about one and a half million of ora. If it is convenient, then, you might catch between 350 and 400 salmon; this will give us a good supply. I will write Sheasgreen to take the utmost care of them at the ponds. Yours, \&c.,
S. W.

## APPENDIX B.

(Circular.)
Newcastle, Ont., ${ }_{2} 1$ st. October, 1877.
Sir,-Tho following instructions a forwarded to gou for your guidance in the spawning of salmon and in the inpregnation of the eggs, and also in the mode of laying down the ova in the breeding troughs.

1st. No eggs or milt should be faken from the parent fish until they are found perfectly sipe and mature for operating upon. To ascertain this, take a temale fish from the wator by the tail, care being taken not to pinch the fish too tightly or rub oft the scales or skin; hold her up perpendicularly ; wrap a piece of factory cotton round the body (about one fard of cotton will answer), then hold her over a large tin pan, so that her vent will be inside of the pan; if she is fit for operating upon and the eggs quite ripe, they will flow easily from her body; in this case you can assist the fow of eggs by gently pressing the belly downwards, until all of the ova aro taken from the fish. Use no force whatever, for if the eggs do not come freely they are not ripe and will not receive impregnation. If the eggs do not come freely put the fish back in the water again; before doing so, tic a small white cord or strip of cotton around her tail ; by this means you will easily linow her again from the rest of the fish in the pon or tauk, and you will be enabled to catch her more readily after a day or two, when in all probability she will have become ripe for spawning.

It is wrong to take part of the eggs from a fish one day and the balance upon other days. Let all of the ova in the body become perfectly ripe before you spawn the fish.

2nd. If your fish is found to be perfectly ripe, let the eggs fall gently into a shallow tin jan, in which there should be no water whatever, other than the wet which may remain in it after rinsing it in the water previous to using.

3rd. Then take a male fish in the same manner as you did the female, and also see that he is quite ripe, and that the milt flows freely; gently press the boily, and let the creamy substance fall into the pan amongst the egge. Stir the egge and milt together with your band in a gentle manner, until the eggs appsar to be thoroughly mixed in the milt. If you are scarce of male fish, ono male will impregnate the eggs of two or threo females; this may be done by putting the ova of two or more females into one pan, and using one male. It is better and safer: however, to use small portions of milt from two or more males, becalu-r it will be sometimes found that the seed of one male may be bad or barren; the chancos in using two or more males will therefore prove more certain.

4th. Do not allow the eggs in the pan, after the milt is applied, to stick together as if they were glued; just so soon as you have stirred the eggs and the milt together, dip them out of your pan with your little measure (bolding one thousand egge), and lay them upon the trays; then place the tray with the oggs in the breeding trough, about one-quarter of an inch under water, and shake it with a tremulous motion once or twice, till the eggs are evenly spread over the tray; then sink the tray and eggs to the bottom of the breeding trough, where they are intended to remain till they hatch out. Commence laying your trays at the lower end of the troughs, so that as the next one above is laid down, the milt that flows off will run over the lower ones. By this means you will get all the bouefit of the milt over all of the eggs in that trough or succession of troughs.

5 th. After you have laid the eggs clown, as above, in your hatching troughs, do not disturb the trays by moving them, nor the eggs by washing them, for five or six weeks. All that is necessary to be done is to pick ont any white eggs that show thomselves, but let it be done without disturbing the other eggs as litile as
possible. The most delicate and trying period of the egg is during the first formation of the embryo, or young fish; afler amint tive or ax weeks it will hare hecome strong enough to wash and hande without much fear of danger or lase, hat tho less handling you sive the exges throughout the whole season, the better. Watch your egres closely, incl pick oul daily every white one; if the white eggs are left, they will soon decay and throw off a fungus which will poison thousands of the good ones.

6th. Let as large a flow of water pass over the eggs as you can, without moving them or rolling them about on the trays.

7th. Follow these instructions closely, whore circumstances will admit of thom, and you may rely upon success in your establishment. Some deviations from the rules laid down will necessarily follow in localities where every convenience cannot be had-as, for instance, taking ova up rivers, and carrying them long distances to the breeding-houses. The system of spawoing the tish, and of impregnating the eggs, will, however', apply everywhere alike. During the catching, handling, spawning, and liberating of the parent fish, the most careful and gemile means should be used. Great care should be taken not to wound or bruise the fish, neither -hould they le allowed to become too much exhausted daring the operation of rawning. The loss of fish should be avoided, and it need not occur, (only exceptionally) unless rough or improper means are adopted in the prosecution of the worl.

8th. Offces in charge, or their assistants, are not allowed to adopt or practise new theories of their own, or of others, in connection with the science of tisli-culture in any of tho Government Fish-Breeding Establishments in the Dominion. Suggestions, howerer, of any kind, having for their object the improvement of : pparatus, economy of labour, or any other matter or thing for the advancement of the work of tish-cultme, will be thankfully received when properly submitted to the bepartment of Fisherios at Ottawa or to the Chief Superintenclent of Fish Culture : Neweastle, Ontario.
$\qquad$
Officer in charge Fish-breeding Establishment


> P.S.-Up river Spawning.

If the ova are gathered from the fish up river, and where no conveniences are to be had in laying them on the trays, as described within, the most certain plan for success would be to take several pans with you, and, after spawning one or more fish, and impregnating them by mixing the milt as described, then add, say a pint or more of water, mixing all together well; then lay your pan away in some safe place; in about twenty or thirty minutes the eggs will become separated and hard like peas. The mixing of the water with the eggs will cause then to stick together, and they will remain in this way some twenty or thirty minntes, when they will separate and become hard. Do not try to soparate the eggs when sticking logether, as it will prove fatal to many afterwards.

## Mode of carrying Eggs.

After impregnation, as above mentioned, you can carry the eggs short distances in pails of water, but too many eggs should not be prit in a pail, nor should they be allowed to splash about in tho pail when carrying them; this will be found very injurious. In carrying any distance, and where time will be taken to jerform the work, the surest and best method is to carry them in damp moss in boxes. Take a box made of boards, sity 15 or 18 inches square; bore a lot of boles through the bottom of it so that it will not hold water, then take some fine moss, which can be easily collected in the woods, and spread a layer of it over the bottom of the box (the moss should be picked fine and washed clean first); then take a piece of common cheap muslin or thin cotton (which you should prepare yourself with beforehand) of twice the size of the bottom of the box, wash it thoroughly clean first, then spread a single layer of the cotton over the moss, then put a layer of eggs evenly spread on top of the cotton; you may put the eggs two deep, but it is better to have them only one deep; then lay the otber thickness of your muslin or cotton over the eggs, then put another layer of moss, say one inch thick, then muslin again and eggs again till you fill up your lox, say six or eight or ten layers. The object of the muslin is to keep the moss from the eggs, and that you may lift the eggs cleanly out with the muslin or cotton when you get home with them. If it is very cold weather, the boxes, with the eggs in then, should not be allowed to get too cold or chilled; this can be done by covering them with blankets, or perhaps better to pack them all round in the bottom of your canoe or scow with dry moss, leaves or straw. When you get home with the cges, don't jar them in opening--lift off a layer of moss, then lift out the egge with the cotton, like a bag, and gently place them on the trays in your hatching troughs. Pursue this course and your losses in gathering eggs up river will be very trifling.
S. W.

# REPORT OF THE COMMISSIONER OF FISHERIES. 

## INQUIRY

CONCERNING

## SAWDUST AND MILL-OFFALS

ON THE

## LOWER OTTAWA RIVER

AND ITB

## TRIBUTARIFS.




OTTAWA:
 1878.

## INDEX

Mr. Mather's Report on disposal of Sawdust and Mill-offals. ..... 5
Petition of Mill-owners and Orders in Council ..... 12
Instructions to Mr. Matber ..... 14
Schedule of Mills on the River Ottawa, between Ottawa and Grenville, with cost of building Furnaces, \&c., \&c ..... 16
Soundings in the Ottawa River, between Grenville and Ottawa ..... -t

## MR. MATHER'S REPORT

# SAWDUST AND MILL-OFFALS 

## OTTAWA RIVER^

Ottawa, June, 1877.
Sir,-In conformity with your instructions to me, dated 26 th March last, I bers leare to report that I have visited and examined the different saw-mills on the River Ottawa and its tributaries, situated at the City of Ottawa, Hull, Chelsea, Buckingham, North Nation and Hawkesbury.

The first point of enguiry is : "Is it practicable in each mill to dispose of sawdust by some other mean: besides placing it in the water ?"

I find it practicable in every case to dispose of sawdust by some other means besides placing it in the water, but the mill-owners object to the cost as a tax on their trade that they are not able to bear.

The second point to be established by my enquiry is: "What mode is the most suitable for disposing of sawdust from the saw-mills, other than by placing it in the water?"
'Ihe only mode that I can propose as most suitable is, that furnaces of proper construction should be built, and the whole useless waste from the mills burned, as it is at only very few country mills where room could be found near by for the accumi:lation of even one season's sawing; the bult of sawdust alone from a mill cutting twenty million feet a year would be about 880,000 cubic feet, or sufficient to cover nearly an acre and a balf of ground ten feet in depth; carting from the mill and piling such a large quantity would also be much more costly than burning in a kiln or furnace. Mill-owners al Ottawa object to"burning the waste and sawdust, for the reason, that they have so little room for their mills and piling grounds, and that they would therefore, he compelled to pile lumber so near the furnaces that the risk would be very great and the extra cost of insuring the mills and lumber would be a heavy tax in itself. I have found, by enquiries made at different Insurance Offices, that the increased rate on mills and lumber situated in the vicinity of such furnaces erected in the best manner, would be two per cent or thereabout. Another objection urged by owners of saw-mills driven by water-power is, the impossibility of preventing sawdust from falling into the water, as the mills are not built so as to keep it out, and cannot be remodelled to catch it, as is done in the steam mills of modern construction. I can see no great difficulty in preventing nearly all the sawdust from any water mill from falling into the water, as with proper arrangements nearly all of it could be kept out. The mode adopted in steam mills of carrying it all to a given point by conveyors of iron and wood or cloth belts kept in motion by the machinery of the mill, would not do in the case of most water mills, as they are generally so crowded up in the under-story with the timber and machinery. I propose to carry the sawdust by water let out of the flumes into spouts passing under the machines, and all concentrating into one spout outside of the mill and leading to the furnace, where it would separate from the water and be forced through between two rollers before dropping it on the fire. At the mills at Ottawa, Hull and New Edinburgh, a large portion of the useless slabs and edgings are sold and carted away for firewood, but there would still be sufficient left of short pieces of slabs and waste from lath, bark, \&e., to keep a furnace fire open and insure the burning of damp sawdust. At the different mills in the country parts, slabs and all other offal can be run in water to the furnace, as the quantity would be so great as to secure its burning even if wet. At Ottawa, all the offal other than sawdust should be carted, as the quantity that is not sold is compara-
tively small, and what remains should be as dry as possible when put in the furnace. Carting or carrying by tramway to the furnace would be a considerable item of expense, and I hare taken it into account in making up the annual cost at each savmill.

The third point to which ryy attention is directed is to find out "at what , probable cost in each case could the plan proposed be carried out."

I have very carefully examined and measured the different mills, and in most cases made rough plans to give the extent of the alterations required. A statement in the Appendix shows fairly the first and annual cost of the plan I propose, also the annual cupacity of the mille in feet (board measure), and the annual cost at each mill of destroying all the sawdust and other mill rubbish, also the cost per thousand feet of lumber sawed. Statements are also appended of the details of the cost at each mill, both for construction and for the annual expense of working the appliances for destroying the sawdust and other mill rubbish.

There is also a plan appended, showing the position of the different mills at Ottawa and Hull; also showing pruposed sites for the different furnaces, in order to show their proximity to the mills and lumber yards.

The cutting capacity of the mills is shown to be $282,000,000$ feet, board measure, per season. The cost of erecting furnaces, spouts, carriers and alterations of mills, $\$ 100,127.25$. The annual cost of working the whole, besides the present cost of working the mills, $\$ 42,147.50$, or about 15 c . for every thousand feet of lumber sawed.

The fourth division of your instructions requests me to "consider incidentally in what namner and what extent, so far as I can form an opinion, the navigation of the Ottawa River is affocted by existing and progressive accumulations of sawdust and other mill 1 ffuse."

The quantity of sawdust that is put into the River Ottawa every year, between Ottawa and Grenville, is not less than $12,300,000$ cubic feet, amounting in twenty Fears to $246,000,000$ cubic feet, a bulk which is considerably increased by barb, edgings, butting̛. slabs and other mill rubbish. After I bad made these figures, I felt myself incompetent to gire an opinion, without making an actual examination of the river, so that I might be able to discover wherc such a large bulk of material, could be deposited. You lindly granted my request, and I proceeded to find out where and to what extent accumulations exist in order that I might be able to form a correct opinion as to how the river is now, or may be affected thoreby. I began my enquiry by examining the phins in posersion of the Board of Works, made by Mr, Shinly, C.E.: in connection with the survey for the OttawaShip Canal. I got tracings of these plans made, covering about twelve miles, with his soundings marked thereon, in order that I might compure them with my own, making proper allowance for the difference in the height of water. I considered that I could then approxiniate the rate at which the ryer hay filled up since 1858 . I found, however, that Mr. Shanly had marked no dopth over 30 feet, the river being much deeper in most places. I could make no comparison in the way I intended.

I then determined to sound the river at a great many places in the navigable channels, and in the bays and about the shores and wharves, and find from that cperation what the bottom is composed of. I got a sounding-lead made with an apparatus on it for bringing up a part of the bottom, which I may say it did effectually.

I hired a small steam launch and spent seven days in it between Grenville aud Ottawa, taking in all 143 soundings, putting specimens of what was taken up in bottles properly labellod for reference.

When beginning at Grenville, I saw Hugh Cumming, the lock-master on the Canal there. I asked if he had over been troubled with quantities of sawdust and mill rubbish finding its way into the entrance and locks of the canal. He replied that his experience was over twenty years, and that he had seen the entrance and lucks dry, but had never seen any gathering of sawdust or mill rubbish.

I have made up a table of the soundings and annex it for reference. It shows where they werc taken, the depth of water and the sort of material found at the bottom.

Of the 143 soundings taken you will observe that the matter brought up from the buctom in 26 contained more or less sawdust; in 117 soundings the matter way pure sand, gravel or clay; in seven places where the sawdust was found it was in the navigable channel of the river; in 19 places it was found near the shore or behind piers or wharves and in eddies; 57 soundings were taken in bays and near the shores, and in places where sawdust covered the surface of the water, in order that no chance might be lost in discovering where it is deposited ; 19 soundings of the 57 contained sawdust and 38 pure clay, gravel or sand. There were 31 of these soundings out of the channel taken below Kettle Island, and I found sawdust at six of them; from Kettle Island and above it there were 26 soundings taken outside of the navigable channel; sawdust was found in thirteen places.

Of the seven places where sawdust was found in the navigable channel of the river, three were below Kettle Island and four above.

There are no large accumulations of sawdust that I could discover on any part of the River Ottawa below the River du Lièvie. At the mouth of that river and between it and the Buckingham wharf, the north shore of the Ottawa is very flat and the water shallow. The shallowness of the water is apparently raused in part by sawdust, but it does not extend out to the navigable channel.

I examined very carefully among the islands at the mouth of the Blanche, about twelve miles below Ottawa, thinking that the numerous bays and channels would be likely to hold sawdust. I had also been told by several people that there was a great deal of it there. The soundings in the bays and channels brought nothing but pure sand. I went ou shore at several places and fuund lying on the banks small quantities of dry sawdust where it had been left by the receding water. I also found there, and at every place where I went on shore, large quantities of short slabs, edgings, and buttings, in many places covering the meadow and preventing the growth of the grass which the farmers make into wild hay.

There is a good deal of sawdust in the small bay at the end of the cliffe below Rockeliff; there are also slabs, bark and edgings. The gathering does not extend to the current of the river.

I found the largest deposit of sawdust in the bay opposite the Gatineau River near the shore. It is now five feet above the water; twenty years ago there was deep water close into shore, and I have secured rafts there for the winter, tied close up to the rocks.

I have noticed for several years that this bank does not increase in width towarde the river, the sweep of the eddy apparently controls its further accumulation. Quite close to the bank of sawdust in the bay there is twenty feet of water; it deepens quickly to forty-five, seventy tive and eighty feet. At all these depths the soundings were in pure sawdust, twenty feet outside of a line between the two puints forming the bay, the watea is eighty feet deep, and the bottom a few chips and coarse sand.

In McKay's Bay, immediately above, there is alse a gatering of sawdust, but not of the same extent; it is also governed by the current of the river, and there is little of it outside of the two headlands that form the bay.

In the bay abova the Queen's Wharf, there is ninety feet of water close in to the shore, and the bottom bare rock, although the surface of the water there is always thickly covered with sawdust when the wind blows in that direction to carry it thero.

There is a large gathering of mill rubbish at the entrance of the Rideau Canal, and the water is now shallow from that cause, where at first it must have been very deep; for nearly 200 feet from the lock the depth is a little less than the sill. From there it gradually deepens, and at 400 feet from the lock it is forty-one feet; the water gradually deepens from there. Still, to the outside of the bay, where it is ninety feet, immediately outside of the point, the bottom is bare rock in ninoty feet of water. There is a large quantity of slabs and edgings, mixed with sawdust, in this gathering.

In the bay above the entrance to the canal, there is very little sawdust or mill rubbish of any sort, as a strong eddy sweeps it at all stages of water.

In the bay below the outlet of the timber slide, on the north side of the river, and at the upper end of Mr. Eddy's wharves, there is no deposit of sawdust or mill refuse, except a few chips lying on bare rock, the water is sixty-one feet deep. I am informed by those running logs in this slide, that there is a good deal of trouble about the booms, caused by the rubbish from the mills on the upper end of the slide channel.

Along the front of the wharves, from Eddy's downwards, on the north side, the bottom is swept by the current. There is no deposit at the wharves in connection with Messis. Gilmour's steam mill, the bottom there being pure clay.

On the north side, between Eddy's wharver and the Suspension Bridge, there is an accumulation of alabs, sawdust and edgings every season, after the water fails, and the current ceases to be strong enough to carry it away; but it is always cleared off by the high water of the following spring.

The wharves facing the river on the south side from the Suspension Bridge downwards, bave never any accumulation in front, as the current, both in high and low water, is too strong to allow sawdust or mill rubbish of any sort to lie at rest.

The biy south of the outlet of the south timber slide is gradually filling up with sawdust and mill rubbish, and if it continues to fill up as it bas done lately, there will soou be no chance to ship lumber at the wharves, except during high water.

When I examined the river in 1872, as one of the Commission then appointed to "inquire into the condition of navigable streams," I found a large quantity of slabs, edgings and sawdust collected behind the rocky island in front of Messra. Batson and Currier's mills. I now find it all gone, and the bottom quite clear, with nothing but a little sawdust floating in lee of the island.

I now proceed to notice where sawdust was found in the navigable channel of the river.

Opposite the point on the south shore above L'Orignal, the water is sisty-two feet deep; the bottom is very soft blue clay, and the sawdust hardly perceptible.

Near an island below the North Nation River the water is fitty-six feet deep; buttom, fine sand with a few specks of sawdust.

At the mouth of the Gatineau, in forty feet of water, bottom pure sand, sawdust hardly perceptible.

Opposite McKay's Bay²the water is seventy feet deep ; bottom, pure sawdust and woody fibre, all quite fresh.

Opposfte Rideau Falls, water sixty fect deep; hard rock and a very little clean sawilust.

Opposite MI: Reynold's house, water sixty feet deep; bottom, gravel, clay and decomposed sawdust.

I have now stated where, and to what extent, I have found accumulations of nawdust and mill-rubbish in the River Ottawa. I will proceed also to state the opinion I have tormed as to its effects on navigation at present and in the future.

At prosent, with the water of the river at a medium height, there is no injury to navigation; when the water is low it is injurel at the entrance to the Ridean Canal, and at the docks south of the south timber slide. McKay's and Keefer's Bays have less capacity for wintoring stoamers, barges and rafts than heretofore, and neither of these places could now be used for ordinary traffic with steamers and barges. Narigation is not affected in any way, by accumulations of sawdust or millrubisish, at any other points betwoen the City of Ottawa and Grenvillo.

It is difficult to saly where the twelve million feet of nawlust and mill-rubbish, annually dep,ited in the Ottawa, goes to ; but it is evident, from the investigations made, that only a small proportion of the whole remains in the river; it is probable that a large quantity lies in the still water of the Lake of Two Momuains, a portion also finding its way to the River St. Lawrence. There is no evidonce that any notireable quantity remains in the navigable channcl of the river where the water is in motion. I am, therefore, conrinced that wac:umulation, injutious to navigation in the future, can ever take place there.

There is no evidence that any accumulation likely to injure navigation will ever happon at any wharf or bay below Rockeliff, neither is there any evidence to shew that sawdust or other mill-rubbish will collect above that point, except where it now shews itself; but, if the mills continue to put sawdust and rubbish in the water, it will gradually collect till the navigation there is entirely destroyed.

The tifin point of my instructions is to "examine the mills, as to what arrange"ments are desirable to best guard against the workmen putting other mill refuse " into the water; in order that the enforcement of the law may be less difficult and "expensive to the public, and to prevent evasions." I know from experience, that it is very difficult to present workmen from putting mill refuse into the water, unless it is made impossible for them to do so. All mills should, therefore, have the floor under the sawing floor; that is, the one nearest the water, made close all over, with no openings except a hatchway, well removed from all tho sawing machinery. The only other necessary opening in this floor, would be where the pitman or connection between the water-wheel and sawgate works, and that could be covered by a flesible attachment secured to the gitman and the floor.

If it should be arranged in any case that sawdust ouly should be allowed to fall into the water, and that all other matter, whatever, should be kept out; the lower floor would still require to be laid close all over, and no openings let't except one under each machine; these openings should be filled with gratings made of round iron rods, five-eighths of an inch in diameter. The spaces between should not be more than one inch each way, each opening under all machinery, except sawgates, should not be more than nine inches square, and, in addition to the grating, should have a short spout the same size as the hole, and made crooked to prevent the workmen from putting down short edgings. The spout should be made so :-

## Mill Floor.

Openings under saw-gates should hare racks made with movable frames, and bolted down in such a manner as would make it difficult for the ordinary workmen to raise them.


All windows in the walls of mills overlonking the water should be covered with wire netting, the meshes of which should not be more than one inch square. Fences should also be put round all platforms contiguous to the water, wherever it could be done without interfering with the operations of the mill. If owners of saw-mills must arrange their mills as above suggested, there need be no delay in having it done, as the doing of it would interfere but very little with the work of the mill. As there is no law by which owners of mills could be compelled to make such changes, it would be necessary to have such arrangements as would make them understand that if it were not done the existing law would be rigidly enforced against them. In order to have ihe whole properly done, it would, no doubt, be necescary to have a competent person whose duty would be to instruct owners of mills, and see that the required alterations were all properly made, so that there would afterwards be no necessity for having any specially skilled person employed about it, as any fishery officer could then easily detect any change or wilful violation of the arrangements.

In connection with the separate application made by the proprietors of the Hawkesbury mills, you request me to examine the premises and report upou alleged peculiarities in support of their claim for exemption.

I hare also considered in the same connection the petition of iubabitants along the banks of the River Ottawa, below Hawkesbury.

I visited Hawkesbury mills on the 27 th March last, and made an examination with regard to the statement made in said petition, namely, that, "owing to the "peculiarities of the location of the Hawkesbury mills the erection and running of "slab grinders would involve very great expen-e, besides causing very great incon"venience." I found the above statem nt quite ovident and did not go into any particular calculation in connection with it. I then took measurements, with a view to proposing a plan for consuming the entire slals and sawdust. I found no difficulty in deciding that the whole could be collected by suitable appliances and burned. I also fixed on a site near the mills suitable for furnaces, and which was also agreed to by the manager for the proprietors.

The cost of the erection of furnaces and suitable appliances for conveying the offal would amount to $\$ 18,835$, and the annual expense to $\$ 5,333$, as per statement annexed.

The quantity of lumber sawed annually is about thirty millions of feet in board measure ; the cost for destroying the refuse would therefore be equal to eighteen cents per thousiand feet of lumber sawed. The above sum is three cents per thousand feet more than the average cost for doing the same work in all the other mills on the River Ottawa, and is accounted for as follows:-

The situation and construction of the Hawke hury mills are quite peculiar. They have no arrangements for regulating the height of the water in front of the flumes, which makes the difference between high and low water the same ity that in the river itself, conscquently the mills are alinost subnerged at high water, and nearly dry at low water. There are four mills placed at distances apart, which make them cover a space of over 800 feet in width, and this adds very considerably to the extent of the machinery for collecting the refuse. As the builders of the mills had not contemplated such a contingency, the framing timbers and machinery are very much in the way, and there is little facility for putting in any more. The only practicable plan that I wuld devise to concentrate the sawdust from the machine, is to carryait in water, and the great variation in the height of the water at different parts of the sitwing season, would make it necessary to employ pumps. The mills heing very large, and doing the most of their work in three months, two furnaces would be necessary. These, and other peculiarities of situation and construction, make it cont more to destroy the refuse at Hawkesbury than the average cost of the other mills on the Ottawa.

With regard to the further assertion in the petition of the proprietors of the Hawkenbury mills, "that the refuse from them, although put in the river, does no damage to navigation," I have further to say that, as the river was blocked by ice
when I was there on the 26th March, I could make no satisfactory examination, but went there again on 16th May.

I feund the mills all at work, and all the refuse going into the river as asmal. I got a boat and ran over all the rapids as far as Carillon, making a minute examination of the river all the way. I found no accumulation of mill refuse anywhere in the navigable channel of the river, although in three places near the mills I found dams formed at the sides, but in such a way as to throw the water into the navigable channel and improve the navigation; nearly all the slabs and edginge leaving the mills are thrown ou the shores of the river in regular and even layers, and very little goes as far as Carillon. I saw no collection or evidence of the existence of sawdust anywhere, except a little at the end of the steamboat wharf at Carillon.

I have been about the rapids between Grenville and Carillon in ennnection with taking down deal rafts since 1857, and my late examination only confirms my previous impressions. I am now quite convinced that no damage to naviyation has been done in the past, or is likely to be done in the future between Grenville and Carillon by the practice of putting saw-dust and mill-rubbish in the liver Ottawa from the Hawkesbury Mills.

With regard to the petition of 1,312 inhabitants on both banks of the Ottawa between Hawkesbury Mills and Bout de L'fele de Montreal, praying that the proprietors of the Hawkesbury mills may still be allowed to throw their slabs and edgings in the river as Leretofore, I have to say, that I have'seen, every year large numbers of people gathering and rafting up mill refuse on both banks of the Ottawa between Hawkesbury Mills and Carillon, and have also seen them taking it down in rafts to Lachine and Bout de L'Isle. I saw the same being done when there on the 16th instant. I found, on making enquiry, that the parties gathering and taking away mill refuse were principally from near Montroal, and that they buy the right to gather it from the farmers who own the shores of the river where it is deposited by the current. I also learned that the demand is so great that it is always cleared away at the end of each sawing season, and that it has never accumulated from one year to another. I also learned that it is a personal benefit to many and have no doubt that the statements made in the petition are substantially correct.

I have now noticed all the different points set forth in your instructions, treating each in the manner my provious experience has suggested.

All being respectfully submitted.

> I am, Sir,
> Your obedient servant,

JOHN MATHER.

To the Hon. A. J. Smitin, Minister of Marine and Fisheries, Ottawa.

I have no scruple in saying that I have the best refuse burner known. I will go to your place if you wish and build for you by contract, or superintend the building by the day, or, if you wish only to consult me with regard to the matter, I will come to your place and advise you, my time and expenses being paid.

A furnace to clear mill cutting-


Furnaces of the capacity here given would burn, if need be, all refuse coming from the logs. Those are about the figures for furnaces and carriers all complete; but the cost of foundations, the cost of lerick, the difference between one mill and and another to get the carriers in, cost of freight, and other contingencies make it impossible for me to give any one definite figures without seeing mill and location. Please answer soon, as I have a commulation from Mississippi to-day, and may chance to go from home.

# Yours, 

## WILLIAM GLUE,

Ex-Mayor, Muskegon, Michigan.

## REPORT ON PETITIONS OF MILL-OWNERA, AND ORDERS IN COUNCIL THEREON.

Ottaw., 9th October, 1876.

Having reference to the accompanying petition from certain owners of saw-mills on the Ottawa River, in this vicinity, prayins for an esemption under the Statute 36 Fic., Cap. 65, relating to the better protection of narigrable streans and rivers, the undersigned has the honor to report that as the petitioners allege the impracticability of so adapting their mills as to dispose of sawdust otherwise than by putting it into the stream; it is advisable to employ some competent person to examine those mills, and report his opinion on this point, before determining the subject of their petition.

The whole respectfully submitted.

A. J. SMTH,<br>Minister of Marine and Fisheries.

## To His Ewellency the Guvernor General in Comail.

## May it Please Your Excellency.

The petition of the undersigned humbly sheweth:-
That they are engaged in the business of manufaturing sawn lumber in the City of Ottawa and vicinity.

That their mills ure driven by water power, and consequently they find it impossiblo to prevent sawdust and rubbish from them from falling into the river.

That they observe that a Bill has pasised both Houses of Parliamont, entitled: "An Act for the better protection of navigable streams and rivers," which probibits the casting of sawdust, slabs, edgings, and rabbish into navigable streams, unless it can be shown to the satisfaction of the Governor in Council that the public interest will be served by the exemption of any stream or river in Canada, or any part or parts of any such river or stream, from the operation of this "Act, in whole or in part," in which case the Governor in Council shall have power by proclamation to declare any such stream or river, or part or parts thereof, exempted from the operation of this Act, and slall also from time to time have power to revoke the same.

That your petitioners can bring evidence to show that the throwing of sawdust and other rabbish, other than wabs and edgings, into the Otuava River, or into any rapidly running river, such as the Oltawa, cannot be injurious to the navigation of such river, and that to onforco the said law to the letter, will cause serious damage to your petitioners, and practically close down thoir mills.

Your petitioners, therefore, pray that under the fourth clause of said Act, Your Excellency in Council. may be pleased to excmpt their mills in the city of Ottawa and ricinity, from the operation of raid Act, cxcept in so far as it relates to the throwing of slabs and edgings into the river.

And your petitioners, as in duty bound, will ever pray.

Ottawa, 31st September, 1876.

BRONSON \& WESTON,<br>J. R. BOOTH, PERLEY \& PATTEE,<br>E. B. EDDY,<br>Per J. M. T. Hanncis, J. McLAREN \& Co., l'er Join Henderson, GILMOUR \& Co., Per M. Cunningham, LEVI YOUNG, A. H. BALIDWIN, Per Tuns. Porter.

Copy of a Report of a Committee of the Honorable the Privy Council, approced by His Excellency the Governor General in Council, on the 25th October, 187 i.

Upon a Petition from certain owners of saw-mills on the Ottawa River, in this vicinity, praying from an exemption under the Statute 36 Vic., Chap, 65, relating tothe better protection of navigable streams and rivers,

The Honorable the Minister of Marine and Fisheries, in a Report, dated 9th October, 1876, states that as the petitioners allege the impracticability of so adapting their mills as to dispose of sawdust otherwise than by putting it into the stream, it is advisable to employ some competent person to exanine these mills and report his opinion on this point, before determining the subject of their Petition.

The Committee concur in the Report of the Ministor of Marine and Fisheries, and submit the same for Your Excellency's approval.

Certified,<br>W. A. HIMSWORTH, Clerk Privy Council

Copy of a Report of a Committee of the Honorable the Privy Council, approved by His Excellency the Governor General in Council, on the 26th Mareh, 1877.

On the recommendati, $n$ of the Honorable the Minister of Marine and Fisheries the Committee advise that in pursuance of the Order in Council of zosth October last, John Mather be employed to ascertain the practicability of disposing of sawdust from saw-mills on the Ottawa River otherwise than by placing it in the stream.

Ceriified.
W. A. HLMSWORTH.

Clerk Privy Council

Copy of 'a Report of a Committee of the Honorab'e the Privy Council. approved by His Ex ellency the Governor General in Council, on the 2Sth March, 1877.
On the recommendation of the Honorable the Minister of Marine and Fisherics, the Committee advise that a sum of $\$ 150.00$ be applied from the fund for "unforseen expenses," towards paying the cost of inquiries respectiug the disposal of sawdust and mill-rublish in navigable streams, under the Statute 36 Vic., Cap. 65.

Certified.

W. A. IIIMSWORTH,<br>Clerk Privy Council.

## Department of Marine and Fisheriex, Fisheries Branct, Ottawa, 6th March, 1877.

The undersigned begs to rocommend that, in pursuance of the Order in Council of 25th October last, John Mather be employed to ascertain the practicability of disposing of sawdust from saw-mills on the Ottawa River, otherwise than by placing it in the stream.

The whole respectfully submitted.

## A. J. SMITH,

Minister of Marine and Fisheries.
OFFICIAL INSTRUCTIONS TO JOHN MATHER, Esq.

Department of Marine and Fisheries,<br>Fisheries Branch,<br>Ottawa, 2oth Malich, 1877.

Sir,-I have the bonor to inform pou, by direction of the Minister, that, under an Order of the Governor General in Council, dated 25th October, last, adopted on the petition (copy enclosed) of certain owners of satw-mills on the Ottawa River, in this vicinity, praying for partial oxemption under the Ststute 36 Vic. Cap. 65, relating to the better protection of navigable strearns and rivers, on the ground that it is impracticable to so adapt their mills as to dispose of sawdust otherwise than by putting it into the said stream, and that in consequence of such actual inability they are compelled to either expose themselves to the penalties provided by the said Statute, or abandon their industry, it was directed that a competent person should be employed to examine these inills and report his opinion ou the same. A subsequent Order of the Governor General in Council, dated $26 h_{\text {instant, appoints you to }}$ perform this duty; and I am requetsed to addiess you the following instructions:-
'The Act in question provides that, "No person, nor tenant of any saw-mill, nor. "any workman therein, nor other perron or persons whosoever, shall throw or cause "to be thrown. or suffer or permit to be thrown, any sawdust, odgings, slabs, bark or "rubbish of any description whataever, into any navigable stream or river, cither "above or below the point at which such stream or river ceases to be narigable."

It also provides, "That when it can be shown to the satinfaction of the Governor" "in Council that the public interest would not be injuriously affected thereby, the "Governor in Council shall have power, from time to time, by Proclamation in the "Canada Giazette, to doclare any such stream or river, or part or parts thorcol', "exempted from the operation of this Act, in whole or in part, and shall also have "power from time to time to revoke the same."

The Government has heretofore had under nerions consideration, the situation of saw-mills on the Ottawa River, and the apparent difficulties attending compliance with thesc statutory requirements. As regards all other mill-refuse, excepting sardust, it is determineri that the law shall be rigidly enforced; the principal manuficlurers themselves, perceiving the nocessity, and admitting the practicability
of disposing of it so as to avoid any further injury to the public interost. liat the alleged impossibility to dispose of sawdust, otherwise than as at present practised, deserves special attention. In adopting the provisions of the existing law, ats you are aware from your ofticial connection with the Special Commission of Enquiry which preceded its adoption in 1873, the Legislature is presumed to have taken cosnizalce of all of the practical objections which could be urged against such prohibitions, and of their possible effect on this most important branch of the manufacturing indu, tries of the country. The proviso relating to exemption indicates that the only admissable reason for non-tompliance in each instance would be that the pulbicinterest is not injuriously affected by such exemption. This provision, you will perceive, is otherwise absolute and makes no allowance for matters of business, cost or private inconvenience. The Government is, nevertheless, convinced that, in tealing with particular cases affecting an enterprise of such vast importarice, and in which a great amount of capital and labor is invested, the question of practicability and expense is very justly entitled to be considered. But the obvious interest which all partics would have in avoiding the legal obligations imposed by the Statutes, makes it necossary to examine closely and impartially into any alleged inability to conform to its provisions. This investigation, it is considered, need not, in the interest of the public or that of the millowners, be a merely technical one, but should combine, with some mechanical judgment, the experimental knowledge of other circumstances connected with milling operations which a competent person familiar with the manufacture bas had opportunities to observe. Under these conditions, the Winister desired me. prior to the passage of the last Order in Council above named, to communicate with you and ascertain if goll were willing to make the requisite examination. After considering the proposal, you have assented.

Before suggesting the probable points of enquily, I am to state that this examination will not be confined to the saw-mills at the Chandiere, but should embrace all of the saw-mills on the River Ottaw down as far as Grenville; and may relate also to such of the saw-mills on the tributaries of the Ottawa as by their connection with the main strean necessarily contribute, through the discharge of sawdust, to any obstructive accumulations which actually do now or threaten to endanger the naviration of the Ottawa River.

The points to be established are as follows:-

1. Is it practicable in each mill to dispose of sawdust by some other means besides placing it in the water?
2. What mode do you find most suitable?
3. At what probable cost in each case can this plan be carried out?
4. Incidentally it may be considered in what manner and to what extent, so far as you can form an opinion, the navigab lity of the Ottawa River is affected by existing and presressive accumulations of sawdenst ard other mill-refuse.
5. Please examine these mills as to what arrangements are desirable to best guard against the workmen putting other mill refuse into the wator, in order that the enforcement of the law may be less difficult and expensive to the public, and wo prevent evasions.

Regarding the separate application made by the proprietors of the Hawkesbury Mills, a copy of which is also herewith, you will please examine the premises and report upon the peculiarities which they allege in support of their claim to be exempted.

I am further to enclose the copy of a petition from inhabitants along the River Ottawa below the Hawkenbury Mills.

A cheque for $\$ 100$ will be sent you to-morrow, against which sum you will please reckon your necessary disbursements in accounting therefor.

I ann, Sir,
Your obedient ser vant,
W. F. WHITCHER,

Johin Mather, Eq.
Commissioner of Fisheries.

## APPENDIX No. 1.

Statement giving Names of Owners of Mills on the River Ottawa and its Tributaries between Ottawa and Grenville, also the annual capacity of the same, the cost of erecting appliances for burning saw-dust and other mill rubbish, the annual cost of burning sawdust and other mill rubbisb, and the cost per thousand feet in Board Measure on lumber sawed.


[^2]
## APPENDIX No. 2.

Bronson, Weston \& Co.'s Mille, Ottawa.

1 Furnace........................................................... $\$ 4,00000$
1 Elevator.............................................................. 1,00000
Small spout, 376 feet, at $55 \mathrm{c} . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .$.
Medium spout, 96 feet, at $90 \mathrm{c} . . . . . . . . . . . . . . . . . . . . . . . . . . . .$.

Sundries, lath mill.................................... .............. 20000
Sundries, large mills........... ................................... 50000
$\$ 6,38920$

## Aunual Cost.

10 per cent. on $\$ 6,389 \ldots \ldots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .$.
2 men at bark, \&c., 150 days each, 300
3 men below mill, 150 days each, 450
1 man on mill floor, 150 days, $\quad 150$
1 man at lath mill, 150 days, $\quad 150=1,050$, at $\$ 1.25$. $\quad 1,31250$
2 horses and carts and men, 150 days each, 300 , at $\$ 2 . . . \quad 60000$
Keeping up spouts- $\$ 2,55050$
1 man, 150 days, at $\$ 1.25 . \ldots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .$.

Furnace................................................................ 15000

20 millions of teet sawed, at $14 \frac{1}{2} \mathrm{c} \ldots \ldots \ldots \ldots \ldots . . . . . . .$| $\$ 2,888$ |
| ---: |
| 2,90 |
| 2,900 |

Bronson, Weston \& Co.'s Mills, Ottawa.
1 Furnace, say...................................................... \$3,000 00
Elevator.................................... ........................ . 50000
Power, say............................................................. 50000
Chain carriers, say 140 feet, at $\$ 4 . . . . . . . . . . . . . . . . . . . . . . . . .$.
$\$ 4,560 \quad 00$
Annual Cost.

A. H. Baldwin's Mills, Ottawa.
Furnace, say ..... $\$ 3,00000$
Elevator, say ..... 1,000 00
155 feet of small spunt, at 55 c ..... 8525
160 feet of larger spout, at 90 c ..... 14400
600 feet of large to furnace, at $\$ 1.20$ ..... 72000
$\$ 4,94925$
Annual Cost.
10 per cent. interest on $\$ 4,949$ ..... $\$ 49400$
1 man carrying debris from lath mill;
1 man on mill floor keeping clear ;3 men at bark and taking slabs and bark to furnace;1 man below sawing floor;
6 men for 160 days, but double for double watch- 1,920days, at $\$ 1.25$.2,400 00
Tear and wear of furnace, say. ..... 15000
20 million feet, at 15 c . per M
$\$ 3,04400$ ..... 3,00000
Levi Young's Mills, Ottawa.
Furnace, say ..... $\$ 4,00000$
Blevator, may ..... 50000
1 Water-wheel and flume. ..... 50000
90 feet of spout at $\$ \overline{1}$ ..... 9000
40 feet of chain carrier :at $\$ 4$ ..... 16000
Fittings about Mills say. ..... 10000
$\$ 5,35000$
Annual Cost.
10 per cent. on above outlay ..... $\$ 53500$
4 men extra for 180 days- 720 -at $\$ 1.25$
4 men extra for 180 days- 720 -at $\$ 1.25$ ..... 90000 ..... 90000
Sawing at night, 2 each watch
Say annual repairs-chains, furnace. ..... 20000
15 million feet sawed, at 11 c . per M
$\$ 1,63500$ ..... $1,650 \quad 00$
J. R. Booti's Mills, Ottawa.
Furnace cost say ..... $\$ 5,000 \quad 00$
369 feet of rock excavation $369 \times 17 \times 6$ feet average $11 \frac{1}{2}$ less $1=10 \frac{1}{2} \times 6$ feet $=804$ yards, at $\$ 1$ ..... 86400
$\frac{1}{2}$ of above paid by Pattie \& Perley
Proportion of cost of elevating end. ..... 1,00000
Main spout in excavation, 369 feet, at $\$ 1$ ..... 36900
1,030 feet of small spouts at 55 c ..... 56650
355 feet of medium spouts at 90 c ..... 30150
Blasting from mill to main spout, $55 \times 17 \times 6$ feet, 208 yards at \$2 ..... 41600
Blasting for small spouts, 60 yard. ..... 24000
Annual Cost.
10 per cent. interest on $\$ 8,757$ ..... $\$ 87500$
6 men keeping mill clear of bark, slivers, \&c., above and
below, 180 days $=1,080$;2 men at butting saws, edgos, $\& \mathrm{c} ., 180$ days $=360$;1 man at lath saws, 180 days;
2 men at bark, $360=1,980$ days, at $\$ 1.25 \ldots \ldots \ldots \ldots \ldots .2,47500$
3 horses, men and carts, $180=540$ days, at $\$ 2$ ..... 1,080 00
1 man at furnace, 180 days at $\$ 1.25$ ..... 22500
Annual tear and wear, $\$ \$, 805$
\$4,655 00
22 million feet sawed at 22c. ..... $4,870 \quad 00$
Messrs. Perley \& Pattee's Mills, Ottawa.
Slabs, Bark and Sawdust.
Furnace, say ..... \$ 5,000 00
231 feet of main cutting in rock 12 to $17 \times 6$ feet, 693yards at $\$ 2-\$ 1,386$
369 feet of which Mr. Booth would be $\frac{1}{2}$ share, $369 \times 17$
to 6 feet $=11 \frac{1}{2}-1=10 \frac{1}{2}, 864$ yards at $\$ 1=\$ 864 \ldots \quad 2,25000$
Proportion of cost of elevating end. ..... 1,00000
Main spout in excavation, 231 feet, at $\$ 1.20-\$ 2.7 .20$.
Share with J. R. Booth of 369 feet at $\$ 1-\quad 869=\ldots$ ..... 64620
Chain carriers in lath mill, 151 feet, $\$ 4$ ..... 60400
Small spouts in main mill, 329 feet at 55 c . ..... 18095
Large "، " 191 feet at 90c. ..... 17190
Say sundries. ..... 50000
$\$ 10,353 \quad 05$
Annual Cost.
10 per cent. on above outlay of $\$ 10,353$ ..... $\$ 1,03500$
6 men taking out bark, \&c. and filling into carts, 180 days at $\$ 1.25$. ..... 1,35000
3 horses, men and carts, 180 days at $\$ 2.50$. ..... 1,350 00
2 men at logways, bark, \&c., 180 days at $\$ 1.25$ ..... 45000Waste to burn sawdust, said now to be worth $\$ 28$ perweek-lath mill 30 weeks, $1,840.00$

Sherman, Lord \& Co.'s Mills, Hull.
Furnaco, say ..... $\$ 3,000 \quad 00$
Elevator, water-wheels flume, say. ..... 1,000 00
Small spouts, 55 feet at 55 c . per foot
13130
13130
Medium spout, 202 foet at 65 c . per foot ..... 48000
Annual Cost.
10 per cent interest on $\$ 4,641$ ..... $\$ 464 \quad 00$
Say three men and a boy about mills, 150 days-double watch $=300$ days of 3 men $=900$ at $\$ 1.25$ ..... 1,12500
One boy, 150 days of double watch $=300$ days of $1=$ 300 at $\$ 1$ ..... 30000
One man at spouts and furnace, 000 days, at $\$ 1.0$ and $\$ 2.00$
Two horses and carts, 150 days $=300$ days, at ..... 60000
Keoping up furnace 150 days $=\$ 3,014$ ..... \$2,864 00
18 million feet sawed, at 17 c ..... 3,060 00
E. B. Eddy's Mills, Hull.
Cost of furnace on west side, say. ..... $\$ 6,000 \quad 00$
Two elevators.1,500 00
Chain curriers, 130 feet at $\$ 3$ ..... 39000
Small spouts, say 201 feet, at 55 c . ..... 11055
Medium spouts, say 762 feet, at 90 c . ..... 68580
Large spout for west side, 265 feet at $\$ 2$ ..... 53000
do east side, 227 feet at $\$ 1.65$ ..... 45705
Sundries, say. ..... 50000$\$ 13,17340$
Annual Cost.
10 per cent interest on $\$ 13,173$ ..... $\$ 1,31700$
2 men and one boy at each mill, night and day, four mills in all $=16 \mathrm{men}, 150$ days $=2,400$ men at $\$ 1.25$ ..... 3,000 00
8 boys, 150 days $=1,200$ days at $\$ 1$. ..... 1,200 00
2 horses, carts and men each watch, 600 days at $\$ 2$. ..... 1,200 00
1 man for each furnace $=4,150$ days $=600$, at 1.25 ..... 75000
Tear and wear of chains and furnace ..... 30000
Keeping up two furnaces, \&c., $\$ 7,767$.
\$7,767 00
Say 15 millions of feet sawed at $15 \frac{1}{2} c$. ..... 7,750 00
W. MeLfmont \& Co.'s Mills, New Edinburgh.
Pier in front of mill in 50 feet of water, $40 \times 40 \times 70 \mathrm{ft}$. ..... $\$ 4,000 \quad 00$
Furnace ..... 3,00000
185 ft . of chain-carrier and elevator at $\$ 4$ ..... 74000
Annual Cost.
Interest at 10 per cent on $\$ 7,740$. ..... $77+00$2 men to attend to chains and furnace, say 300 daps ofone man, at $\$ 1.25$37500
Repairs on chains and furnace, say ..... 15000
10 million feet of lumber sawed, at 13 c
$1,300 \quad 00$
Jas. MoLaren \& Co.'s Mills, New Edinburgh.
Pier for carrying furnace, say $40 \times 40 \times 24$ ..... $\$ 2,00000$
1 furnace ..... 3,00000
Chains outside of mill, say 100 ft. , $\$ t$ ..... 40000
" inside " 200 ft ., $\$ 2.50$ ..... 50000
Power to drive chains ..... 50000
Hoppers, spouts, \&c ..... 50000
$\$ 6,900 \quad 00$
Annual Cost.
10 per cent on above outlay ..... $\$ 690 \quad 00$
1 man, night and day, at furnace and chains, say for 150 days, $\$ 1.50$ per day, $\$ 3$ ..... 45000
3 men, night and day, clearing mills, say for 150 days, at $\$ 1.25$ per day, $\$ 2.50$ ..... 1,125 00
1 horse and cart, carting to furnace, with man, night and day, 150 days, at $\$ 2.50-\$ 5$ ..... 75000
Tear and wear of chains and furnace ..... 30000
$\$ 3,31500$Say $18,000,000$ feet, per 150 days, at $18 \mathrm{c} \ldots \ldots \ldots \ldots \ldots$........... 3,24000
Sash Factory and Planing Mill.
Suction fan, say ..... $\$ 20000$
200 feet of spouts, say 50 c
$\$ 300 \quad 00$
Annual Cost.
Say 10 per cent interest. ..... $\$ 30 \quad 00$
1 man in planing mill, 300 days; 1 man in sash factory, 300 days=600 at $\$ 1.25$ ..... $750 \quad 00$
$\$ 780 \quad 00$
Gilmotr \& Co., Gatineat Mills, Cbelsea.
Cost of furnace at Rapids Mills, say ..... $\$ 4,000 \quad 00$
" " for burning sawdust, \&c ..... 3,000 00
Cost of changing Rapids Mills, say ..... 1,500 00
243 feet of small sawdust spouts, at 55 c
19800
19800
1,300 " large size " at $\$ 1.50$ ..... 1,95000
65 " chain carrier, $\$ 3$ ..... 19500 ..... 19500
Sundry changes about mills, say ..... 50000

## Annual Cost.

10 per cent on $\$ 11,476$ ..... $\$ 1,14700$
2 men at fornaces, 150 days $=300$ at $\$ 1.25$ ..... 37500
4 men about bark, slivers, $\& c$. . 150 days= 600 at $\$ 1.25$. ..... 75000
2 horses, carts and men, 150 days $=300$ at $\$ 2$ ..... 60000
2 men, attending to sawdust, spouts, 150 days=300 at \$1.25 ..... 37500
Keeping furnaces, \&c., in repair. ..... 30000
$\$ 3,54700$
Say $30,000,000$ foet of lumber, sawed, at 12c. per M.... ..... $3,600 \quad 00$
Messes. Ross Bros'. Mill at Buckingeam.
Cost of furnace. $\$ 3,00000$
Wheel and elevating machinery ..... 1,00000
500 feet of double spout for slabs and sawdust, $\$ 1.65$. ..... 82500
70 feet of slab slide, $\$ 1$ ..... 7000
335 feet of intermediate sized spout, 90 c. ..... 30150
481 feet of smallest size, 55 c . ..... 26455
\$ 5,461 05
Annual Cost.
10 per cent on $\$ 5,461$ ..... \$ 54600
Say 4 men extra about mills, 150 days= 600 at $\$ 1.25$.. 75000 Say 2 men at furnace and slide $=300$ at $\$ 1.25 . . . . .$. . . 37500 Tear and wear of furnace, $\$ 150=\$ 1,821$.
$20,000,000$ feet at 9 c . per M. . . . . . . . . . . . . . . . . . . . . . . . $\begin{gathered}\$ \overline{1,67100} \\ 1,30000\end{gathered}$
James MoLareni! \& Co.'s Mills, Buckingham.

| Cost of furnace.. | \$3,000 00 |
| :---: | :---: |
| Wheel and machinery for elevating | 1,000 00 |
| 200 feet of large spout double at \$1.65. | 1,330 00 |
| 515 "، medium sized spout at .90 .. | 46350 |
| 482 " small do . 55 | 26500 |
|  | \$5,068 50 |

## Annual Cost.

10 per cent. interest on $\$ 5,06800$. ..... $\$ 50600$
Say four men extra about mills 150 days $=600$ at $\$ 1.25$ ..... 75000
Say two men at furnace and slide, 300 at $\$ 1.25$ ..... 37600
Say fifteen millious at $\$ 0.12$. ..... $\$ 1,63100$
$1,890 \quad 00$
Messrs. John A. Cameron \& Co.'s Mills, at North Nation.
Cost of furnace. ..... $\$ 3,000 \quad 00$
Wheel and machinery ..... 80000
700 feet of double spout for slal.s and sawdust, at $\$ 1.65$ ..... 1,155 00
275 " inter'mediate size for sawdust, 90 c . ..... 247 5)
195 " small size, 55c. ..... 10725
$\$ 5,30975$
Annual Cost.
10 per cent interest on $\$ 5,309$ ..... $\$ 53000$
2 men at mills, extra, 150 days $=300$ at $\$ 1.25$. ..... 37500
" slide and furnace, 300 at $\$ 1.26$. ..... 37500
$\$ 1,28000$
Tear and wear of furnace ..... 15000
10 million of feet at 14 c . ..... 1,40000
Hamilton Brothers, Hawkesbury Milis.
350 fcet of roller carriers for carrying slabs, including water power, flumes, \&c. ..... $\$ 3,50000$
2 furnaces at $\$ 4,500$ ..... 9,000 00
5 pumps to supply water for carrying sawdust in low water ..... 2,500 00$\begin{array}{lllllll}\text { do } & 1 \frac{1}{2} & " & " & 30 c & 120 & 00 \\ \text { do } & 3 & \text { ( } & 50 & \text { feet........ } & 40 & 00\end{array}$
20 stop cocks. ..... 5000
1 " 3 inches.
97500
1,300 feet of small spouts at 75 c
84000
84000
700 " large " $\$ 1.20$
1,000 00
1,000 00
Water tanks and alterations about mills, say
50000
50000
Machinery to drive pumps.
$\$ 18,83500$
Annual Cost.
10 per cent. interest on $\$ 18,835$ ..... $\$ 1,88300$
Attending to bark, \&c,, 2 men in each mill, 8 men in all 100 day $=800$ days, at $\$ 1.25$ ..... 1,000 00
3 horses, carts, and men 100 days $=300$ days, at $\$ 2.00$ ..... 60000 ..... 60000
3 men on each watch at carriers-400, at $\$ 1.25$. ..... 50000
2 boys in each mill at sawdust-800, at $\$ 1.00$. ..... 80000
2 men at spouts and furnaces outside- 200 ..... 25000
Keeping furnaces in repair, say ..... 30000
$\$ 5,33300$
30 millon feet sawed per season, at 18c permillion feet ..... 5,400 00

## APPENDIX No. 3.

Statement of Soundings made in the Navigable Channel of the River Ottawa, between Grenville and Ottawa, May,1877.


| Oppusite Rockland Mills. | 90 | Coarse sand. |
| :---: | :---: | :---: |
| A little above do | 90 | Bare rock. |
| do do | 85 | Sand. |
| Buckingham Wharf. | 38 | do |
| do | 40 | Sand and little clity. |
| Opposite River du Lièvre. | 50 | Blıe clay. |
| Two miles above River du Lièvre | 30 | Sand. |
| Two miles below Blanche Light. | 45 | do |
| Opposite do | 30 | do |
| do . do ................. | 30 | do |
| Opposite River Blanche.. | 31 | Sand. |
| Three-quarters of a mile below Green's Creok. | 38 | do |
| Near Green's Creek. | 37 | do |
| Near $\underset{\text { Lighthouse, Green }}{\text { s Creek. }}$ | 17 | Sand, a little sawdust. Pure sand. |
| Gill's Wharf. | 23 | Sand and a little wood. |
| Foot of Kettle Island | 18 | Pure sand. |
| At Kettle Island.. | 34 | Pure sand. |
| Opposite Old M:ll, Rockeliff | 39 | Small gravel. |
| Opposite Rockeliff... | 35 | Pure sand. |
| do close to south shor | 47 | Bare rock. |
| Above Rockelift. | 85 | do |
| Opposite Gatineau | 40 | Sand, a little sawdust. |
| Entrance to Gatincau | 27 | Coarse sand. |
| do do | 27 | Fine sand. |
| Opposite Gatineau, south side | 80 | do |
| Off point at Keefer's Bay.. | 100 | Bare rock. |
| Middle, opposite Keefer's Bay | 100 | Sand and chips. |
| Opposite McKay's Bay. | 70 | Sawdust and chips. |
| Opposite McLymont's Mill. | 70 | Gravel and shells. |
| Opposite Rideau Falls... | 60 | A little sawdust and rock. |
| Opposite Mr. Reynolds' | 60 | Gravel, clay, sawdust |
| Above Mr. Reynolds'. | 60 | Sawdust. |
| Close to Rocky Island, near Batson \& Currier's |  |  |
| Mill..................... | 31 | New-made sawdust. |

The mean height of water in the River Ottawa during the week on which the soundings were taken was 16 feet 4 inches at Grenville, and 13 feet 3 inches at the outlet of the Rideau Canal, as certified by the Lockmaster at both places.


| Chaunels amour Islands. | 12 | Sand, gravel, clay. |
| :---: | :---: | :---: |
| do io | 14 | Sand. |
| do do | 14 | Find saukd. |
| do do very narrow channel | 12 | do |
| do do do | 21 | Pure sand. |
| Bank near Blanche | 14 | Sand. |
| South shore, much sawdust floating on water. | 10 | Clay. |
| do do | (; | Cliy, no nawdust on the bottom. |
| do do ...... | 10 | do do |
| do do | 8 | do do |
| Close to lower end of Duck Island. | 15 | Sund, three picces of wood. |
| Nearer to do | 15 | Pure sand. |
| Bar at Kettle Island. | 10 | do |
| South side of river Kettle Island. | 8 | Blue clay. |
| North side do and near the channel | 15 | Sand, sawdust, bark. |
| do | 12 | Pure sand. |
| Eddy below Rockcliff | 10 | Clay, sawdust. |
| do | 10 | Gravel, sawdust, bark, sals. |
| Bay opposite Gatineau (Keefer's) | $\geq 0$ | Pure nawdust. |
| do do | 45 | do |
| do do | 75 | do |
| do on a line with the two points | 80 | I'ure sand. |
| do 20 feet outside of points.. | 80 | Sand, a few chips. |
| Bay, north side above Gatineau | 16 | Sand and chips. |
| do do | 15 | Sand, cbips, bark. |
| McKay's Bay. | 15 | Pure sawdust. |
| Bay below Gilmour's Mill | 20 | Stony bottom, clear. |
| Upper end of wharf do | 18 | Pure clay. |
| Queen's Wharf.. | 32 | Gravel, stones, sawdust, wood. |
| do | 32 | Bare rock. |
| Bay above Queen's Wharf. | 90 | Bare rock, floating sawdust. |
| 100 feet from Canal Jook | 14 | Slabs, sawdust, de. |
| 200 do | 16 | do |
| 300 do | 35 | do |
| 400 do | 41 | do |
| Near point below canal | 911 | Sawdust. |
| Point above canal | 44 | Bare rock. |
| Bay below Mr. Giilmour's | 60 25 | do |
| Upper end Eddy's Docks........................... | 61 | Chips. |


[^0]:    Total expenditure
    $\$ 96,34808$

[^1]:    - P.S.-Since writing the above, the following memorandum has been kindly supplied to me by Mr. J. S. Deas, of Fraser River, founded on his experieace of six years or more at his fishery on that stream:-

    1st run of large salmon (Sasoguai), about 15th March.
    2nd run of large salmon (Suck-Kai), first week in July; continues about 30 days.
    3rd run of (large salmon), second week in August
    4th run (Cohnes), first week in September; continues into October.
    (N.B.-The subsequent runs are of inferior variaties, which spawa in the lower streams, and are not useful for canning or curing for mercantile purposes.)-A. C. A.

    Proportion of jield relatively to the whole catch computed as under:-
    
    N.B.-The section (3, page 5) relating to foul salmon becomes of itself a dead letter". There are no "foul or unclean salmon" here, in the sense contemplated in the Act, for, as I have, I trust, conclusively shown, these fish, after spawning, do not return to the sea, but perish. Therefore to employ them for manure or other purpose, would only be to utilize what must else be wasted. I mentioned in my last report that thousands of tons of dead or dying fish might have been collocted fur any purpose within the area of my last winter's travel.
    2. To provide for a close time in the "only practicable way, I suggest a modification of the general prohibition 14 (page 9), to read thus:
    "From the time of low water nearest to six o'clock in the morning of Saturday to the time of low water nearest to the evening of Sunday, in the tidal waters; and fiom six o'clock in the morning of Saturday, to six o'clock in the evening of Sunday, in fresh water."

    The object of this alteration, by which equally thirty-six hours of respite would bo provided, is to meet the views expressed by the proprietors of canneries at New Westminster, who state that under the first arrangement, Sunday would necessarily be a busy day in order to secure the fish caught on Saturday, while Monday would be a vacant day for want of fish, and vice versá.
    3. The section (2) at page 10 , might be suspended as far as regards ish-offal. At New Westminster it would be impracticable to get rid of it, consistently with the public health, in any other way than, as heretofore, by casting it into the river. It produces apparently no deleterious effects; and, it is asserted, disappears almost immediately hefore the innumerable small fishes that crowd the neighbourhood of the wharves.
    4. Sectic: 7 close 7 (page 5).

    The portion of this section relating to the rod and line is nugatory here, as the salmon of these waters do not take the fly. The Fishery Officer, however, should have full authority to define the limits above New Westminster, that the boats from that place should be allowed to proceed.

    Referring again to my letter previously cited, concerning Indian fishing rights, I respectfully repeat here the opinion theroin expressed, namely, " that, as a rule, the provisions of the Fishery Act, as modified to suit the exigencies of this Province, shall not be decmed to apply to Indians, working to supply their own wants in their accustomed way" I may repeat here, too, a passage of my last year's report, having reference to the same subject-" that the native modes of ishing, simple but efficacinus throughout the Province, are in all respects unobjectionable and economical; and that any interference with their proceedings would be uadvisable, save when, through bad example, they infringe a general protective law-as in the case of the occasional use of explosive compounds before referred to " (now no longer practised).

    The recommendation I here make, founded on obvious and very forcible reasoos, is, I may add, in conformity with a provision of an Act of the Legislature of the neighbouring territory, recently passed for the protection of their fisheries, as under:
    "Section 3. The prorisions of this Act shall not apply to Indians in the Indian country of this territory."

    ## YIELD OF THE FISHERIES.

    Accompanying this is a statement of the return of the fories for the past year. It has been compiled with much care, chiefly from the notes supplied to me by the proprietors of the several fisheries, and procured from other authentic sources of information. I have found it impossible, however, to obtain accurate returns of the quantity of tish oils actually procured at the many outlying stations; but the result, as given, will be found not to deviate widely from the truth. It will be perceived that the total exceeds half a million of dollars ( $\$ 583,43 \%$ )-a notable increase upon the showing of last year. Of this the Customs returns shows to have been exported $(\$ 456,600)$-leaving a value of $\$ 126,832$ to cover what has either been reserved for home consumption, or may be still on hand for exportation.

    The encouraging result of the past season's operations will doubtless incite others to enter the field; and I foresee that a wide extension of the industry will shortly ensue. In its prosecution there is great room to encourage the Indian population; and under careful management they will continue to be, as they now are, of the greatest utility as tishermen, while deriving themselves substantial profit in retren for their labour. In view of the probable extension of the operations of the coming year, however, and to the possible complications which may then ensue, it may be found necessary to appoint other Fishery Officers (Overseers or Wardens, as the case may demand) in addition to the appointment which I am already authorised to make, but which I bave so far deferred making, under the circumstances Letter, 10 th explained by me in a recent letter, to which I respectfully refer you. I Jan., 187 s - suggest that conditional authority be given to me to make such ippoint-

    I have kept this Report open in the hope that I should be able to include in it some points of information which I expected to obtain, but in which expectation, owing to circumstances, I have been disappointed. As the Members for the Province leave for Ottawa to-morrow, and I am anxious that you should receive this Report without further delay, I am constrained to close with a few general remarks, in less detail than I had intended.

    Wich regard to the herring fishery, mertioned in my Report of last year. For the first time, I believe, the attempt to cure these fish for exportation has been made. As appears by the Return, between five and six hundred barrels (or halfbarrels?) were put up by Messrs. Holbrook \& Co., of New Westminster, the greater jortion of which has been exported to South America, 'These fish were cauglit at Burrard Inlet, in due season. Should the result of the experiment be satisfactory, a theld of industry of almost boundless extent will be ofened.

    The Oola-han fishery has been partially prosecuted, and with success. I have not been able to communicate with Mr. Rolvertson, the proprietor of the fishery establishment, situated on the Nass River, and ant indebted to Col. Powell, Indian Snperintendent in Victoria, for what information I have obtained concerning the last season's proceedings. Mr. Robertson, provided with a certain steaming apparatus, the details of which I have not learned, started his business in March last, and was prosecuting it very successfully, when, through some magisterial influence which seems to have been perfecily uncalled for, his operations were interrupted at the most critical period. In consequence of this unfortunate interference the quantity, of oil secured was much less than it should have been; but I am glad to understand that the Provincial Goverument, on the case being represented to them, at once took steps to prevent a recurrence of the proceedings complained of.

    Col. Powell informs me that, as he is informed, Mr. Robertson employs the natives to catch the tish, either purchasing the fish from them or emplyying them on wages, at the rate of one dollur and a quarter a day. The Indians, consequently are well satisfied at Mr. Robertson's presence among them, and in this connection I may add, that I think it would be a profitable policy, in the event of further establishments along the coast, were the same economical and conciliatory system decided on. The whole of the oil, procured by Mr. Robertson and others, way eagerly puichased by the natives of the neigbbouring coast, at the rate of one dollar per gallon, so that none remained for export, so as to test the cextraneous market; but, as I have elsewhere remarked, this oil-prized by the natives solely as an article of diet-is valued elsewhere for divers purposes. Col. Powell has kindly undertaken to procure for me some samples, which, when received, will be forwarded to Ottawa for your inspection. With increased appliances, and secure, it is to be presumed, from interruption, Mr. Rohertson anticipates a rich return from the coming season.

    An establishment for collecting dog-tish oil was formed on Queen Charlotte Islands, last spring, and proceodings on an extensive scale were contemplated. The operations of this concern seem in have been a failure-chiefly, as I understand, because White fishermen, at high wages, were employed, while the more economical services of the native fishermen were not utilized. Elsewhere along the coast, at many scattered points, other fishermen, working for themselves with their own boats, have prosecuted this industry with great success.

    None of the other fisheries along the coast, so far as I can learn, have attracted much attention. It is only, however, a question of time; and I am persuaded that ere long, as the resourcos of these waters become more fully appreciated, other branches of this industry will attract attention and become profitably developed.

    In conclusion, I respectfully draw attention once more to the sibbect mentioned in the concluding paragraph of my last year's Report, namely, the exceptional position which this Province occupies, in relation with the other Provinces of the Dominion, as to the advantages that may be supposed to attend the provisions of the Washington Treaty. I do not know whether, during the sitting of the Commission of the past year, this subject may have been mooted-or whether, indeed, it questionably came under the objects for whith that Commission was appointed. I may say, however, that, while the view taken by the United States authorities acts directly as an impediment to the fishing interests of this Province, and especially of the oil interest, it is probably of little benofit in any way to our neighbours. It is a direct incentive to smuggling; and this smuggling with a long and rugged coast-line, it will be difficult to prevent. The Indians, tempted by the somewhat higher price which the traders on the opposite side can afford to pay. lose no opportunity of conveying their oil across the Strait to a dearer market. In this way, I am credit:bly informed, some 10,000 gallons or more were last year taken over to the vicinity of Neais Bay alone; and though, I believe, some seizures were made elsewherc, the aggrecrate quantity thus introduced was, I do not question, considerably in sons of what I have stated. It is sufficient for me, however, to ask your attention wh :his question; and though it may not be in your power to influence our neighbours townds the adoption of a more liberal poliey towith us, it is not therefore the les ilvisable that the anomaly of our position should be fully understood.

    I have the honor to be, Sir,
    Your most obedient servant,
    ALEX. C. ANDERSON, Inspector of Fisheries, British Columbia.

    ## A.

    Vidtoria, B.C., 7th January, 1878.

    ## W. F. Whitcher, Esq., <br> Commissioner of Fisheries, Ottawa.

    Sir,-Referring to your letter of the 27 th August, and to my reply of the 27 th September last, I have now the honour to enclose duplicate of a letter received by me from Messrs. Finlayson and Lane, having reference to certain charges which had been made in Ottawa against those gentlemen.

    With reference also to a previous enclosure concerning a complaint of the construction of a fish-trap helow New Westminster, upon which I hare already partially reported, I have since had the opportunity of making full enquiry into the alleged abuse, and I find that the complaint has been almost ludicrously exaggerated as to anticipated effects.

    The whole thing was a failure. Two salmon only were caught in this formidable instrument, and it wasjaccordingly soon abandoned. It was situated entirely out of the course of navigation, and, in short, the whole ground of the complaint was fallacious and uncalled for.

    I have the hooour to be, Sir,
    Your obedient servant,

    ALEX. C. ANDERSON, Inspector of Fisheries, R.C.

    New Westminster, 3rd December, 1877.

    ## A. C. Anderson, Esq., <br> Inspector of Fisheries, British Columbia.

    Sir,-We beg to acknowledge receipt of your letter of the 27th September last, and, in reply, we beg to say, that the salmon canned in our establishment were furnished to us at two ceris per lb., under contract by Mr. S. W. Herring of this place. We fancy the charge made against us, of wasting fish, to the Minister at Ottawa, is based on the result of a miscalculation on the part of the contractor, and occurred in this way: On the 19 th Joly Mr . Herring caught an unusual quantity of fish, a large portion of which he bellied for salting; the backs he handed to us for canning. As the weather at this time was very warm, probably about 3,000 backs of salmon spoiled before we were able to put them incans. These fish, we believe, Mr. Herring threw away, but with this exception, we are not aware of one fish being destroyed that was fit for canning. To avoid a recurrence of this waste of fish, we requested Mr . Herring to withdraw the most of his boats, which he immediately coluplied with, and thereafter only employed a sufficient number of boats to keep the cannery supplied. We are not aware of any undue waste that has occurred at any cannery in this district except by misadventure. We believe, on one occasion at one of the canneries, they lost about 1,500 fish while transporting them from the drift to the cannery, by the diseharge of steam from the steamboat coming in contact with the fish in the barge alongside, which rendered them unfit for canning; but this was entirely accidental.

    You may be sure we will be glad to assist you in any measure it may be necessary to adopt, with a view to prevent the useless destruction of sal mon in the Fraser River. We are directly interested in the presercation of these fisheries ${ }^{\text {a }}$; for the failure of the salmon to visit this stream would render our property here valueless.

    Without presuming to advise, we would venture to suggest, that, in the event of your recommending any restrictive rules for the regulation of the fisheries on this river to the Minister at Ottawa, that they should be of such a nature as not to hamper or discourage an industry which is yet comparatively in its infancy; but we have every confidence that from yom long business experience and intimate knowledge of the requirements of this fast increasing and important trado of British Columbia, that you will only suggest such measures to the authorities as will be best for the interests of the Province, and meet the approval of those interested.

    There have been put up this year about sixty thousand cases, 4 dozen 1 lb . tins, of which number we contributed 11,966 cases. The aggregate oxpenditure for labour and supplies has cost over a quarter of a million dollars, and probably exceeds the disbursements of the old established canneries any previons year nearly tenfold; consequently the advent of Mussers. English \& Co's. establishment and ourselves, this year, has been of much benetit to the people in this locality, and we are glad to say that our business relations with the good people of this burgh have been of the most cordial and pleasant nature, and we have every reason to believe that this sentiment is fully reciprocated.

    Although we have not yet received a full return of our shipments of salmon, we have reason to believe the result of our first ycar's operations will turn out satisfactory.

    We would have answered your letter some time ago, but we expected to have the pleasure of meeting you personally long ere this.

    Trusting you and the gentlemen associated with you in your diplomatic duties with the natives, have accomplished satisfactorily the object of your mission to the intetior,

    > We are, Sir,
    > Yours very respectfully,

    # FINLAYSON \& LANE. 

    ## B.

    Camp, Great Okanagan Lake, B.C., 27th September, 1877.
    To the Hon. A. J. Smith,
    Minister of Marine and Fisheries, Ottawa.
    Sir,-I have the honour to acknowledge the receipt of your letter of the 27 th ult., stating that: "It is reportel to your Department that the clanses of the Fisheries Act relative to the protection of salmon are openly and shamefully violated in the Province of British Columbia generally, but especially on Fraser River, where Indians and White men seem to have leagued in this work of destruction, \&c."

    Without knowing the source from which this comprebensive statement has reached your Department, I may at once state that it is without valid foundation, and in its general purport, may be distinctly and unroservedly contradicted.

    With reference to some of the special points adduced, I beg respectfully to remark as under:-

    1. With regard to the accusation referred (or rather repeated) against the Indians, namely, that they destroy "millions of young salmon." I beg to refer you firstly to my letter to you of the 12 th June, 1876, wherein the charge was refuted, as far as my own personal knowledge and conviction went, and secondly, to a deposition by a competent witness of wide experience, which $I$ now have the honour to enclose, and which confirms my frevious statement. The general charge of the destruction of the young salmon being thus, I conceive, sufficiently answered (tbough further confirmation of my view, if necessary, is quite attainable), I shall endeavour to obtain, if possible, some tangible accusation against a particular tribe or locality, if any there be, and of courre make due enquiry. If then found to exist the evil will bo corrected. I do not, however, conceal from you my persuasion that the charge is altogother unfounded.

    I repeat, also, the opinion advanced in my letter already referred to, that "as a rule "I believe the native modes of fishing to be altogether unobjectionable, and econom"ical, and that any interference with their proceedings, under these modes, would be "unadvisable."

    2 . That traps are set in the rivers.
    As regards the Indian weirs (if these be alluded to) I believe them to be quite innocuous. I respectfully refer you to the pissage just quoted above, and also to a portion of Grégoire's deposition herewith. The only trap ret by any White man, that I am aware of, is that established this summer below Now Westminster, upon which subject I have already had the honour to addross you, under date the 12th instant.
    3. From my personal knowledge of the respectable gentlemen who own or conduct the several fishing establishments on the Lower Fraser, and the Skeenâ, and my knowledge of the deep and permanent intcrests they have at stake, I should be
    very cautious of accepting the statement of any wanton abuse on their parts of their fishing privileges. At an official interview which I held in June with the majority of these gentlemen, they were unanimous in the expression of tho desire to co-operate with me in any measure to protect and foster the fishery; indeed they voluntarily expressed their willingness to contribute materially in aid of the outlay that might be necessary towards this end. The charge that "Messrs. Finlayson and "Lane are said to have thrown away over 3,000 salmon in one day, being unable to "cure them fast enough," may possibly bave a foundation on fact. But that this act was doluc wantonly and wastefully, I do not credit, nor is it probable. The true explanation of the charge (if admitted) will, I think, be found to be that, owing to the extraordinary run of salmon (with larce appliances for catching in anticipation of an ordinary run only) an overwhelming surplus was at first unexpectedly caught, which could not be disposed of. This, I am induced to infer beforehand-since it appears that inmediately after the first rush of the principal shoals the number of ${ }^{-}$ nets at all the fisheries was reduced by nearly one half. I shall, however, at once communicate with these gentlemen, in anticipation of the fuller enquiry which I shall be able to make shortly on the spot.

    That the most palpable exaggeraticns and misstatements, from whatever cause arising, have been indulged in, in tho public prints, throughout the summer, I am well aware. For instance, one nameless correspondent accused a certain fishing company (of course also nameless) with even pursuing the fish to their spawning grounds, and molesting them there. That such vagne and unauthentic statements obtan at least partial credit elsewhere, I am not unaware, for I notice that extracts repeating them have appeared in at least one Canadian paper. In reply to the particular charge in question, I may state that !last spring Messrs. Ewen and Wise, of New Westminster (lor I know these gentlemen to be the parties referred to) last spring, in anticipation of only an ocdinary run of tish, established an out station some forty miles above the town, with the view of obtaining, from a wider aroa, a sufficiency of fish to meet their requirements. The tishery thus re-cstablished by them was originally established by the Hudson's Bay Company in 1847, awel was long occupied by them. It is situated in the full flow of the navigable waters of the Fraser ; and, so thr from interfering with the roproductivo functions of the salmon, is distant several hundred miles from the nearest spawning grounds of the summor shoals, and at least five hundred miles from the most remote. I cite this cate to show not only the reneral ignorance of the subject that prevails amoner tlan "lass who thus obtrude their opinions, but the reckless way in which charges, the most serions, are by them daringly advanced.
    4. It bas long boon the practico, among the fishermen of the Lower Friser, to pack the bellies of a portion of the salmon caur'it separately from the backs, the choicer packer boins: sold at a greater enhance: :ate to epicurean purchasers, the inferior at a low price to loss dainty or poorer ipplicants. Whether, under the exceptional circunntances of the prosent yoar, parties having unexpectedly secured at the outset an overplus of fish (as in the alleged case of Messrs. Finlayson \& Lane), have been tempted to secure only tho primer parts, from inability tes preserve the whole, or not. I shall enquire minutely into the subject, and report. Meanwhile, I will state my opinion that the practico, under the first and most favorable vicw, is for many reasons objectionable; but whether, undor that view, it could be legrally introduced, is open to question. I ask to be instructed on this point.
    5. With regard to the future protection of the salmon fisheries, while asking attention to my remarks in previous communications on peculiar natural conditions of the Pacific tish, I shall, after full enquiry on my return shortly to the sea coast report fully on the subject. [ shall, at tho same time, be able to report the result of minute enquiries, bearing directly on the subject, which I have been enabled to make during the prosent summor in the immediate noighbourhood of some of the principal, spawning grounds. These enqniries $I$ am still engraged in, and shall continice to prosecute, as occasion offers, un my way downwards. The result will, I trust, cuable
    me to speak with increased confidence on a subject involving divers imprrtant considerations, the key to which is not readily obtainable.

    So far as the supply of fish in the upper waters, for breeding purposes, during the present year is concerned, I am happy to say it is enormous. The shoals, when I left the waters of the Thompson some weeks ago, were crowding to the breeding places; and since then I learn that fresh shoals (of a different variety) have arrived in equal abundance. With regard to the facilities for a breeding establishment (should such be hereafter judged expodient) I have also made observation in anticipation of future need.

    In conclusion, I beg to repeat that, on my way down the Fraser, and at New Westminster, minute enquiry into the alleged abuses which form the subject of your letter will be made, and every precaution authorized by the Fisheries Act taken, in furtherance of measures already taken, to prevent the repetition of any abuse that may be found possibly to have arisen.

    I have the honour to be, Sir, Your most obedient servant,

    ALEX. C. ANDERSON, Inspector of Fisheries.

    ## C.

    In reply to queries put to Antoine Gregoire, Interpreter, of Kamloop.; aud Adam's Lalie, B. C., by Alex. C. Anderson, Inspector of Fisheries, Gregoire de,osed as under:

    1. With regard to the alleged destruction of salmon fry, by the Indians, in parts within his knowledge?

    Positively that it does not take place. That the great spawning ground, i.e., of the first and principal shoals which ascend tho South Thompson, is near the embouchure of the Adam's Lake, above the bighest fishery. That early in the year, from the end of April to the middle of May, the waters (in the shaliows) are usinally alive with the young fish. That the Indians-who in any case could have no object in catching them for food, having copious resources in their trout and other fisheries -abstain from molesting them on bigher grounds. They know, and say, that if the young fish are destroyed, the shoals returning from the sea will be proportionately diminished. That the Indians with this fact in view, are careful not to destroy, wantonly or wastefully, the mature fish, or to impede their passage to the sparring beds. That the barriers they construct in rivers are only to retard the passage of the fish, to enable the Indians to obtain their necessury winter supply, and that these temporary obstructions are thrown open, as necessary, to give passage to the ascending fish.
    2. As to the assertion mado some years ago that the Indians destroy the spawn in the beds, by gathering it for food?

    That the allegation is altogether unfounded. That even if it were practicable (which to any extent is very questionable) the Chiefs would not permit it, for reasons before stated. The roes of the fish caught and cured for consumption, are, of course, preserved, and form an item of the usual diet of the Indians.
    3. As to whether he has ever heard of either of these practices being followed elsewhere, outside of his personal knowledge?

    Never: Thinks that the whole statement is imaginary. That his experience (while more specially applicable to the vicinity of Thompson's River and Adam's Lake), extends also to the Upper Fraser, and he speaks with equal confidence with regard to those parts.

    Antoine requests Mr. Anderson to add that, so careful of the salmon are the Chiefs, they will not permit the Indians to use the pole to propel canoes in passing over the spawning shoals, after the spawn is deposited, but the pallle only. Also,
    that in the spring, when the children sometimes seek to amuse themselvey by making mimic woirs to entrap the young fish, they are at once made to desist by their parents: In brief, he says that he believes firmly that the Indians act most prudently with regard to the salmon, and do all in their power to protect them.

    ANTOINE X GRÉGOLRE. mark.

    $\left.\begin{array}{l}\text { Antoine Grégoiro made these statements before me at } \\ \text { Head of Okanâgan Lake, B.C., 24th September, } \\ \text { 1877, and I believe him to be a competent and } \\ \text { trustworthy witness. }\end{array}\right\}$
    (Signed) GILBERT MALCOLM SPROAT,
    ALEX. C. ANDERSON, Inspector of Fisheries, B.C.
    D.

    Camp,
    Great Okanagan Lake, B.C.,
    12th September, 1877.
    The Honorable the Minister of Marine and Fisheries, Ottawa.
    Sir,-I have the honour to acknowledge receipt of enclosures relating to the construction of a fishing weir at a point on Fraser River, some miles below New Westminster.

    I enclose copies of correspondence on this subject, to which I respectfully refer you.

    At a conference which I held with the principal fishery proprietors at New Westminister, in the middle of June, no complaint of this structure, then in progress, was made to me; and I myselt saw no objection to the construction of the weir, provided it did not interfere with the navigation, or otherwise violate the general provisions of the Fishery Law. Similar woirs were for a time exclusively, and are even now, I believe, partiaily employed upon the Columbia River. But they were gradually abandoned, is inefficient, in favor of the drift-net, than which, indeed, they are far less destructive.

    On the whole, I am of opinion that much causeless jealousy of this weir, built by a man of small moans, who probably could not afford the purchase of nets, has been exhibited. On the other hand, if, as $\mathrm{Mr}_{\mathrm{r}}$. Cooper states, the existence of the weir is calculated to cause impediment to the navigation at some future time, its continuauce would of course become illegal. Indeed, the general Fishory Law itself provides for the removal of the stakes at the ond of the season.

    On my return to Now Westminster I shall enquire particularly into all matters connected with the subject in question and report to you afterwards. II eanwhile, I am happy to say that the enormous shoals of fish that have passed up during the last two months, will at loast have removed whatever apprebensions the Fishery proprietors may have entertained.

    I have the honor to be. Sir,
    Your most obedient servant,

    ALEX. C. ANDERSON, Inspector of Fisheries, B.C.

    ## Messis. Finlayson \& Lane

    and Henry Holbrook, Esq.,
    New Weatminster, B.C.
    Gentlemen,-I received yesterday only your telegram of 28th ult., announcing that parties (not named) were placing hcavy pile traps in the river, obstructing navigation, and that you protest. Of course any such proceeding is illogal, and, on complaint before a Magistrate, under the general and comprehensive terms of the Fishers Act, would be interdicted.

    Before leaving Victoria I received an application from a Mr. Ibbotson, concerning a fish-tralp; I enclose a copy of my answer, and you will see that I guard specially against any interruption of the navigation, or violation of the obserrances usual on the Lower Fraser with regard to the salmon fishery.

    I have the honour, \&c., \&c.,
    (Signed,)
    ALEX. C. ANDERSON,
    Inspector of Fisheries, B.C.
    P.S.-With reference to the general subject, I trust that the gentlemen engaged in the li-hery (as suggested by me when in Now Westminster) will meet and draw out some rules or by-laws for the conduct of the fishery, as their experience may teach. These, if sent to me, I would forward officially to Ottawa for approval or confirmation. At the same time, I could recommend the appointment of a Warden or Oremeer to watch that the rules were carried out.
    A. C. A.

    ## (Copy of Telegram.)

    A. C. Anderson,

    Kamloops.
    Parties are placing heavy pile-traps in the river, obstructing navigation. We protest.

    > FINLAYSON \& LANE. H. HOLBROOK.
    `New Westminster, B.C., 10th July, 1877.

    ## A. C. Anderson.

    Dear Sir,--Colonel Lane and myself telegraphed to you about the traps being erecter and placed in the river. *It catches both large and small, and we think the erection is contrary to law ; but if such is not the case, we shall have to put them up and allow no fish to pass up for the Indians. Several cargoes of stone are being brought from Nanaimo to weight it-it is the heart trap.
    

    We would like to hear your decision in the matter. There are 70 bolts fishing with nct, and we all want fair play and to start even. There is trouble for want of fishing regulations to day at the mouth of the rirers, which will be a case for the magistrates, as knives and pistols-so report says-have been drawn.
    Yours, de.,
    (Signe:1) Y. HOLBROOK.

    * N.B.-As may be gathered from my Reports, $\&$ c., this statement, doubtless correct in itself, implies a fallacy.


    ## (Copy)

    Kamloops, B.C., 20th July, 1877.
    The Hon. Henry Holbrook, \&c., \&c., \&c., New Westminster.
    Dear Sir, -I have receired your letier of the 10 th inst., havirg reference to the joint telegram of yourself and Messrs. Finlayson \& Lane, to which I had already replied on the 7th inst.

    By the copy then sent of my note to Mr. Ibbotson (whom, though not named by you, I assume to be the offending party), you will perceive that I specially guard against any interruption of the navigation, or action in any way violating the rules generally observed in the conduct of the salmon fishery on the Lower Fraser.

    Under the showing made by you I am decidedly of opinion that the trap in question violates the conditions named, and must hereafter be interdicted. Whether, however, the offenders may not have acted under an erroneous view; and whether, under the circumstances, it might be well to condone the error for the present season only, with the full understanding that the trap be removed in the autumn. I leave to you to state to me.

    I will write to the Commissioner of Fisherics on the subject, and at the same time suggest to him the expediency of appointing a resident Warden at New Westmiuster, and also (though less urgently required) at certain other points.

    I repeat to you my request that you, and others connected with the Fisheries, would meet as soon as convenient and make such suggestions with regard to the future regulation of the Fisheries as might seem expedient.

    These, with my remarks, I would forward for the consideration and sanction of the Minister; and in this way much future trouble and uncertainty would be obviated.

    I have the honour to be, Sir, Your most obedient nerrant,
    (Signe:l)
    ALEX. C. ANDERSON, Inspector of Fisheries, B.C.
    (Copy of letter referred to.)

    > Victoria, B.C., 26 th May, 1877,
    Mr. John Ibbotson,
    New Westminster, B.C.
    Sir, - With reference to your letter of the 22nd instant. I lose no time in informing you that I can see no objection to your constructing a tish-trap in the position mentioned by you, provided it do not interfere with the navigation of the river, or otherwise violate the usual observances of the salmon fisherg.

    I have the hovour to be, Sir, Your most obedient servant, (Signed) ALEX. C. ANDERSON, Inspector of Fisheries, B.C.

    $$
    \begin{aligned}
    & \text { Department of Marine and Fisheries, } \\
    & \text { British Columbia Agency. } \\
    & \text { Victoria, 17th July, } 1877 .
    \end{aligned}
    $$

    ## Hon. A. Smite,

    Deputy Minister of Marine and Fisheries.
    Sir,--I have the honour to forward the enclosed communication for the information of the Department, upon receipt of which I thought it necessary to visit New Westminister, and inspect the structure complained of particularly, as it will be seen by Messrs. Holbrook \& Lane's notes, that it was reprosented as a probableobstruction to navigation.

    Mr. A. C. Anclerson, Inspector of Fisheries, had, [ found, fiven the proprictor authority in writing to construct the fish trap whicia extends about 390 feet more or less at right angles from the luft bank of the rlver, five miles bulow New Wostminister. It is, however, upora a sand bar, and does not in any way impele navigation at present; but the probabilities are that the number of pilen driven will have a tendency to increase the bar, and shoal the wator in that locality.

    In conversation with the proprietors of other canneries, I ascertained that they considered it an illegal, method of catching fish; but, if in the absence of any law governing such matters in the Province this systom was sanctioned, they would all adopt this course if the traps in question proved a success.

    > I have the honour to be, Sir,
    > Your most obedient servant,

    JAMES COOPER, Agent, Dept. Marine and Fisheries, B.C..

    New Westminster, 9th July, 187 T.
    Captain Cooper.
    Dear Sir,-Will you lend mea copy of the Canadian Fishery Laws.
    Parties are building a large trap of piles and sunk with stone in the river for the purpose of catching salmon. It will probably be an obstruction to navigation, and, I think, against the laws. Please let me know what the laws are, or send me a copy; and oblige

    > Yours truly,
    > C.C. LAN!.

    IIolbrook and self telegraph a protest to Mr. Anderson.
    New Westminister, 10th July, $; 877$.
    Captain Cooper.
    Dear Sir, -One of the Fisheries is putting up a large salmon trup. Hessis. Lane and the others object, as we think it is against the law, and will be an impediment to navigation, for, if allowed to remain, we all shall have to do the same.

    A number of piles are driven into the river; the trap is a large affair, built of wood, and filled with stone and sunk. I hear some vessels are about to bring the stone over from Nanaimo.
    

    It catches the fish both large and small.
    We can only appeal to you to see if it stops navigation. You ought to have full power, as Mr. Anderson is away. We telegraphed to him, but no notice has been taken.

    There was trouble at the mouth of the river yesterday. I suppose it will come before the magistrates.

    Yours truly,
    H. HOLBROOK.

    Victoria, B. C., 7th January, 1878.

    ## The Honorable

    The Minister of Marine and Fisheries, Ottawa.
    Sir,- I reached this place on my return from the interior of the mainland just before Christmas, and have since obtained, from various sources, returns of the yield of the principal fisheries in this Province. The total return, however, is still incomplete; but I hope to be able, in a few days, to collect the additional information required, while completing my report for the past year. The whole I will forward with the least possible delay, and in time, I trust, to reach Ottawa before the opening of the Session.

    While at New Westminister, on my way down, I had a meeting with most of the fishery owners of that vicinity, at which various matters connected with the past and future of the fisheries were discussed. Among the rest, the subject of a breeding establishment was introduced.

    The objects to be attained by the formation of such an establishmont are twofold:-

    1. To secure a regular supply of salmon year after year, to supplement the present natural supply, which, though periodically most abundant, (as witness the past season) is partially intermittent, through causes depending apparently on the peculiar habits of the salmon of these waters.
    2. To introduce into the waters of the Fraser the large salmon of the Columbia River (S. Quinnatt) - a most valuable fish, the introduction of which would largely enhance the prospective value of our tisheries.

    In this matter I suggested to the meeting that, in order to approach the Government effectively, and to elicit the most speedy action, it would be expedient to submit to them some definite proposal, in guaruntee of their own earnestness.

    Thereupon a series of resolutions were proposed and carried, a memorandum of which, by request of the meeting, I now respectfully submit herewith.

    You will perceive that the fishery owners themselves propose, with this definite object in view, to raise a fund to yield annually, as computed, some $\$ 7,500$ in aid of primary outlay and the continuous expense of the Department for the protection and regulation of tho fishing interests in this Province.

    The amount of boat license proposed may probably bo considered by you excessive; and it is for you to judge whether or not it should be somewhat reduced-or indeed, whether in this or some other mode the necessary contribution should be raised in aid of future outlay. I may, however, add that the form and amounts suggested in the memorandum were unanimously approved by those present, and would therefore, it is to be presumed, be generally acceptable.

    In repectfully submitting the proposition made, I express my earnest hope that its tenor will obtain your favourable consideration.

    With regard generally to the result of the fishery of the past year, though the returns are not yet complete, I may state that it will prebably exceod half a million dollart, of exported fish alone, exclusively of the large amount absorbed by home consumption.

    I forward the proposition now made, in anticipation of my general report, in order that it may be before you during the preparation of the annual estimates.

    > I have the honour to be, Sir,
    > Your most obedient servant,

    ALEX. C. ANDERSON, Inspector of Fisheries,, B. C.

    ## MEMORANDUM.

    At a general meeting held at the Colonial Hotel, Now Westminster, B.C., on the 17th December, 1877, Mr. Anderson, Inspector of Fisheries, being in the chair, and the following gentlemen connected with the fishing interests on the Lower Fraser, being presont, viz.:-Messrs. Holbrook, English, Herring, Jwen, Wise, Birrell (the last representing the firm of Finlayson \& Lane) ; Mr. Birrell acting as secretary, the following resolutions were carried:-

    Mr. English proposed that the Dominion Government sho:ld be asked to make an appropriation for the establishment of a breeding ostablishmert for the rogulation of the supply of salmon, at a suitable potnt on Fraser River, the cost of which it is estimated would be about $\$ 20,000$. In aid of this object, and to provide a fund for the subsequent expenses, it is proposed that a license of twenty dollars on every boat employed' in the fishery shall be paid in adrance, and also a tax or duty of eight conts per case of four dozen one-pound cans of preserved salmon, and of twenty-five cents per barrel of salted salmon packed at any cannery or curing establishment on Fraser River. Mr. English's proposition, which was unamimously concurred in, would, based on the production of the past season, yield a revenue of about $\$ 7,500$; ande it is probable would, with the extension of the industry, exceed that limit.

    Mr. McEwen suggested that, as a preliminary measiric, a competent person versed in the subject of fisl-breeding should be sent from Canada to cxamino and select a suitable position for the erection of the proposed establishment.

    The meeting is of opinion that the gencral Dominion Fishery Act is quite inapplicable, as a whole, to this portion of the Dominion, bearing in view the different habits and nature of the salmon fiequenting these waters.

    Mr. Wise drew the attention of the Inspector to the necessity of cuforcing that portion of the Act which prohibits the emptying of sawdust into the rivers.

    It was also unanimonsly agreed that the Jominion Government be respectfully requested to appoint the steamer "Sir James Douglas," or other efficient vessel, to remove the snags at those points where they impedo the drifts, from the mouth of the river upwards, as fur as S.. Mary's Mission.

    New Westminster, B.C., 17th December, 1877.

    ## E

    Victoma, B.C., 3rd Jinuary, 18 is.

    ## Hon. A. Smith, Minister of Marinc and Fisheries, Ottawa.

    Sir, -I have the honone to acknowledge the receipt of your enclosure of 1 , th November last, containing copy of Mr. Meredith's letter to you with reference to the Indian fisheries in this Province, with extract appended from a communication on the subject from Dr. Powell, the Indian Superintendent at Victoria.

    I have, from the first, been alive to the necessity of affording every protection to the interests of the natives in thisimportant particular, and I havecarofully watelied, in as far as practicable, that no infringement of these hereditary riglits should be permitted. The exercise of these rights, unfettered by wanton or ignurant interference, is to many of the tribes an object of primo importance; and as al matter of expediency alone, omitting entirely the higher consideration of the moral claim, their protection demands the earnest care of the Government. It was with a view to this that I have, on several occasions, in addressing your Department, pointed out the economical and satisfactory nature of the native modes of fishing-fearful lest, under representation of others less fully cognizant of the subject, the Department might be lod to take a different and erroneous view.

    I had already intended, beforo the reccipt of your communication, to make the following suggestion for legislation durjng the approaching Session, viz.:-

    That, as a iule, the provisions of the Fishery Act, as modified to suit the exigencics of this Province, whall not be deemed to apply to the Indians, working to supply their own wants in their accustomed way.

    This provision, which I carnestly recommend, is in conformity with the suggestion made by me to the Department under date 12th June, 1876, of which copy is appended. It corresjonds, too, with a special provision which the United States anthorities have found it necessary to introduce in a recent Bill for the regulation of the Fisheries on the Colunnbia River.

    1 am preparing and shall shortly submit a draft of certain rules for cousideration and adoption, in which the suggestion above made will be embodied.

    In conclusion, I may state, that, under the appointment which I temporarily hold for, the settlement of the Indian question in this Province I have had, and shall continue to have, specially favourable opportunities of noting the native wants in various localities. In all cascs, so far, their interests, as fishermen, have received my best attention; and I hall continue to urge my brother Commissioners-whose Views on this subject, I may add, do not differ from my own-the necessity of securing the hereditary privileges of the Indians whenever they may appear to be imperilled. This, I do not question, we can successfully do, while, at the same time, avoiding injurious interference with the important industry now actively advancing, and in the benefits of which the Indians of the sea-board are themselves large participators.

    > I have the honour to be, Sir, Your obedient servant,

    ALEN. C. ANDERSON゙.<br>Inspector of Fishcries, B. C.

    Hon. A. Smith,
    Minister of Marine and Fisheries, Ottawa.
    Sir-I have the honour, by the direction of the Minister of the Interior, to tramsinit for the consideration of the Minister of Marine and Fisherius, a copy of an extract of a letter received from Dr. Powell, the Indian Superintendent of Victoria, calling attention to the movement in British Columbia towards the establishment of salmon canneries in various parts of the coast in that Province, and urging the necessity of adopting stringent regulations to prevent the dostruction of apawniug grounds, and to onsure the Indians the possession of the fishing grounds heretofore used by them.

    The Minister desires me to say that, in ricw of the critical relations between the Government of the Dominion and the Indians of British Columbia, ho thiuks the matter referred to by the Indian Superintendent one of considerable importance, and ho trusts that arrangements will bo mado to protect the Indians in tho possessian of any fishing stations which they have heretofore enjoyed.

    I have the honour to bo, sir,
    Your obedient sorvant,

    > (Signed) A. MEREDITH, Deputy of the Minister of the Interior.
    "The great impetus given to tho establishmont of salmon cannerics this season excites much talk among the Indians of white people monopolizing their favourite fishing grounds.
    "Quite a number of cannories will bo built this year on rarions parts of the coast, and stringent roguiations to prevent the dostruction of spawning grounds, and to provide for the proper protection of Indians in the possession of certain tish-
    ing places-considering themselves as they do, the sole owners of all such localities should be made.
    "I am told that this year, on the Fraser, the cannery firms not satisfied with the extraordinary and almost unprocedented run of fish, have followed them $u_{p}$ to the lakes aud brought them down by steamer.
    "I think much care ought at once to be exercised by the Fishery Department in preventing such untoward acts in the future, and Iam of opinion that our Dopartment should take steps, as soon as possible, to roserve certain fishing grounds for the Indians, who will be sure to create trouble if not thus cared for:"

    No. 18.
    Return showing Number and Value of Vessels, Boats, Nets, \&c., in the Province of British Columbia, for the - Year 1877.
    

    Return showing the Kinds, Quantities, and Value of Fish, \&c.-British Columbia-Continued.
    

    ALEX. C. ANDERSON,
    Inspector of Fisheiies, B.C.
    ${ }^{\text {V }}$ IICtoria, B.C., 27 th January: 1878.

    ## RECAPITULATION.

    ## Yield and Value of the different Fisheries in the Province of British Columbia, during the Year, ${ }^{3} 1877$.

    | Kinds of Fish. | Quantity. | Price. | Value. |
    | :---: | :---: | :---: | :---: |
    |  |  | \$ cts. | \$ ets. |
    | Salmon, Pickled... | 3,561 brls............... | 800 | 28,48800 |
    | do Preserved, in cans............ ................ | 3,234,575 lbs................ | $013 \frac{1}{2}$ | 436,667 76 |
    | do Smoked, Value................................ | ....... ........ ........ ........ | -... | 60000 |
    | Herrings, Pickled............. , ........ ................ | 263 brls...... .......... | 8 CO | 2,104 00 |
    | do Smoked, Value ................ ............ | .... ...... ...... ............. | .... | 1,200 00 |
    | Haddock do do ...... ......... ................ | ........................ ..... | $\ldots$ | 10000 |
    | Sturgeon, Preserved, in caus.......... .............. | 1,000 lbs................. | $012 \frac{1}{2}$ | 12500 |
    | Mixed Fish, other than Salmon......................... | 50 brls.... ........... | 600 | 30000 |
    | Seal-skins.......... ........ ............................... | 5,700 pieces............. | 450 | 25,650 00 |
    | Dog-fish, Seal and Porpoise Oil. ...................... | 115,495 galls.............. | 040 | 46,198 00 |
    | Golithan Oil ............................................ | 10,000 do .............. | 100 | 10,000 00 |
    | Fresh Fish, sold on markets........... Value ........ | ............. ........ ........ | .......... | 3000000 |
    | Fish, Cured, for home consumption. do .........\| |  | . ........ | 2,000 00 |
    | Total Value of the Products of the Fisheries in 1877 do do do 1876 |  |  | 583,432 76 |
    |  |  |  | 104,697 00 |
    | Increase. |  |  | 478,735 76 |

    Quantity and Value of Fish Exported from British Columbia in the year 1877, as per Customs Return.
    

    No. 19.
    REPORT ON THE FISHERIES OF MANITOBA, FOR THE YEAR 187.

    Littie Britain, Lisgar Cucnty,<br>Province of Manitoda, zóth Jamairy, 1878.

    To the IFonorable
    Tho Minister of Marjne and Fisheries, Ottawa.
    Sir,-I have the honou: to forward herewith, in iabular form, the estimated number and value of the fish taken during the year 1877, in tho waters of this Province, and in parts of Labes Winnipeg and Manitoba, adjuent thereto.

    You will observe that the take of whitefish at each of the stations has been greater than last year, making in the aggregate an increaso of thirty-cight thousand, and the price rose from tive to eight dollare per hundred at all the stations. We may attribute the increase to wo rauses:-

    1st. To the incroased number of fishermen who resorted to the various stations noar the mouth of the River Winnipeg.

    2nd. The calm weather that continued during the spawning season, which commenced about the tenth of October, and ended about the beginning of Yovember. Great numbers of the tish are consumed ly the parties who take them; but many thousand are taken into the settlement, especially to Winnipeg.

    ## Sturgcon.

    The catels of tbis excellent fish has been greater than cluring the previous year, but this fish does not frequent the waters of Red River in such numbers as in former times, and although still in undiminished numbers in the Lake, there has been no systematic eflort to take them, yet, I know that soused sturgeon is nothing inferior to soused trout or ailmon.

    The paucity of the number of pike is accounted for by the fact, that the principal angling places near the mouth of the river were within the limits of the Quarantine, and from the fact that those who were wont to live on that kinl of tish were last winter in possession of more or less grain and potatoes.

    ## Catfish.

    The number of this kind of fish taken this year falls short of the number taker. during the previous scason, which may in some degres be owing to the great rise of water in our rivers, and the great quantity of grass and dead leaves floating on the water and gettiog on the lines and hooks, of en breaking the former and elogging the hooks which prevents the fish taking the bait; besides many of the people were in possession of enough food without fishing.

    The decrease in the take of gold eyes may be aseribed to the samo causes. The great decrease in perch, bass and suckers, may, to some extent, be due to the little value (that those who have any other kind of food) set on these fish. For some years past bass have been very few in the Red and Assiniboine Rivers.

    Wo have no fishways; neither has any portion of the "Fisheries Act" beon extended, to my knowledge, to this Province, consequently we have no close season. Here I beg to observe that catfish ought to be protected during the spawning season. The sturgeon enter the river immediately after the ice clears out of the river and commenco operations, which last to the beginning or middlo of June, afterwards returning to the Lake. In former times sturgeon re-entored the river whenever the wind blew freshly from the north or north west, most probably in quest of food; but very few appeared during the last few years.

    If spared and in health, I intend to visit the Icelandic settlement on Lake Winnipeg next weck, and will forward to your Department the information that I may bo able to grather there, and which if it amounts to anything may be published as a supplement to this report, or otherwise as you may deem bost.

    > I have the honour to be, Sir
    > Your obedient selvant,
    > D. GUNN, Sen.
    > Fishery Onerseer for tha? Province of Manitoba.

    Little Britain, 9th February, 1878.

    ## To the Honoratle <br> The Minister of Marine and Fisheries, Ottaria.

    SIR,-I have the honour to inform you that in conformity with the intention ex pressed in my last communication, I'visited the Icelandic Setclement on the west shore of Lake Winnipeg, where I made some enquiries respec!ing their fishing operationsand the suceess that crowned their efforts. The result of these enquiries gave me to understand that the fish taken duting the summer months consisted of the following kinds: Catfish, gold ejes, pike, perch, suntish and suckers, with a chance sturgeon. I further learned that on some oecasions they use long seines with varions success, viz.: In one sweep of the seine they took seven tish,in another 700. The mesbes of these seines are three inches. The west side of the Lake being soft mud, sand or gravel, with few, if any, boulders on the bottom, is very unfiverable for summer nperations. It is a fact well known to fishermen in Keewatin that during the hot wenther in the summer the fish keep in deep water and never approach the shore until the waters become cool, and the leelanders have no boats nor any kind of eraft in which any man of sane mind would like to venture a couple of miles from the shore; as their raft-like skiffs, with their low sides and squaro sterns, forepart, are ill adapted to resist the stormy winds that sweep over the great lake and raise its waters into mountain wares. From what I satw of their nets I feel justitied in siying that they have been ill made; so much so, that one half the meshes were running and under the proper size for whitefish.

    From all that I could learn, the take of whitefish in the sparning season wats not much more than was required to supply the people's dialy wants, and consoquently nothing of importance had been laid up for winter, but as soon as the ice on the Lake had become snfficiently strong, many of the men left their homes in quest of tish; some of them provided themselves with tents, or somo substitutes for the same, stoves, fuel, food and their nets; those travelled to the east, set their nets, protected their tonts and passed the nights on the Lake, but after pitching about for somo time and trying their nets in soveral places, they returned unsuccessful. Others went north, and after travelling from fifty to sixty miles set their nets and caught a considerable number of fish of the best quality; for instance, one took 300 whitefish, another had six nets and caught 900 ; others, according to their means, were equally succossful. But towards the latter cond of January and during the month of February the fish seem to become dornant and do not regain their activity until the snow waters get undor the ice, when fish have over boon taken in great numbers at that season, and wo trust succoss may attend our Icelandic friends in March and April, for I believe their industry deserves success. My visit would have been of longer duration and my enquirics more extensive, had I not been informed at Gimli that your Department had applicd to a gentleman there for the statistical account of the fisherios on the west shore of the Lake.

    I have the honour to $\mathrm{bc}, \mathrm{Sir}$,
    Your obedient sorvant,
    D. GUNN, Sen.
    Fishery Overseer for the Province of Manitoba.

    ## No. 20.

    Return of the Number and Value of Vessels, Boats, Nets, \&c., together with the Yield and Value of Fish in the Province of Manitoba, for the Year 1877.
    

    ## RECAPITULATION

    Of the Yield and Value of the diberent Fisheries in the Province of Manitoba, during the Year 1877.
    Kinds of Fish.

    ## APPENDIX No. i.

    Schedule of Fishery Officers in the Prorinces of Ontario, Quebec, Nova Scotia, New Brunswick, Prince Edward Island, British Columbia, and Manitoba, appointed under the Fisheries Act [1868], with Districts, Post Office Address, Salary, \&c., \&c., distinguishing tho e who, being Fishery Overseers, are instructed to act ex officio as Magistrates, from those who act in the capacity of Fishery Wardens, and do not exercise magisterial powers.

    PROVINCE OF ONTARIO.

    | Name. | District. | Address. | Overseer or Warden. | Salary. |
    | :---: | :---: | :---: | :---: | :---: |
    |  |  |  |  | \$ cts. |
    | Samuel Wilmot.... | $\mid$.................. . .. .......................... ${ }^{\text {a }}$ | New castle .................Officer in <br> charge of <br> fish-breed-$\|$ <br> ing estab- <br> lishments <br> at Ne ew-i <br> castle and <br> Sandwich.i$\|$ |  | 2,000 00 |
    | Henry Hunt......... | Larue's Island .............................. | Rockport .................. | Warden ... |  |
    | John Wallace ...... | Lindoe Island. <br> Lake St. Francis, from Cornwall to Coteau du Lac, and from St. Regis to Ste. Cecile | Lansdown | do .. | 5000 |
    |  |  | Dundee, | Overseer... | 5000 |
    | John Mooney........ Peter Kiel | Brockville to Cornwall. <br> Wolfe and Amberst Islands, and <br> waters around down to Brockville.. | Prescott..................... | do ... | 20000 |
    |  |  |  |  |  |
    | David Conger. | Carrying Place to Point Peter ......... | Wellington. |  | 10000 |
    | Peter Huff, jun .....Wm. A. Palen .... | West Point to Point Peter. Point Peter to Petticoat Point........... | Picton.... |  | 5000 |
    |  |  | Point Peter, Sherry Valley ................ | do ...' | 5000 |
    | John G. Hicks...... <br> Wm. Plews.. | Petiicoat Point to Black River. ........ | South Bay .................. | do ... | 10000 |
    |  | Black River to Bongard's Wharf ....... | Prinyer .. | do | 10000 |
    | Charles Gilcbrist..', | Rice Lake and part of Lake Ontario fronting on the County of Northumberland |  |  | 40000 |
    | Jos. I. Thompson. Hugh Thompson... | Cole's Ferry to Prescott $\qquad$ <br> Westerly limit, County South Leeds to Cole's Ferry, and Islands opposite in St. Lawrence River, including | Port Hope $\qquad$ <br> Brockville | Warden ... | 5000 |
    | David Hamilton.... | Charleston Lake, Gananoque Lake and River. $\qquad$ | Charleston Lake, P.O.. Warden ... |  | 5000 5000 |
    | A. J. Harrington.. John McAllister.... Alfred Knight...... | Lake Scugog (west side).................. <br> Lake shore and inland waters, Counties of Lennox and Addington........ | Port Perry........ | Overseer. | 5000 |
    |  |  | Crsarea... Petworth | Warden. | 5000 20000 |
    | Charles Wilkins ... | Waters of the Bay of Quinte fronting on County of Hastings, and from Carrying Place eastward to Mill Point in the Co. of Prince Edward.. |  |  |  |
    |  | Carried forw | Belleville ................. | do | 3,970 00 |

    Schedule of Fishery Officers in the several Provinces, etc-Continued.

    PROVINCE OF ONTARIO.-Continued.

    | Name. | District. | Address. | Overseer or Warden. | Salary. |
    | :---: | :---: | :---: | :---: | :---: |
    |  | Brought forward.............. |  |  | $\begin{gathered} \$ \text { cts. } \\ 3,97000 \end{gathered}$ |
    | John W. Kerr...... | Whitby Harbor to Port Maitland ...... |  | erseer.. | $60000$ |
    | James G. Wircox... | River Credit | Port Credit. |  | 5000 |
    | Chas. L. Bingham. | That part of the Counties of Norfolk and Haldimand fronting on Lake Erie $\qquad$ | leasant Hill.............. | do ... | 20000 |
    | Alex. McBride ...... | That part of Lake Erie fronting on the County of Elgin .......... | Port Burwell............. | do ... | 5000 |
    | John McMichael... | Lake Erie frontage, County of Kent.. | Rond Eav................... |  | 5000 |
    | Andrew Hughson | River Credit, from Orangeville to Norval, together with the Townships of Mono, East Garapaxa, Albion, Amaranth, Luther and Caledon to Church's Mills Cataract | Orang |  | 5000 |
    | Peter McCann ...... | From London to Thamesville on the Thames River. | London ................... |  | 15000 |
    | E. Boismier......... | Baptiste Creek on Lake St. Clair, to | and |  | 20000 |
    | James Cummins | in Pilie Ialana |  |  | 5000 |
    | D. McMaster | B. hy's Point, on River St. CIair, to | Sarnia | Overseer... | 20000 |
    |  | K. ule Pcint to Point Clarke, Lake |  | do | 10000 |
    | James Muir......... | Puni Clarke to Cape Hurd, including adfacent islands ................. ..... | Port Elgin....... ........ |  |  |
    | Geo. S. Miller...... | Owe 11 Sound to Cape Hurd.............. | Owen Sound | do | 10000 |
    | James Patton....... | Coll ugwood to Point Rich | Collingwood | do | 25000 |
    | Samuel Fraser...... Farquhar McRae... | Poinl Lockburn to Moose Point........ | Midland .................... | do | 10000 |
    | Geo. B. Abrey...... | fron. Baptiste Creek to Baby's Point Maniturlin Islands and adjacent islands iu Lake Huron | Wallaceburg.............. |  | 15000 10000 |
    |  | From Moose Deer Point to Byng Inlet, Georgian Bay........................... | Parry Sound. ............ |  | - 5000 |
    | Alex. Proulx ....... | Byng Inlet to 'Thessalon River. | Killarney.......... ........ | do ... | 5000 |
    | Jos. Wilson | Thessnlon River to head of Lake Superior | Sault Ste. Mar | verseer... | 10000 |
    | James Dickson...... | Lake Superior, extending from Slate Island to mouth of Pigeon River.... | $\begin{aligned} & \text { Prince Arthur's Land- } \\ & \text { ing } . . . . . . . . . . . . . . . . . . . . . . . . ~ \end{aligned}$ |  |  |
    | Alex. McKenzie .... | Lake Simcoe a |  |  | 50 |
    | Wm. R, Young...... | Lake Simcoe, from Cook's Bay to Beaver:on |  |  |  |
    | George Cochrane.. | Inland waters, Co. Peterboro', including Pigeon, Deer, SalmonTrout, Stony, Sturgeon and Chemong Lakes. |  |  | 20000 |
    | Daniel Bowen....... | Upper Division or East Riding, Co. Peterboln', comprising waters of Gull and Burnt Rivers and tributaries, together with Drag, Eagle, Moose, Redstone, Crooked and other lakes within such limits........ | Haliburton |  | 20000 |
    | James McFadden.. | Mississippi liver and Lake ............... | Oarleton Place............. | do | $3000$ |
    |  | Madawask: River and Lake des Chats | Arnprior .. ..... | do | 5000 |
    |  | Renfrew $\qquad$ <br> Carried forward $\qquad$ | Sand Point................. | do | $\frac{50}{7,200} 00$ |

    ## Schedule of Fishery Offers in the several Provinces, \&c.-Continued

    PROVINCE OF ONTARIO.-Continued.
    

    PROVINCE OF QUEBEC.
    

    Sceedule of Fishery Officers in the several Provinces, etc.-Continued.

    PROVINCE OF QUEBEC.-Continued.

    | Name. | District. | Address. | Overseer or Warden. | Salary |
    | :---: | :---: | :---: | :---: | :---: |
    |  | Brougt forward... |  |  | $\begin{array}{r} \$ \text { cts } \\ 3,160 \\ 00 \end{array}$ |
    | J. E. Demeule ...... | River du Gouffre to Canard River, including inland Lakes adjacent to Murray Bay and St. Paul's Bay...... | Murray Bay.......... ..... | Warden ... | 5000 |
    | Etienne Tremblay. Jos. Simard | Lakes in rear of Murray Bay and | $\left\{\begin{array}{l}\text { Bay St. Paul............ } \\ \text { St. A gnes........... }\end{array}\right.$ |  | $\begin{aligned} & 3000 \\ & 4000 \end{aligned}$ |
    | Antoine Filion ...... | \} Bay St. Paul .. ........................ | Bay St. Paul............. |  | 3000 |
    | F. Saillant........... | Waters in Counties of Chicoutimi and Saguenay. | Tadousac.................. | Overseer .. | 15000 |
    | Job Bilode | Lake St. John and tributaries, Dpper Saguenay. | Metabetchouan.... ....... |  |  |
    | Joseph Boily | Escoumains to Bersımis ................... | Milles Vaches ......... |  | 5000 |
    | G. L. Duguay. | North Shore, from Manicouagan to Point des Monts, including Becs:ie, Mistassini and Godbout Rivers. | Godbout .. ..... ............ |  | 15000 |
    | J. O. Belanger. | North Shore River St. Lawrence, from Point des Monts to Bay des Rochers, including Trinity and Penteeost Rivers................................. ........ | Islet. | do | 15000 |
    | G. Mathurin......... | Moisie District, from Point Jambon to Point St. Charles, including Moisie River $\qquad$ | Montmagny.. ............. | Overseer .. |  |
    | D. B. McGie | Esquimaux Point to Sheldrake River.. | Port Daniel ............... |  | 10000 |
    | P. C. Gobeil......... | Watsheerhoo District, from A teepetal Bay West to Little Watsheeshoo River East... | Natashquan............... | do ... | 15000 |
    | J. B. Couillard..... | Natashquan District, from River Nabisippi to Point Kegascha. | Montmagny.............. | Overseer... |  |
    | J. Legouvé.......... | St. Augustine Division, from Cape Whittle to Checatica... |  | .. | 10000 |
    | W. H. Whitley...... | Bonne Esperance Division, from Checatica to Blanc Sablon. $\qquad$ | Bonne Espérance |  |  |
    |  | Magdalen Islands .... ......... |  | Overseer... | 5000 |
    | W. C. Willis......... | Waters in District of St. Francis....... | Sherbrook |  | 15000 |
    | H. W. Austin ....... | District of Montreal and Richelieu, together with Richelieu River and tributaries $\qquad$ | Chambly.................. |  | 20000 |
    | S. F. Copp | Lake Memphremagog, in the Counties of Stanstead and Brome.......... | Georgeville .............. |  | 10000 |
    | J. B. Chevalier..... | Rıckelieu River, from St. John to Lake Champlain | St. Jean, Iberville | do | 10000 |
    | Pierre Latraverse.. | That part of the River St. Lawrence bordering on the Counties of Richelieu, Yamaska and Berthier, in the Province of Quebec, including Sorel and adjoining islands............ | Sorel | Warden .... | 10000 |
    | P. E. Luke | Mississquoi Bay in Lake Champlain and Pike River $\qquad$ | Phillipsburg.............. |  |  |
    | Wm. Clyde........... Andrew Watt....... | Chateanguay River and tributaries... River Chateauguay, from mouth to village. $\qquad$ | Huntingdon ... | do | 5000 5000 |
    | Alexander Beaton. | The inland waters in rear of the County of Argenteuil....... ............ | Lost River, P. O., Harrington..................... |  | 5000 3000 |
    | L. J. Loranger...... | The inland waters of the County of Terrebonne. $\qquad$ <br> Carried forward $\qquad$ | St. Sauvenr |  | $\frac{10000}{5,59000}$ |

    ## Schedule of Fishery Officers in the several Provinces, \&c.-Continued.

    PROVINCE OF QUEBEC.-Continued.
    Name.

    PROVINCE OF NOVA SCOTIA.
    

    Schedule of Fishery Officers in the several Provinses, etc.-Continued.

    PROVINCE OF NOVA SCOTIAB-Continued.

    | Name. | District. | Address. | Overseer or Warden. | Salary. |
    | :---: | :---: | :---: | :---: | :---: |
    |  |  | Upper South River, <br> Antigonish. |  | $\begin{array}{cc} \$ & \text { cts } \\ 2,740 & 00 \end{array}$ |
    |  |  |  |  |
    |  |  | den ... | 2000 |  |
    | John Dexter | From Antigonish Harbor (foot of marsh), to Trotter's Mill Brook, thence up said Brook to Trotter's Mill, including both branches of West River and Bailey's Brook... |  |  |  |
    | Donald Chisholm..'From Trotter's Mill Brook to W. <br> Thompson's Dam |  |  | Salt Springs, Antigonish | do | 3000 |
    | Alex. Macadam. | From Thompson's Dam to Addington <br> Forks' Bridge $\qquad$ |  | West River, Addington Forks, Antigonish ... | do | $2500$ |
    | Hugh Cameron ..... | From Forks' Bridge to Pinkeytown Bridge, including James River and Beaver River $\qquad$ |  |  | 2500 |
    | Duncan Fraser. James Chisholm.... | From Pinkeytown Bridge to Stewart's | \|lal| | $\begin{array}{ll}  & \cdots \\ \text { do } & \cdots \end{array}$ | $2000$ |
    |  | Mill $\ldots$ Campbell's Rock, on Pomquet |  |  |  |
    |  | River to V. Chisholm's Mill on the Eastern Branch, and to Alexander McDonald's Mill on the Western Branch. |  |  |  |
    |  | Cape Breton County |  |  |  |
    | Francis Quinan . | From Low Point to South Head of Cow Bay, and north side of Mira Bay, including Salmon River and Sydney River. $\qquad$ | Sydney | verseer... |  |
    | Anthony Spencer.. | Mira River, Black Brook.................. | Mira Gut, W | Warden ... | 25 |
    | Wm. Burke........... | Mira Bridge and 'T'rout Brook | Burke's Bridge, Mira River.................... | do |  |
    | John McEachen. | Salmon River.. | Grand Mira, Arichat... | do | 2500 |
    | Thos. Moore......... | \|Balls ard Leeche's Creek | North Sydney. .......... | do | 2000 |
    | Donald McDonald.. | Sydney River and Forks. | \|Lingnil ....................: | do | 2000 |
    | Alex. McLean. .... York Barrington... | Mill Brook North of East Bay to head of Sydney River, including part of Boularderie | Mill Brook. | do | 2000 . |
    |  | Island ................................... | Sydney Mines | rerseer | 12000 |
    | Alex. McDonald.... | Nouth of Ebst Bay to Salmon River... | Cast Bay | do | 12000 |
    | Angus Morrison..... | Marion Bridge, Mira | Marion Bridge, |  | 2500 2500 |
    | Denis Murphy ..... | Ponds, Sydney Mines.. | Ponds, Sydney Mines... |  | 2500 |
    | D. McDonald........ | Salmon Holes, Sydney Fork | Sydney..................... | do | 2500 |
    | M. McLellan ......... <br> P. Keefe. ...... ...... | Rory Brack's Brook................. ........ North-West Brook, Grand Lake and tributaries. | Rory Brack's Brook ..... |  | 2500 2500 |
    | Donald M' Cormack John McNeil. $\qquad$ | Leitche's Creek and George's River... Benacsdie Kiver emptying into Bras d'Or Lake $\qquad$ | Leitche's Creek, W.O... Benacadie, W.O......... |  | 2500 2500 2500 |
    |  | Carried forward |  |  | 3,605 00 |

    Schedule of Fishery Officers in the several Provinces, etc.-Continued.

    PROVINCE OF NOVA SCOTIA-Continued.

    | Name. | District. | Address. | Overseer or Warden. | Salary. |
    | :---: | :---: | :---: | :---: | :---: |
    |  | Brought forward. |  |  | $\begin{array}{cc} \$ & \text { cts. } \\ 3,605 & 00 \end{array}$ |
    |  | Colchester County. |  |  |  |
    | Wm. Blair | Colchester County, East Division.. | Onslow | Overseer... | 10000 |
    | G. N. Christie | Salmon River.. | Truro | Warden ... | 2500 |
    | Samuel Frame | Shubenacadie River. ............... | Shubenacadie River. . | do ... | 2500 |
    | R. J. Pollock . | Stewiacke River (lower portion)...... | Lower Stewiacke ....... | Overseer .. | 7500 |
    | George Fulton..... | do (upper portion)....... | StewiackeRiver, Brookfield. $\qquad$ | Warden ... | 2500 |
    | J. Bonyman. ....... | Northern Division, Co. Colchester, comprising Tatamagouche Bay, French and Waughs' Rivers........... | New Annan | Overseer .. | 4000 |
    | J. W. Davison | Colchester County, West Division..... | Upper Economy | do ... | 10000 |
    | J. Urquhart........ | Waughs' River... ........ ......... ........... | Tatamagouche River... | Warden ... | 5000 |
    | W. McElbeney...... | De Bert River... | Londonderry ............. |  | 2500 |
    | Henry Urquiart. | Folly River ... | do | do ... | 2500 |
    | Thos.Davidson,2nd | Portapique River............ ....... ...... | Portapique, W.O | do ... | 2500 |
    | George Moore..... | Economy River ...... ............ | Economy. . | do | 2500 |
    | Mat. G. Murray | :almon River.. | Truro ..... | do ... | 2500 |
    | William Winton. | Lower Stewiacke River | Lower Stewiacke |  | 2500 |
    | Alfred Wright ...... | do do . | dn | do | 2500 |
    |  | Cumberland Oounty. |  |  |  |
    | Isaac J. Hingley.... | Oumberland Co., Enstern Division, embracing all streams emptying into the Straits of Northumberland..\| |  | Overseer .. | 10000 |
    | Oliver Fillmore .... | River Philip, Hanam's Falls, upwards. | River Philip | Warden ... | 2500 |
    | John W. Moore ..... | do do downwards. |  |  | 2500 |
    | Jer. Brownell........ | Shinimicas River. | Shinimicas, Goose R ...' | do ... | 2500 |
    | Asa Fillmore....... | River Philip ...... ......................... | River Philip..... ........\| | do ...! | 2500 |
    | James King........... | Cumberland County, Western Division, including all streams flowing into the Bay of Fundy .................. | Amherst $\qquad$ | Overseer .. |  |
    | Davil Corbett ...... | Laplanche and Nappau Rivers......... |  | Warden ... | 2500 |
    | Moses Harrison...... | Maccan River........ ........ ........ ........ | Maccan, W.O............. | do ... | 2500 |
    | John Canham........ | River Hebert.. .................... ........ .. | River Hebert.............. | do . | 2500 |
    | Francis L. Jenks... | Parrsboro' Head ............................ | Parrsboro' ................. |  | 2500 |
    | W. C. Rindress...... | Wallace River ...... ...................... | Wallace ... ........ ......... |  | 3000 |
    | Elijah Fowler ...... | Diligent, Ramshead and Fox Rivers, including fisheries from Partridge Island to Spencer Island ................ | Diligent River, Parrsboro' ...................... | do ... | 3000 |
    |  | Digby County. |  |  |  |
    | J H. Morehouse ... | Digby Countr ......... ........ ............. | Hillsburg ................ | Overseer .. | 12000 |
    | Abraham L. Gavil. | Joggins River... ..................... ...... | Digby | Warden ... | 2500 |
    | J. M. Devault........ | Salmon River....... ......................... | Salmon River, W.O..... | do | 2500 |
    | Lochlin McKay ..... | St. Mary's Bay ........... ........... ........ | St. Mary's Bay, W.O.... |  | 2500 |
    | Robert Journey..... | Sissaboo River...... ........................ | Weymouth........... ..... | do | 2500 |
    | J. P. Thibodeau.... | Metaghan River and Comeau's Brook.\| | Metaghan River. ......... | do ... | 2500 |
    | Holland E. Payson. | Brier and Long Island. ...................\| | Brier Island............... | Overseer .. | 5000 |
    | Louis A. Mêlançon. | West Division, Digby County............. <br> Carried forward $\qquad$ |  | do | $\begin{array}{r}7500 \\ \hline 5,05000\end{array}$ |

    ## Schedule of Fishery Offices in the several Provinces, etc.-Continued.

    PROVINCE OF NOVA SCOTIA-Continued.
    

    ## Schedule of Fishery Officers in the several Provinces, etc.-Continued.

    PROVINCE OF NOVA SCOTIA.-Continued.
    

    ## Schedule of Fishery Officers in the several Provinces, \&c.-Continued.

    PROVINCE OF ENOVA SCOTIA.-Continued.
    

    Schedule of Fishery Officers in the several Provinces, etc.-Continued.

    PROVINCE OF NOVA SCOTIA-Continued.

    | Name. | District. | Address. | Overseer or Warden. | Salary. |
    | :---: | :---: | :---: | :---: | :---: |
    |  | Bro ght forward............. |  | ...... ........ | $\begin{array}{cc} \$ & \text { cts. } \\ 9,050 & 00 \end{array}$ |
    |  | Pictou County.-Continued. |  |  | , |
    | David Langille ..... | River John | River John ................ | Warden | 2500 |
    | George McKenzie.. | Cariboo River ................ | Oariboo River ............ |  | 2500 |
    | Johp McDonald ... | Barney's River, from McDonald's <br> Bridge to Head .................... ..... | Barney's River, W.0... |  | 25 CO |
    | P. Delaney. | East River, from Iron bridge to Grant's Factory, from tide to Iron Bridge Coal Mine | Churchville.............. |  | 2500 |
    | William Frazer... | Grant's Factory to East Branch Lake | Bridgeville... |  | 2500 |
    | Donald Frazer ..... | Fork and West Branch Lake............ | Hopewell...... |  | 2500 |
    |  | Queen's County. |  |  |  |
    | Samuel T.N.Sellon | Queen's County............. ................. | Liverpool. ................. | Overseer... | 15000 |
    | Stephen Clements. | Fort Point to Salmon Rocks, Milton Bridge, on Liverpool River... |  | Warden. ... | 2500 |
    | Theodosius Ford. | Milton Bridge up to Port Liverponl River................................. | Milton. |  | 5000 |
    | Geo. Snadden | Salmon Rock to Puddingpan Island, around the Coast | Liverpool. |  | 2000. |
    | Henry Hooker..... | Puddingpan Island to Toby's Island, up Port Medway River, to Dog Cove |  |  | 3000 |
    | John Fitzgerald.... | From Steam Mills to Salter's Falls on Port Medway River...... | Mill Village |  | 3000 |
    | Barnabas Miles | Salter's Falls to Pawn Hook on Port Medway River. $\qquad$ |  |  | 2000 |
    | Stephen Smith | Pawn Hook to Brookfield ................. | Liverpool. ..... |  | 2000 |
    | Jonathan Smith.... | Fort Point to Western Head, Liverpool Harbor. |  | do ... | 1500 |
    | James Farquhar | Western Head, Liverpool Harbor to Broad River, Port Mouton and Port. Joli $\qquad$ |  | do | 3000 |
    | Solomon Lonas. | Port Medway River.,..................... | Mill Village. | do | 3000 |
    |  | Richmond County. |  |  |  |
    | Duncan Cameron.. | Eastern Division, from River Bourgeoise to East Boundary of County, |  |  |  |
    |  | including said river......................\| | St. Peters ............... | Overseer... | 12500 |
    | John Murchiso | GranG River........... ..................... | Grand River, W.O .... | Warden.... | 3000 |
    | Edward Ballam..... | Western Division, from River Bourgeoise to West. Butundary of County | Arichat ..................... | Overseer | 12500 |
    | P. W. Grouchy | Deconsse River............................... | Decousse River, Arichat | Warden.... | 3000 |
    | John Proctor, sen.. | Inhabitants River.. | Port Hawkesbury. ..... | do | 2000 |
    | Abraham Sampson | Petit Degrat [nlet. ..... ..... .............. | Petit Degrat............... | do | 3000 |
    | Justinian Sampson | L'Ardoise.......... .... ........ ...... ........ | L'Ardoise. | do ... | 3000 |
    | Charles Grant...... | River lnhabitants.. ......................... | River Inhabitants.. .... | do ... | 2000 |
    | Alex. Smith......... | West Bay, Black River..................... | West Bay................... |  | 3000 |
    | Edward Madden... | Rear of River Bourgeoise................. | River Bourgeois ........ |  | 3000 |
    | Geo. Donahoe...... | River Moulia....... ...... .......... ......... | River Moulin, Grandigue Ferry, W.O.... |  | 3000 |
    | Patrick Kyte....... | River Tier. | River Tier, St. Peters.: |  | 2500 |
    | Felix Gerroir....... | Grand Ruisseau................... .......... | Grand RuisseauArichat |  | 2500 |
    | William Kehoe...... | False Bay and Breen's Brook <br> Carried forward $\qquad$ | River Bourgeoise, W.O\| |  | $\frac{2500}{10,19500}$ |

    Schedule of Fishery Officers in the several Provinces, etc.-Continued.

    PROVINCE OF NOVA SCOTIA.-Continued.

    | Name. | District. | Address. | Overseer or Warden. | Salary. |
    | :---: | :---: | :---: | :---: | :---: |
    |  | Brought forward $\qquad$ <br> Shelburne County. | . | . | $\begin{gathered} \$ \text { cts. } \\ 10,19500 \end{gathered}$ |
    | Samuel Muir | Shelburne Count | Shelburae. | Overseer... | 12500 |
    | William McKay | Clyde River...... |  | Warden.... | 2000 |
    | M. Greenwood.. | Round Bay River | Clyde River, W.O. .... |  | 2000 |
    | George Archer...... | Birchtown River............................. | Shelburne ..... ... ......... | do | 1500 |
    | Richard McGill ..... | Roseway River. | do ... |  | 2000 |
    | James Turner........ | Jordan River | do |  | 3000 |
    | L. Freeman ........ | Sable River ............... .......... ....... | Sable River, W.O | do ... | 3000 |
    | Henry Ackerman... | Green Hurbor................................. | Ragsed Island, Locke'si <br> Island, W. 0 ........... |  | 2000 2000 |
    | P. Crowell...... ... | Barrington River. <br> Victoria County. | Barrington . |  |  |
    | J. W. Burke ........ | Victoria County, North Division, from Smoky Head to Bay St. Lawrence... |  | Overseer .. | 12000 |
    | Donald McRae, jun | do South Division......... | Baddeck... | do | 12000 |
    |  |  | Middle River, W.O., Baddeck............... |  | 2500 |
    | John McDonald... | Middle River, Upper Settlemen | Baddeck. |  | 2500 |
    | Dooald McQuarrie. | do ............... ............... | do ......... |  | 2500 |
    | Donald McMillan... | Baddeck River...... ........................ | Middle River, W.O., Baddeck .... ............ |  | 2500 |
    | Donald McAuley. |  | Baddeck | do | 2500 |
    | Hector McKenzie. | North River | North River, W.O...... |  | 2500 |
    | Donald Mckae.. | Baddeck River and tributaries. | Baddeck |  | 2500 |
    | Francis Arnold.... | do North Branch | do |  | 2500 |
    | Angus McDonald.. | Washabuck River. |  | do | 3000 |
    | Kenneth Campbell | Indiau Brook | Middle River.. |  | 3000 |
    | Rodrick Beaton..... | Hume's River... | McNaughton's, | do | 3000 |
    | William Foyle .... | Peter's Brook. | Baddeck Rive | do | 3000 |
    | John McCbarles ... | Upper Settlement.. | Middle River | do | 3000 |
    | Donald Bochaman. | Parachois River. .. | Barachois Rive | do | 3000 |
    | Malcom Mciver.... | Indian Brook | Indian Brook | do | 3000 |
    | Jos. Guinn. | North River.. | North River |  | 3000 |
    | Geo. Burton-...... | Salmon River, Bay St Lawreace | Bay st. Lawreace....... |  | 3000 |
    | Jos. Helen...... ..... | Cape North $\qquad$ <br> I'armouth County. | Cape North...... ....... |  | 3000 |
    | Enos Gardner. <br> J. A. Hatfield. | Yarmouth County.......................... From Reyard's Falls to Lower Nar- | Tusket | Overseer... | 15000 |
    |  | rows, Tusket River.. ........ ...... |  | Warden.... |  |
    | William Kavanagh | Gurill's Bridge to Coldstream........... | do ..................... | do ... | 2500 |
    | William Prosser ... | Branches of River above Keynard's Falls |  |  | 2500 |
    | Eustace Nickerson | Salmon River.................................... | Yarmouth | do ... | 2500 |
    | Edward Perry . | Little River |  |  | 2500 |
    | Jerome Doucet. | Tusket River | Tusket |  | 00 |
    | Vital Mrise... | Tusket Forks | Tusket For |  | 2500 |
    | Joseph M. White... | Eel Lake. | Eel Lake. | do |  |
    | Waw. Thurston, sen | Chegoggin River. | Chegoggin River | do | 2500 |
    |  | Total..... . |  |  | 11,640 00 |

    ## Schedule of Fishery Officers in the several Provinces, etc.-Conlinued.

    PROVINCE OF NEW BRUNSWICK.

    | Name. | District. | Address. | Overseer or Warden. | Salary. |
    | :---: | :---: | :---: | :---: | :---: |
    |  |  |  |  | \$ cts. |
    | W. H. Venning..... <br> C. R. Venning...... | New Brunswick............................. | St. John, N.B. <br> do $\qquad$ | Inspector Fisheries Clerk. ...... | $\begin{array}{r} 1,40000 \\ 40000 \end{array}$ |
    |  | ......................... ................. ........ |  |  |  |
    |  | $A$ |  |  |  |
    | Winthrop Akerly ..lCounty of Albert ........................... |  |  | Overseer... |  |
    |  |  | Harvey <br> Coverdale. $\qquad$ $\qquad$ |  |  |
    | Wallace Taylor .... C. McLatchey....... | Mouth of Petitcodiac River and Dor- |  | Warden ... |  |
    |  |  |  |  |  |  | 4000 |
    | Jacob Beck | Pollet River .................................. | Elgin .......... ............. |  | 3000 |
    | J. E. Kinne........... | Germantown Lake and Shepody River | Hopewell Corner.. |  | 4000 |
    | B. Oliver.............. | Rocher Bay................................... | Waterside.. ............... | do | 4000 |
    |  | Carleton County. |  |  |  |
    | Hugh Miller ......... | Miramichi River (S.W.) from Head Waters to Forks | Glassville ................. | Overseer... | 3000 |
    | Hugh Harrison <br> George Burt. .. .... <br> J. K. Scott. | St. John River and tributaries, from Long's Creek to Tobique River...... |  |  |  |
    |  | St. John River ................................ | $\begin{aligned} & \text { Woodstock ................ } \\ & \text { Opper Woodstock...... } \end{aligned}$ | $\begin{array}{cc} \text { do } . . . \\ \text { Warden ... } \end{array}$ | 100 3000 |
    |  | St. John River, from Eel River to Woodstock. | Canterbury ............... | do | 3000 |
    | William Thompson | The Upper Waters of the South West Miramichi, in the Parish of Aberdeen | East Glassville,Smith's <br> W.O........................ |  | 3000 |
    |  |  |  | do ... |  |
    | B. L. Cunningham James Brown....... | Inner Bay of Passamaquoddy............. Campo Bello and West Isles, with coast and streams in Charlotte Co.. | Chamcook, W.0........ | Overseer... | 4000 |
    |  |  |  |  | 10000 |
    | Patrick Curran.... <br> W. B. McLaughlin | St. Croix River and tributaries ......... | Milltown, St. Stephen..Grand Manan............. | do $\cdots$ | 12000 |
    |  | Grand Manan Island and spawning grounds. $\qquad$ |  | do .0. | 4000 |
    | Samuel Dick........ | St. George to Beaver Harbour........... | La Tête, W.O............ | Warden ... 1 | 3000 |
    | Robert Dixon.......Leonard Best......J. M. Lord........... | Seeley's Cove to Lepreaux East District, from La Tête to Lepreaux $\qquad$ | Lepreaux ................. | do .. | 3000 |
    |  |  |  | Overseer .. |  |
    |  | Deer Island <br> From St. Andrews to mouth of St. <br> Croix River | Deer Island............... | (Verseer .. | 5000 |
    | J. M. Lord............ James Russell....... <br> Andrew Gilmour.. |  | St. Andrews...... ........ | $\begin{array}{\|cc\|}\text { Warden } & . . \\ \text { do } & \ldots \\ & \text { do }\end{array}$ |  |
    |  | Northern Head, Grand Manan ........ | Grand Manan............. |  | 3000 3000 |
    | Andrew Gilmour. Edward Carroll..... |  | do ............ | do $\ldots$ <br> do $\ldots$ <br>  Overseer... | 303000 |
    | John Thomson..... John Catharan...... | West side, Deer Island <br> The Wolves, Mace's Bay and l'Etang <br> Harbour. $\qquad$ | Deer Island <br> The Wolves. |  |  |
    |  |  |  |  | 5000 |
    |  | Gloucester County. |  |  |  |
    | James Hickson ..... | River Nipissiguit and tributaries, with sea coast und streams from Bellednne River to Grindstone Point...... |  |  | $25000$ |
    | William Bateman.. | 'Nipissiguit River $\qquad$ <br> Carried forward. $\qquad$ | $\left\lvert\, \begin{gathered} \text { Bathurst ...................... } \\ \text { do ................... } \end{gathered}\right.$ | Overseer... Warden ... | $5000$ |
    |  |  | ......... ......... ................ | $\|\cdot . . . . . . . . . . .\|$ | 3,490 00 |

    Schedule of Fishery Officers in the several Provinces, etc.-Continued.

    PROVINCE OF NEW BRUNSWICK-Continued.
    

    Schedule of Fishery Officers in the several Provinces, etc.-Continued.

    PROVINCE OF NEW BRUNSWICK.-Continued.

    | Name. | District. | Address. | Overseer or Warden. | Salary. |
    | :---: | :---: | :---: | :---: | :---: |
    |  | Brought forward........... | ... ........................ | ............. | $\begin{array}{r} \$ \text { cts. } \\ 4,94000 \end{array}$ |
    |  | Northumberland County-Continued. |  |  |  |
    | N. B. T. Underhill.. | From Lower line of Blackville to Blissville. $\qquad$ | Blackville | Overseer .. | 16000 |
    | John Hogan ......... | Miramichi River (N.W.) and tributaries from Chatham Ferry upwards.. | Newcastle |  | 40000 |
    | Aaron Hovey . ...... | Miramichi River (S.W.) and tribu-1 taries from Nelson's to Head of Hovey Island.. | Boiestown |  | 3000 |
    | George Bryantoa... | From Elm Tree Brook to Squire Underhill's, on the S.W. Miramichi River. |  |  | 3000 |
    | Kenneth Cameron. | Miramichi River (S.W.) from line of Blissfield to the head waters and tributaries. $\qquad$ | Boistown.................. | Overseer... | 10000 |
    | Patrick Bergin...... | From Underbill's to Stephen Nitchell's, ou S.W.. | Dumphey, W.O.,Parish of Black ville, S.W. Miramichi | Warden... | 3000 |
    | Thomas Smith ... .. | From lower end of Fingley's Island, on N.W. Miramichi, upwards, and the Big Sevogle.. $\qquad$ | North Esk, Red Bank, W. 0 $\qquad$ | . | 3000 |
    | J. A. Somers........ | From lower side of Ox Bow , on "the Little South West, upwards.. | do do | Overseer... | 3000 |
    | Patrick Gillis ...... | Little S.W. River and tributaries...... | do do ${ }_{\text {denous }}$ do. | Warden ... | 3000 3000 |
    | Denis Hogan........ | Renous River and tributaries........... P | Renous Bridge, W.O... | do $\cdots$ | 3000 1800 |
    | Michael Donovan .. | Renous River................................. ${ }^{\text {R }}$ | Renous Bridge. ........... | Warden ... |  |
    | Thomas McKenzie.. | From Dunbar's Point on S.W. Miramichi to lower end of Fingley's Island; on Little South West to lower side of Ox Bow. | Red Rank, ${ }^{\text {North Bsk }}$ |  | 3000 |
    | Henry Oldfield...... | Big Sevogle to Square Forks. ........... | do do ... | do | 3000 |
    | FindlayMcDiarmid | Napan and Black Rivers and tributaries. | Nappan, W.O............ | do | 3000 |
    | John Williston..... | Bay du Vin River and Bay, with Parish of Hardwick, Fox and other Islands and Stations on South side of Main Ohannel of Miramichi River | Bay du Vin, W.O........ | Overseer... | 10000 |
    | James Russell. | Miramichi Bay and Feeders............. | Lower Newcastle........ | do ... | 15000 |
    | Thomas Taylor ..... | South West Miramichi, within Parisb of Blissfield.. | Blissfield ........... ........ | Warden ... | 5000 |
    | William Wyse ...... | Herring Fisheries, Miramichi Bay, and Bass Fishing in Napan Bay and Black River.. $\qquad$ | Chatham................... | Orerseer... | 20000 |
    | Samuel Freeze | From Doaktown to Hovey:Islands, in the Parish of Blissfield, on the South West Miramichi River. ......... | Doaktown, Miramichi.. | do ... | 10000 |
    | John Holmes. | From lower side Ox Bow, on Little South West Miramichi, upwards..... | Ox Bow, Miramichi ..... | do .. | 5000 |
    | Nat. Morehouse..... | Arbo Settlement, Parish of Blackville, South West Miramichi.. | ArbogSettlement ....... | Warden ... | 3000 |
    | J. T. Coughlan..... | Coughlan Settlement, Parish of Black ville, South West Miramichi... | Coughlan Settlement . |  | $30 \quad 00$ |
    | John Doyle .......... | Tabueintac and Bartibog Rivers. <br> Carried forward $\qquad$ | Bartibog... ................. | do | $\begin{array}{r}3000 \\ \hline 6,65800\end{array}$ |

    ## Schedule of Fishery Officers in the several Provinces, etc.-Continued.

    PROVINCE OF NEW BRUNSWICK.-Continued.
    

    Schedule of Fishery Officers in the several Prorinces, etc.-Continued.

    PROVINOE OF NEW BRUNSWICK.-Continued.

    | Nrme. | District. | Address. | Overseer or Warden. | Salary. |
    | :---: | :---: | :---: | :---: | :---: |
    | J. Campbell........ | Brought forward Fork County. | Kingsclear, W.O., Fredericton | ............ | $\int_{7,898} \mathrm{cts}_{00}$ |
    |  | Grand Pass on St. John River upwards from Crock's Point to Lower Line of York County, including Nashwaak River $\qquad$ |  | Warden.... | 6000 |
    | Wm. Brown......... | St. John River, from Upper Line of York County to Crock's Point, on Fiver St. Sohn $\qquad$ | Southampton | do ... | 6000 |
    | A. Moir............... | From Price's Bend to Burnt Sill, S.W. Miramichi. $\qquad$ | Bloomfield................. | do ... | 3000 |
    |  | Total................ ......... | .... ......... ................. | . ..... | 8,048 00 |

    PROVINCE OF PRINCE EDWARD ISLAND.
    
    $1-62$

    ## Schedule of Fishery Officers in the several Prorinces, etc.-Continued.

    PROVINCE OF PRINCE EDWARD ISLAND.-Continued.

    | Name. | District. | Address. | $\begin{gathered} \text { Orers } \\ \text { or } \\ \text { Ward } \end{gathered}$ |  | Salary. |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | Brought forward......King's County.-Continued. |  |  | ..... |  | $\begin{array}{cc} \$ \quad \text { cts. } \\ 1,110 & 00 \end{array}$ |
    |  |  |  |  |  |  |
    | James MacAulay...Patrick MacInnis.. | Midgell Rlver.......................... ..... | Midgell Hiver............. | dodo |  | 30003000 |
    |  | North Lake ... . ..................... ........ | North Lake............... |  |  |  |
    | Wm. R. Dingwell.. | Bay Fortune River......................... | Bay Fortune River..... | du |  | 30003000 |
    | Joha Srien........... | Nautrage River............. ................ | Naufrage River ... ..... | do |  |  |
    | Thomas Clay Duncan D. Campbell $\qquad$ | Grand River.......... ...................... | Grand River......... ... .. | do |  | 3000 |
    |  | Montague River................................ Murray Harbour | Montague................. |  |  | 30.00 |
    | Francis Cook....... |  | Murray Harbour......... | do |  | 30.003000 |
    | Andrew Whelan... | Souris River.................................... Souris River............... |  | do |  |  |
    |  | Total |  |  |  | 1,350 00 |

    ## PROVINCE OF BRITISH COLUMBIA.

    

    PROVINCE UF MANITOBA.
    Donald Gunn........|Manitoba .......................................|Little Britain..............|Overseer...| 200 00

    RECAPITULATION.
    

    ## A. J. SMITH, Minister of Marine and Fisheries.

    APPENDIX No. 2.

    Statement of Expenditure on account of Fisheries, for the Fiscal ended 30th June, 1877.
    

    Statement of Expenditure on account of Fisheries, etc.-Continued.
    

    Statement of Expenditure on account of Fisheries, etc.-Conlinued.
    

    Statement of Expenditure on account of Fisheries, etc.-Continued.
    

    Statement of Expenditure on account of Fisheries, etc.-Continued.
    

    Statement of Expenditnre on account of Fisheries, etc.-Conlinued.
    

    Statement of Expenditure on account of Fisheries, etc.-Contimued.
    

    ## Stafement of Expenditure on account of Fisheries, etc,-Continued.

    

    Statement of Expenditure on account of Fisheries, etc.-Continued.
    

    Statement of Expenditure on account of Fisheries, etc.-Continued.
    

    Statement of Expenditure on account of Fisheries, etc.-Coniinued.
    

    Statement of Expenditure on account of Fisheries, etc.-Continued
    

    Sta menent of Expenditure on account of Fisheries, etc.-Continued.
    

    Statement of Expenditure on account of Fisheries, etc.-Continued.
    

    Statement of Expenditure on account of Fisheries, etc.-Continued.
    

    Statement of Expenditure on account of Fisheries, etc.-Con/inued.
    

    Statement of Expenditure on account of Fisheries, etc.-Continued.
    

    Statement of Expenditure on account of Fisheries, etc.-Continued.
    

    ## Statement of Expenditure on account of Fisheries, etc.-Continued.

    

    Statement of Expenditure on account of Fisheries, etc.-Continued.
    

    Statement of Expenditure on account of Fisheries, etc -Continued.

    | To whom paid. | Service. | Amount. | Tutal. |
    | :---: | :---: | :---: | :---: |
    |  | Brought forward | $\begin{array}{cc} \$ & \text { cts. } \\ 1,779 & 12 \end{array}$ | $\begin{gathered} \$ \text { cts. } \\ 12,03270 \end{gathered}$ |
    |  | Figu-Breedina.-Continued. <br> Tudousac Estallishment, Quebec.-Continucd. |  |  |
    | L. Levesque................ | Labou | 200 |  |
    | Damase Tremblay ........... | do ........................................ . | 540 |  |
    | Jerry Miller........................ | do ............................................ | 1618 193 198 |  |
    | L. Tremblay................... | do .................................................................. | 200 |  |
    | John Poitras................ | do ...................... ..................... ................... | 480 |  |
    | Louis Perron................ | do .......................... ............... ................ | 150 |  |
    | Prs. Morin ........................ | \| ${ }_{\text {do }}$ bitewashing....................................................... | 450 250 |  |
    | Greg. Boulliane.............. | Timber for L'Anse au Pilote fishery.................. .... | 470 |  |
    | Aleg. Terrien............... | Timber... .... ........................ .......... ......... | 340 |  |
    | Wm. Manning ..... ........ | do domber. | 6643 3380 |  |
    | L. Leclere....... | Lumber.. | 2056 |  |
    | Narcisse Morin .............. | Sbingles .............. | 600 |  |
    | Steamrr * Saguenay "... | Fare, Special Guardisus.................... ............. | 400 |  |
    | E. Roy. ........... ..... ...... | Board of W. Parker | 250 750 |  |
    | Bernard Bonlliane......... | Filling ice house. | 200 |  |
    | Isidore Tremblay........... | Nets for L'Anse au Pilote fishery | 1033 |  |
    | Thos. Terrien.. ........... | Trout net................... .... ............ | 100 |  |
    | Flavien Trumblay.......... |  | 600 2849 |  |
    | Jules Tremuap............. | R1acksmith's work. .i. .............................................. | 28 4 4 |  |
    | D. Tremblay................. | Nets.. . ............................ | 260 |  |
    | S. \& D. Peduavit....... ... | Towing raft.. ................ ..... .......... ............ | 300 |  |
    | Steamer "Union"........." | Trausport of young salmon, freight, \& c.......... | 2375 |  |
    | Steamer"St. Lawrence" Quebec and Gult Port |  | 3695 |  |
    | S.S. Company ........... | Freight....... ................... ............................... | 692 |  |
    | Luc Mallart................. | Repairing fisb bouse....... | 9970 |  |
    | Jos. Radford ................ | Freight and express charges............................ | 570 |  |
    | F. Bouchard........... ..... | Hire of sail boat.......... ............................................... | 23 <br> 17 <br> 65 <br> 18 |  |
    | Jos. Boivin.. .................. | Hard ware, tools, \&c.. ................................................... | 11831 |  |
    | F. Boivin... | Cartage and boat bire..... .............. ............... | 735 |  |
    | Roger Terrien.............. | Making bom......... ........... .... ............. ...... \| | 1545 |  |
    | N. Rouleaıl................. | Blacksmith's work | 253 |  |
    | A. Fortier............. .... | Seining trout.......... ....... ........... ................ | 300 |  |
    | Jos. Radford................ | Fare and expenses to Quebec and back.......... ..... | 960 |  |
    | Express Co.................. | Freight char ges.......... ............ ................... | 455 |  |
    | W. Miller | Stationery |  |  |
    | Fre. Bon'going .............. | Provisions ..... ...... .... .............. .....................\| | +89 |  |
    | 0. Bouilliane............... | Glassware. ........ ....... . . ............................ | 907 |  |
    | Price \& Co <br> P. Plourde. | Expenses taking salmon fry to Ri..................................................... River St. Thomas, Murray Bay, Ste. Anne, St. Marguerite and Petit Saguenay. | 2833 7162 |  |
    | Hypolite Tremblay . ....... | Taking salmon fry to Petit Saguenay.......... ........ | 200 300 |  |
    | Xavier Gagnon.. .......... | Taking salmon fry....... .................................... | 2.531 ${ }^{200}$ | 12,032 70 |

    Statement of Expenditure on account of Fisheries, etc.-Contiuued.
    

    Statement of Expenditure on account of Fisheries, etc.-Continued.
    

    ## Statement of Expenditure on account of Fisheries, etc.-Continued.

    

    Statement of Expenditure on account of Fisheries, etc.-Continued.
    

    Statement of Expenditure on account of Fisheries, etc.-Continued.
    

    Statement of Expenditure on account of Fisheries, etc.-Coninued.

    | To whom paid. | Serrice. | Amount. | Total. |
    | :---: | :---: | :---: | :---: |
    |  |  | \$ cts. | \$ cts. |
    |  | Erought forward .................... | 14,322 33 |  |
    |  | Figeries Protection Steamgr "Lady Hzad."Continued. |  |  |
    | W. Barbour. | Outfit to engine. | 19095 |  |
    | T. Routier............................ | Oifting boiler, \&c.................................................................... | 80 68 660 |  |
    | T. Roatier................ | do ......................................................... | 7860 |  |
    | Thibeaudeau \& Co ......... | Cloth .............................. ................... ...... | 33600 |  |
    | W. Ives \& Son................ | Pilotage, provisions, \&c............. | 11240 |  |
    | Chioic \& Baudet........... | Powder... | 2650 |  |
    | G. Glassford.. | Fire extinguisher..................................... .... | 8000 |  |
    | Belanger and Gariepy.... | Files................................................................................ | 2895 <br> 1350 |  |
    | Jos. Eden ..................... | Lumber, hardware, \&c........................................... | 1350 53 73 |  |
    | Archer \& Co. | Lumber...................................................... | 1845 |  |
    | H. Dinning... | do | 315 |  |
    | J. Boivin. | Hardware. | 14874 |  |
    | F. M. Duchene.............. | Uniforms .................................................. | 9935 |  |
    | C. Laroie $\qquad$ | do ....................... ............................... | 3000 |  |
    | J. Derry \& S. Lemay...... | do ...... | 1600 |  |
    | M. Watson .................. | Sails.... | 26574 |  |
    | Capt. C. Morin.............. | Board and expenses. | 6150 |  |
    | G. T. Phillip................ | Emery cloth....... ....................................................... | 600 20 |  |
    | Geo. Bisset................... | Turning ........ ........ .............................................. | 180 |  |
    | Jos. Boivin............ ..... | Plate, rivets, \&c.. ........................................... | 1111 |  |
    | W. E. Brunet | Medicines............ ........ .......... ............. ..... | 1865 |  |
    | F. Casault -............... | Duty on leak stoppers.................................... | 854 |  |
    | Whitehead | Tube brushes.................................................................... |  |  |
    | Gen. Bisset..................... | Valves and liates........................................................ | 6232 |  |
    | J. Marmen....................... | Cartage............. ............................................. | 5325 |  |
    | P. Rouillard................ | Washing... . . .......................................... | 3900 |  |
    | J. Boivin..................... | Putty, bolts, \&c............... ........................... | 2740 |  |
    |  | Buckets, paint, sc ................ .................................................. | 7905 |  |
    | J. M. Tardivel | Painting ribbons. .................. ...................................... |  |  |
    | E. Holliweli................. | Stationery......................................................... | 1775 |  |
    | Audet \& Robitaille | Rope, canvas, pitch, \&c...... ....... ..................... | 13106 |  |
    | J. Desgagne ................ | Lebour........... . .... ................................... | 2240 |  |
    | A. Turcot ..... ........... | Rockets.. | 1200 |  |
    | T. Caser \& Co..............\| | Stores ......... ............ ....... .... . ....... ........ ... | 1000 |  |
    | Terrien \& Bros | Castings................. .................................. | 800 |  |
    | Estate, Flanigan.......... | Moorage...... .......... .......... .... ..... .............. | 900 |  |
    | Quebec \& Gulf Ports S.S. Co. | Freight |  |  |
    | Dawson \& Co................ | Stationery................... .......... .................... | +57 |  |
    | S. Bedard. ........... ..... | Stove pipe and kitchen utensils........................... | 6205 |  |
    | J. Cuomogham ............\| | Life buoy, blacksmitb's work..................... ........ | 3500 |  |
    | L. Leclerc ................. | Jackscrew hire | 4140 |  |
    | F. Fitzhenry................ | Cleaning and painting.................................. | 3200 |  |
    | A. Fraser \& Co | Moorage. ......................................... ...... ........ <br> Lock. | 1050 1 1 |  |
    |  | Carried forward.......... ........... | 16,898 53 |  |

    Statement of Expenditure on account of Fisheries, etc.-Continued.
    

    ## RECAPITOLATION.

    

    ## John Tilton,

    AccountantWm. SMITH, Deputy Minister of Marine, etc.

    ## APPENDIX No. 2

    TO THE

    # REPORT of the COMMISSIONER of FISHERIES 

    ## REPORT

    # FISH-BREEDING 

    1N THR

    DOMINION OF CANADA,

    ## 1877.

    4inintẹd by conden of farliament.
    

    OTTAWA:
    Printed by maclean, roger \& CJ., wellington street.
    1878.
    

    DOMINION FISH-HATCHERY AT NEWCASTLE, ONT.

    ## FISH•BREEDING.

    ## REPORT

    ## Samuel Wilmot, Esquire,

    ON THE

    ## Several Fish-Breeding Establishments and Fish-Culture in Canada, during the Season of 1877.

    Newcastle, Ontario, 31st December, 1877.
    To the Hon. A. J. Smith,
    Minister of Marine and Fisberies, Ottawa.
    Sir,-I beg to forward to you my Annual Report in connection with the subject of artificial fish-culture as carried on int the Dominion of Canada, under my superintendence and the general control and management of your Department.

    The operations during the past year, or season of 1877 , have been quite in advance of all former years, both as regards the numbers of young fry that were reared and distributed throughout many sections of the country, and the increased quantities of fish eggs which have been laid down in the several fish-nurseries of the Dominion.

    In the report a brief sketch of the transactions at each of the fish-breeding establishments will be given. Appended will also be found, as a more ready means of information, a tabulated statement shewing in detail the numbers of ova laid down, and of fry hatched out in each of the nurseries.

    Appended hereto will also be found the reports of the several officers and caretakers, in which the minor details in connection with each establishment will be more fully related.

    During last summer, I made my usual annual inspection of the several fishbreeding institutions in the Dominion, now seven in number, in order to obtain a personal knowledge of the exact position they were in, and to increase their general efficiency by the application of improved apparatus; and to give to the several officers in charge such general information in relation to the improved methods of artificial propagation as might be considered best suited to the circumstances of each institution.

    $$
    1 e-1 \frac{1}{2} *
    $$

    ## REMARKS ON THE SEVERAL FISH-BREEDING ESTABLISHMENTS, IN THE DOMINION OF CANADA.

    ## PROVINCE OF GUEBEC.

    ## TADUUSSAC FISII-BREEDING ESTABLISIIMENT.

    Here, under the careful management of Mr. Radford, I found every thing in connection with the works in a rery satisfactory state; general order prevailed throughout the whole of the institution and the premises connected with it. The requisite supply of parent salmon ( 280 in number) had been procured, and were disporting themselves in the pond to the delight and satisfaction of every one. They were all large, strong and healthy, and showed no signs of sickness or discomfort from being confined within the circumscribed limits of the small enclosure. The pond or cove which contains them is immediately alongside the hatching-house, and into it the tide ebbs and flows from the sea. This fine collection of fish, logether with the imposing salmon nursery at Tadoussac, though situated in a remote section of the Dominion, has, nevertheless, through the numerous tourists who annually visit there, been the means of giving wide spread notoriety to Canada and the United Statos of the science and practice of the artificial breeding of fish.

    The improvements ordered last year had been completed at the time of which I speak, and the various tanks, troughs and other arrangements were very perfect on both floors, both for the utilization of space and for the convenience of labour. Although the building seemed large when first procured, nearly all of its available space was taken up in accommodating the stock of ora obtaned during the fall of 1876; and the indications were that the whole area of both floors would be fully covered with eggs in the season of 1877. A new and more perfect dam was in progress of construction across the small stream leading from the little lake, on the mountain side, to the hatchery; this was necessary to prevent any mishap that might occur from breakage, as the old structure had become very much decayed. The upper or frosh water reception pond, together with dams, sluices and dalls, were all in good order. Reference was made last year to the laying down of several thousand California saltnon eggs at Tadonssac. These were batched out most successfully, and the young Pacific salmon were transported safely to the water of the Escoumains River, twenty miles below the Saguenay. This experiment of introducing the Sacramento salmon of the Pacific into the waters of the Atlantic, as a mattor of physiology, possesses much interest, and will, no doubt, result in the taking of some of the adult fish in that tiver during the seasons of 1879 or 1880. .J

    The crop of fry produced at the Tadousac Hatchery last spring was greater than had been anticipated. Mr. Radford reports upward of a million having been planted in several important rivers on the north and south shores of the St. Lawrence.

    The following list is given :-

    | River du Sud, so | 150,000 |
    | :---: | :---: |
    | River Ouelle, south shore. | 150,000 |
    | River Du Loup, south shore | 60,000 |
    | Malbaie River, orth shore | 60,000 |
    | River AMars, north shore. | 200,000 |
    | St. Jean River, north shore | 200,000 |
    | Petit Saguenay River, north shore | 60,000 |
    | Sie. Marguerite River, noith shore | 300,000 |
    | Shewing |  |

    Some difficulty was experienced in the transportation of this large number of fish, particularly to the points most distant from the breeding establishment, and I desire to suggest a remedy to prevent a recurrence of the slow and dangerous method
    alopted in the use of small boats for carrying the fry; this is to employ a small steam tur to perform the work. I am convinced that it would be found to bo more speedy, safe, and much more economical. It was the beginning of July last year before all the young fish were got rid of from the Hatchery. At this late season, the weather and the wator becoming dangerously warm, losses in transporting them necessarily follow. A small convenient steam tug would perform the whole work of distribution in a few days and without endangering loss, whilst to accomplish the same with small boats takes a month or more, and is always attended with a certainty of more or less death amongst the fry.

    The exporiment twice alluded to in former reports, of keeping the salmon in the salt water cove until ripe for manipulation, has proved to be not only more healthy for the parent fish during confinement, but has also proved conclusively the fact that their eggs mature equally as well in the salt as in the fresh water, and no differonce whatever is noticeable either in the impregnation of the ova, or in the embryonic organism afterwards.

    From the 240 parent salmon that were put in the retaining pond, $1,340,000$ eggs were laid upon the hatehing troughs. These ova, being distributed at the rate of 4,000 on each tray, would more than cover the surface area of the two floors of the building, causing a portion of the troughs to have a double tier of trays. If a second tier were put down throughout, $2,000,000$ eggs could bo closely iccommodated. This would be the utmost capacity that the present arrangements of the building would safely warrant.

    It was proposed to send a number of the eggs of the white fish to this establishment, to be hatched out and placed in some of the large interior lakes of that region. But it was unfortunately found that on account of the early closing of the navigation on the Saguenay this could not be done, as the whito fish ora were not procurable till nearly the middle of November. A similar difficulty exists with regard to the taking of fry there in the spring, navigation not opening till June, and the .white fish are generally hatched out and distributed as early as March and April.)

    From the many reports received from Mr. Radford, the present large supply of ova are doing remarkably well, and are further advanced than at any similar periol in former years; this is caused by the unusually mild winter.

    ## GASPE FISE-BREEDING ESTABLISHMENT.

    I found this institution in a much more eatisfactory condition than it was the year previous, and I also found the officer in charge and the care-taker extremely anxious and willing to exert themselves in making this narsery as complete as all the circumstances in connection with it would possibly warrant. Having taken an inventory of all the appliances in the establishment in like manner as was done at all the others, and atter giving instructions concerning many details, I proceeded to examine the two reception ponds with their contents of breeding salmon that had already been placed there. From the unusually great drought which prevailed there last year, the supply of water in the small pond at the hatchery was much reduces, and a few of the early caught fish had perished; those in it at the time of my visit (fifteen in number) were, however, in a healthy and fresh condition and continued so the remainder of the season. This pond is quite too small. A triding expenditure would increase its area and depth two-fold. The work could be almost wholly performed by Mr . Davis, the care-taker, in his leisure hours during the year. The pond No. 2, which was particularly described in my report of last year, possesses much more convenience for keeping a large quantity of parent fish than the one I have just alluded to. There were in it at the time of my visit fifty-five salmon, most of which were quite cloan and healthy. Thore were, however, a fer remarkable exceptions-these were scarred and wounded by the meshes of the nets in which they had become entangled at the time of their capture. A perfoct whitish band encircled the body; some of these bands were very narrow, others from one to two inches wide; some wero just back of the gills, others near to the large dorsal fin. The wounds at the time of which I speak had becomo perfectly
    healed, thowing no signs of byssus or any other fungoid growth, and the fish seemed quite lively and healthy. Great difficulty is experienced every year in procuring a stock of breeding fish for this Hatchery, as the fly-fishing lessecs of the rivers entering the basin are unwilling to allow salmon to be taken.

    This has been a great disappointment, as at the time of establishing the hatehery at Gaspe I was under the impression that the Dartmouth could be made use of for procuring the necessary supply, and I cannot too strongly urge upon the Government the absolute necessity of having this river set apart for the use of the establishment; and as the lease is about expiring, it could now be sccured.

    To the officers who accompanied me up the Dirtmouth River, I pointed out some improvemonts with a view to greater safety and strength of the weirs forming the salmon pen. This having been attended to, the enclosure is now a most perfect, safe, and healthy repository for keeping the salmon in.

    This pond has a large supply of cold, limpid water, is overhong with shrubs and trees, and is easy of access by means of boat or scow to the Dartmouth River, which is but a short distance off, and it forms a safe retreat for the fish until they become ripe for spawning.

    Upwards of one million of salmon fry were reared, in and distributed from, the Gaspé nursery last season. Mr. Vibert reports their destination as follows:-

    $$
    \begin{aligned}
    & \text { Dartmouth River................................................. 550,000 } \\
    & \text { St. John River........................................................ 313,000 } \\
    & \text { Mal Baie............................................................. 108,000 } \\
    & \text { Grand Pabos........................................................ } 80,000
    \end{aligned}
    $$

    making a grand total of $1,051,000$ salmon planted in the most important rivers of that section of the Province of Quebec. Scven bundred and fifty thousand ova were placed in the hatching rills at Gaspe last fall. These were procured from 123 salmon, 70 of which were obtained from the nets on the Dartmouth River, and kept in the ponds of the establishment, and the remaining 53 were captured in the St. John River at the time of spawning.

    The decrease in the total number of eggs from last year is accounted for by the refusal of the lessees, as above stated. These 750,000 ora, from latest reports, were looking well, and promised a large percentage of fry. In the Appendix will be found the details of operations at ciaspe, given by the officer in charge.

    ## RESTIGOUCHE FISH-BREEIVNTA ESTABLISHMENT.

    The breeding-house here being the first institution of the kind that was built in the Lower Provinces, has become somewhat dilapidated. It was put up in a much ruder state than those which have been orected since. It was constructed of flatted cedar timbers roughly put togetber and placed alongside a high bank-one side of which was excavated for this purpose-tho object being at that time to obtain as much shelter from cold as possible in that inclementsection of the country. The action of the frost and the outward inclination of the stecp bank, has thrown one side of the building off the perpendicular. To avoid further pressure, stays or braces are used which destroy the arrangements and convenience of the breeding-room inside, and also take up much space which is now absolutely needed for the necessary accommodation of the increased numbers of ova which are being procured at that place. It would be useless to add much expense to the present building; but in viow of the extensive and inıportant salmon fisheries at the head of the Bay dos Chaleurs, which obtain their supplies from the Restigouche, together with the large fisheries in the estuary of that river, it will be found necessary that an establishment possessing greater capacity and convenience should be erected there at an early date. The whole of the available space of the building for hatching purposes was occupied last autumn with eggs, and from the practical exporience which Mr. Mowat, the officer in cbarge, has now obtained both in the procuring of parent salmon and in the care of the eggs and distribution of fry, it is important that this knowledge should be fully utilized in procuring largely increased supplies of young
    salmon from this valuable stand-point, thereby augmenting tho very extensive and almost unlimited tidal fisheries below. I would therefore suggest to your Depart-' ment the propriety of taking into consideration the importance of carrying out these views in the erection of more extensive and convenient works on the Restigouche River.

    At the time of my visit to this river last summer, a very eligible site was chosen for a receiving pond for the safe keeping of parent salmon until they become mature for spawning in the autumn. The spot selected was at the famous Indian House Pool, where a very cold stream of pure water enters the main river. At this point Mr. Mowat was instructed by your Department to erect a dam and form a commodious pond for the purpose above mentioned. The work, as reported by that officer, has heen performed, but was not available for last season's operation, as the salmon had passed up river before the nets were procured for capturing the fish. Mr. Mowat reports that with some small repairs the structure will be in readiness for the coming season's work.

    From the Restigouche establishment last season, 600,000 salmon fry were produced and distributed in several of the neighbouring rivers, and the total number turned cut from that institution has been $1,820,000$. The following rivers have obtained their quota of this distribntion, namely the Metapediac, Upsalquitch, Jacquet, Nouvelle, Little River and the main Restigouche.

    The quantity of ova secured and put on the hatching trays last autumn, amounted to $1,204,000$; of this number 200,000 were sent to the Miramichi Nursery. From the latest accounts received from the Restigouche, a vel'g trifling percentage of the ova have died, and the pleasing prospects are reported that the yield of fry there next spring will be most satisfactory. In the Appendix will be found a Report in detail by the officer in charge of the Restigouche establishment.

    ## PROVINCE OF NOVA SCOTIA.

    ## BEDFORD BASIN FISII-BREEDING ESTABISHMENTS.

    This salmon hatchery was, upon inspection, found to be in first-class working order ; the apparatus of every description was in good condition, and the building itself was cleanly and orderly throughout. Some improvements and alterations in the breeding rooms were ordered, by which the space would be increased for Jaying down more eggs the coming autumn. The appliances introduced here from the first were of a superior kind to those used at the older constructed establish. ments, and the knowledge gained from experience at the other hatcheries was applied in the building and getting up of this one.

    In this salmon nursery, perforated earthenware trays are principally used for the laying down of the eggs and hatching out of the firy; they are more cumbrous and not so easily handled as the more lightly constructed perforated zinc and wire cloth ones used at the other establishments. These earthen trays were introduced by the officer in charge to overcome, as was alleged by him, the injurions effects from some chemical action of sedimentary matter in the water upon the metal tray. The earthen trays, however, are not found to be any more successful in the hatching of the fiy at Bedford than the metal ones have proved to be at all of the other establishments. Filters filled with small gravel are also used here, through which tho water is made to percolate before flowing through the breeding-troughs. This means of cleansing the water from sediment has not yet been adopted at any other places; should experience prove that the benefits derived from these filters are commensurately greater than their cost of construction and attendance, and taking into consideration tine necessarily reduced flow of water which must pass through them, then it would be advisable to introduce them elsewhere. It is inexpedient to give additional intricacy or labour, or means of expense than is actually necessary in the working of these fish-breeding establishments.

    The operations at the Bedford hatchery last year were very satisfactory. A million of fry were reared in it, and transported to more than thirty rivers of the Province of Nova Scotia

    > 360,000 were put into the waters of Halifax County. 40,000 in Hants County. 40,000 in King's 165,000 in Cumber!and 50,000 in Annapolis 130,000 in Colchester 170,000 in Pictou 20,000 in Lunenberg " 20,000 in Guysboro' "

    Somo losses and considerable difficulty were occasioned in carrying fiy to very remote places from this establishment. Tuis system of carrying, or rather trying to carry, young fry to distant points (particularly where no speedy means of travel as by railway is to be found) should be discontinued, because the time spent (almost invariably) in fruitless journeys of this kind could be so much better, and more profitably, applied at nearer pointa, where the safety of the young salmon in their calriage could be relied upon. The better way to achieve the object sought for would be to erect additional nurseries within such a radius of country as would insure safety in the transportation of the fry within its limits.

    The success attending the collecting of ova for the Bedford nursery was extremely good; 1,650,000 egga are reported to have been gathered; of these 200,000 were despatched to the Miramichi hatchery by orders from sour Department. The balance, or $1,450,000$, were put on the hatchery trays at Bedford. The latest reports concerning this very satisfactory supply of eggs were that the losses were trifling and that the embryo were distinctly noticeable in them.

    Several improvements are asked for by the porson in charge of this establish. ment, but the main one is a reception pond which is considered necessary for the safe-keeping of the parent salmon until they become mature for spawning. In my report of last year attention was drawn to this, with a recommendation for the construction of a reservoir just alongside the building, into which the salmon might be induced to enter from a fish-pass to be placed in the main river.

    Provious to this season doubts existed as to whether any considerable number of salmon yet passed up the Sackville River. These fears have beon overcome by the taking of several salmon last fall in a rudely constructed trap arranged at the dam just above the works. No positive knowledge is given of the number that ascended -the river, but the officer is of the opinion that, with the necessary appliance for capturing and safely keoping thom, a sufficient number might be procured in this way to stock the establishment with eggs, or to such an extent as to reduce very largely the expenditure now incurred in gathering the ova at the Musquodoboit and Philip Rivers, and at other distant points. It would be erroneous to conclude that a reservoir as stated above would be sufficient for the retaining of any large number of salmon for any length of time during the early part of the season, le zause the limited space where it would be necessary to construct it would not permit of the pond having sufficient area surface or depth to admit of all the freedom requisite for salmon to throw off fungoid growth or prevent the hardening of the ovaries which is invariably a consequence with the migratory fish when prevented from enjoying highly aerated water, or when enclosed in too limited bounds. But as it is found that the salmon do not enter the Sackville until they are just ready to deposit their egga, the reservoir would not be as objectionable from the causes above mentioned; but, on the contrary, would be well adapted for the retention of these late spawning fish. A very satisfactory report of the operations at the Bedford Salmon Hatchery will bo found in the Appendix hereto attached.

    ## PROVINCE OF NKEW BRLNSWICL.

    ## MIRAMICHI FISH-bREEDING ESTABLISHMENT.

    This fish-brceding establishment was visited ami inspected by me in the leginning of the month of Angust last by sour njecial instructions. U pon a clove examination of the buildings, ponds, apparatus and other appliances, all were found to be in good repair, and in good working condition. As difficulties and losses had taken place here during former years, I took special care to investigate closely everything in comection with the premises, with a view to putting the institution upon such ia basis as would warrant success for the coming seasin. In order to secure this end, indopondent of my own knowledge and judgrment, I consulted with Mr. Shasegrech the caretaker, to learn his views with regard to any changes or alterations he might deem necessary, and in his opinion no further improvements, except those of a very trivial nature, were actually required. Nevertheless, I instructed him to make arrangements for an additional plank to be placed at the upper dam to keep up the supply in the event of any lowering of the water taking place in the main stream; to rearrange the entrance to the conducting pipes in order to prevent the possibility of their choking up during winter; to stop any leakage that might be found where the underground pipes were formerly united; and to put such labour upon the dams as he deemed necessary to prevent the possibility of beakage. Other matters of detail in work were ordered to be done, such at varnishing the breeuing trays :nd hatching troughs, and painting the floor of the large room.

    Expecting, then, that the institution in ali probability would be placed under my control for the approaching season, I took more than ordinary pains in shewing to Mr. Shasegreen the precise manner is which all work was to be done, and explaining the arrantrements that were originally made for the convenience and easy accomplishment of it. The scow which had been fitted up expressly for the safe conveyance of the salmon from the river to the pond was minutely examined and the method of working it was fully explained. The use and adaptability of the large mill pond for the safe koeping of the parent fish was referred to particularly; and the express object for which the small reception house had been built with its weirs and pens was pointed out, as well as the plan to be adopted for driving a flood of water through it by letting off the upper dam, in order to entice the salmon to enter the house from the large pond below. Anotiner method by which the mature salmon could be ea-ily and safely captured without injury to them, was shown by which they could be notled when in the act of spawning on the short gravelly bottomed part of the stream between the reception house and the still quiet water of the large mill pond. (See plar attached.) Having given to Mr . Shasogreen every detail that was necessary for the perfect working of the nursery, and considering that his three years previous omployment there would have also strengthened his own judgmont in these matters, I proceeded up the Miramichi River in company with Overseer Hogan of Newcastle, with the object of selecting some desirable point in the river at the head of the tideway where a large seine, previously ordered, might be conveniently used for the capture of spawning fish during the following September and October. From there, salmon when taken, should be quickly conreyed in the scow referred to down the river to the large pond at the hatchery.

    A point at the large bridge just at the confluence of the Little South West River and the Miramichi, was considered well adapted for netting the salmon, and no difficulty was apprehendod by us in getting the requisite supply during the time when the " last run" of fish were usually known to pass up, either hore or at the rapids a short distance above. Mr. Hogan's usual sagacity, added to his long and intimate practical knowledge of the river, and the experience he possessed in catchiug the fish in former years, togetber with my own personal experience in capturing a large number in the river in 1873 , fully satisfied me that the accomplishment of this part of the work in connection with the approaching seasons' operation at the Miramichi nursery would be safe and easy.

    Of the 610,000 cira that were said to have been laid down in the fall of 18,6 , only $3: 0,000$ fry were reported by Mr. Yenning to have been hatched out and planted in the following livers ot the Province of Ner Brunswick:-
    North-west Miramichi ..... 50,000
    South-west ..... 50,000 ..... 50,000
    Little South west. ..... 50,000
    Sevogle ..... 20,000
    Bartibog ..... 20,000
    Burnt Church ..... $\because 0,000$
    Tabusintac ..... 20,000
    Napan ..... 15,000
    Black ..... 15,000 ..... 15,000
    Richibucto. ..... 10,000
    Salmon ..... 10,000
    Canaan ..... 10,000
    Shediac ..... 15,000
    Hopewell ..... 15,000
    320,000

    The proportion of fry hatched from the number of erges laid down was unusually small; the great percentage of loss being accounted for by the persons in charge rating that sedemcutary matter of an injurious nature settled upon the eggs and destroyed them. A special report concerning this loss, after an investigation made by me, was forwarded to your Department in July last.

    A number of parent salmon was caught in September and October in the Miramichi liver, sufficient to fill the nursery troughs with upwards of a million of esigs. These fish were taken under the management of Overseer Hogan, and were flated down the river principally in small crate-like boxes. Of the 374 salmon that were delivered at the breeding-house, ova were obtained from 76 females only, with an average of a trifle over 4,000 each, or a total of 310,000 egys. The cause assigned by Mr. Shasegreen for this very'small number of eggs in proportion to the large number of salmon captured, was that many of the fish sickened and died from the effects of a skin discase, or fungoid growth upon their bodies, and that the eggs in the bodies of many of the fish became so hardened that it was considered necessary to liberate them ; and also, that a very large proportion of the fish were found to bo males. Immediately upon be ng informed of the above loss, I proceoded to the Miramichi, and made an exami nation into the causes of the misfortunes, the particulars of which are given in my letter of 4th February, 1878, forwarded to Jour Department, treating specially upon this nubject. In addition to the supply of egrs procured at Miramichi, a number were transferred, by order of your Department, from the Bedford and Restigouche nurseries, where large stocks had leen obtained. From each of the latter 200,000 were removed, giving a grand total of 710,000 salmon eger in the former establishment. These, from very frequent accounts received of late from Mr. Shasegreen, are, with fow exceptions, in a very healthy and prosperous condition, and far advanced in their development.

    A sketch or phan of the Miramichi grounds, with buildings and ponds, is hore given.

    ## REMARIS ON THE COMPARATIVE NUMBER OF OVA SUPPLIED BY FEMALE SALMON.

    The following statement on comparative numbers of ova obtained from salmon to supply the several breeding establishmonts in tho Maritimo Provinces will be found interesting and instructive to persons engaged in fish culture. The figures are calculated from the returns sent in by the offcers in charge of the several catablishments and are as follows, namely:
    

    A few instances will be given al-o of the graat fecundity of fomale salmon. Two were taken in the River Philip. in Nova Seotia, weighing each over thinty-five pounds, and wiving respectively 20,000 and 25,000 eges. Three females eaptured in the River Restigouche, in New Brunswick, yieidel individually 25,000, 27,000 and 28,000 ora. An opinion has hitherto prevailed amongst writers on the nature of ${ }^{2}$ salmon with regard to the prolific powers of the femalse, that they yield a greater number of esgs than the facts would warrant. Statements published by them make one thousand eggs as the average for every pound weight of the parent tish; thus, a twenty-pound fish would give tweits thousand, a ten-pound salmon ten thousand, and so on. This quantity I have found, after repeated trials, to be nearly double the actual amount to be obtained. Having made this statement previously I now repeatit, and give the returns of ova talsen at the several fish-breeding establishments as strong evidence in favour of my conclusions. The Bodford salmon, which gave 9,000 eggs each, would average, by the former calculation, only nine pounds in weight - this would not exceed one half their actual size. The Miramichi tish would be only four pounds, whilst, in point of fact, ten pounds would be about the average. The Restigouche salmon would be thirteen pounds, whereas the whole catch of the season would weigh twenty pounds. This. will also apply to Gaspé and Tadoussac. It will thus be found that five hundred eggs to. a pound of flesh of the female is about the true statement to count from. Exceptional cases from this rule will however be found with extra large salmon, such as those quoted from the Rivers Philip and Restigouche, where 35 and 37 pounds gave respectively 25,000 and $27,000 \mathrm{cggs}$

    ## PROVINCE OF ONTARIO.

    ## SANDWICH FISH-BREEDING ESTABLISHDENT.

    This institution, being expressly built for the artificial breeding of the famous "Corregonus Albus" or white fish of America, from its location on the flat, level banks of the Detroit River; and absence from other power, is supplied with water by steam; and its arrangements and apparatus, for the hatching of these very small eggs, are of quite a different description from those used in the rearing of salmon and other fry at the other establishments. It was found absolutely necessary, in order to make the artificial rearing of white fish a succeis both commercially and coconomically, that immeuse numbers of the ova should be procured, and that, in the care and management of the millions of eggs requisite to give importance to the work, the labour, anxiety and expense which would necessarily be attendant upon the safety of a similar number of eggs of a larger description, would neither le satisfactory nor remunerative. It has therefore been my study for years past to overcome this serious obstacle in the artifical production of such large numbers of white fish as it would be desirable to raise.

    This "Eldorado" in white fish culture has undoubtedly been found in the incubator invented and patented by mysolf, and now used on a very large scale at the Sandwich nursery. In my report to jour Dopartment last year I made mention of this invaluable instrument for hatching the eggs of this fish; but it had not then been so thoroughly and practically tried as it has during the presont season. Its method of self-picking and cleansing the eggs is quite perfect, wholly doing away with the ordinary hatching tray or grill, and the labour of hand in picking, feathering, and washing the ova. The officer in charge reports that one man can conveniently take charge of twenty millions of white fish eggs by this new process, whereas, by the old method it would require ten persons to perform the same work, and even then without equal efficiency or safety to the eggs.

    During last season 1 superintended the fitting up of one-half of the space in the Sandwich Hatchery with this new apparatus; the other half having the old method of hatching on trays, in operation, was not interfered with as time did not permit of it. However, with your sanction, it is my intention to have the entire space of this building fitted up with those new incubators previous to next season's operations.

    With this improved system, it will be found that the capacity of the building for breeting purposes will be far more than doubled, and arrangements can be so perfected as to give hatching room for sixty or seveaty millions of egges. This im mense quantity of ova could not, under the old methods of propagation, by any possibility be safely taken care of and handled during the more critical time of their hatehing without a daily conuplement of at least twenty-five or thirty hands, whilst with the improved system the whole work can be very much more satisfactorily and perfectly done with the labour of about three intelligent men. This improved labour-saring incubator speaks volumes for itself, not only in the cconomy of room and labour, and consequent saving of expense, but it also effects for a certainty greater cleaniiness and safety to the eggs by its own action of carrying off the bad ova with all the sediment and other impurities that may be contained in the water. A very great drawback to full success in the artificial propagation of whitefish on a very extenvire scale has been the unavoidable losses and the killing of large quantities of ova while in the act of picking out the bad cggs from the good ones and in cleansing them from injurious sedimentary matter which is always found in large moveable bodies of water.

    The Detroit River exemplifies this fact in relation to sedimentary deposits very strongly. Though to outward appearances it would indicate purity, it is, nerorthcless, at times very largely filled with earthy and decomposed veretable matter. This injurious fungoid-producing substance, being in the lakes above, and storm-stirred to the surface, is brought down by the strong current of the river in the most inconceirablo quantities. These extremels minute spores permeate through every description of screen through which water will pass, and lodging upon the eg.s, when in a quiot state on the ordinary hatching tray, commences its insidious lyysus like growth which, unless quickly removed by the process (known in fish cultnre) of feathering and washing, soon grasps in its poisonous meshes the adjoining eggs and produces deadly havoc amongst them.

    The fatal effects and noxious growth of fungi amongst the whitefish eggs is wholly overcome by the gentle but constant upward rolling action of the ova, caused by this improved fish incubator, which prevents the possibility of the accumulation of any matter upon their surface; but by the upward flow of water through the mass of ora in the apparatus, these spores, with all unsound eggs and other impurities, are carricd off.

    It is to be regretted that, through the selfishoess and cupidity of the fishermen along the Detroit River, an inraluablo fishery, formerly stored with incalculable wealth, should now have become, comparatively speaking, almost destroyed by the unnatural slaughter of immense numbers of breeding whitefish that frequented it. This result, disastrous as it is, not only to themselves but to the country at large, on account of the great commercial decrease in the traffic of this valuable tish, has been brought about wholly by excessive fishing during the period in which the whitefish are migrating up the river for the express purpose of spawning. The fatal consequences, now apparent by the very groat falling off in numbers and in the bitherto prosperous traffic in this fish by this immoderate mode of fishing has, by a most solicitous effort on the part of your Department, been attempted to be arrested by the introduction of the artificial method of propagation in that section of the country. With the view of carrying out this object extensively, and thereby benefitting the fishermon in that locality particularly, and the inhabitants generally, a fish-breeding establishment, unequalled on this continont for its capacity and its appliances for the work, has been erected upon the Detroit River. Many millions of young fry have already been reared in this establishment, and at the present time a stock of twenty millions and upwards of vitalized eggs are in progress of hatching out. Yet, it is
    lamentable in the extreme to be compelled to state that, with the prevalence of that selfishness and cupidity which almost brought about the annhilation of the fish in this river, it is with extreme difficulty that assistance or even permission can be obtained from some of these fishermen for procuring the requisite supply of ova for ${ }^{2}$ this institution, which was erected at a large public expense, and the benefits of which must of a necessity be more immediately and directly felt by these very fishermen themselves. Should this same avaricious and niggardly disposition be continued, and shonld no means be instituted by which this feeling can be thwarted and overcome, then it will be useless for your Department to continue the necessary public expenditure for the maintenance of an institution in a locality and for a people who, by their own acts, are showing themselves utterly unworthy of it.

    If it be deemed necessary that the Sandwich Institution should be worked up to its full capacity during the next year, timely arrangements should be prepared by which fully sixty millions of whitefish eggs could be obtained. In order to secure this not unnecessary supply, a large number of parent fish will be required. From pretty accurate calculations, which have been made, it has been found that 500 ova are obtained from every ounce weight of the body of the female fist. Taking a low estimated average weight of a whitefish ova to be one and a half pounds or 24 ounces, the product will be 12,000 eggs. It will be be found, at times, that twenty, and even thirty thousand eggs can be secured from one adult fish, yet the estimate of 12,000 should be taken, in order to cover all emergencies. Taking this calculation as data, 5,000 females and a corresponding number of males, in all 10,000 parent fish, woula be necessary to stock with certainty the Sandwich nursery.

    Now it is just as well that the vital importance of this work to the fishermen and to the country at large should be clearly understood-the natural qualities of these 10,000 spawning fish, unless utilized by the artificial process, would be wholly lost, as the eggs from these fish (which latter are taken to the markets of the country for consumption) are, in the process of preparing the fish for culinary purposes, cast away, whilst by the process of fish-culture referred to, they can be utilized by the method of artificial impregnation, and be made to produce at least forty millions of living fry to be turned out to replenish the same waters which Frovidence first intended should be tho case.

    The fry thus artificially produced, when turned into the river, are carried down by the current to the broad expanse of the lake, where they find food congenial to their nature, and in process of time (about three years) become adult fish and are instinctively compelled to seek the same spawning grounds for re-production, where the parent fish from which they were taken had previously resorted to. Is it not then selt-convincing to every intelligent mind, that the system of artificial propagation is not only reasonably feasible, but is also attended with great local and national importance, and that it also forms a practical sudsidy for upholding a source of wealth. But, by the greed and avarice of the fishermen, tho waters of that section of the country have almost been depleted of a valuable source of food and commerce.

    This selfishness is shewn to such an extent that these fishermen, notwithstanding the benefits which are so clearly to be derived by them by the artificial cultivation of the whitefish, actually deny the liberty or the right of taking the ova for this object from the fish which are netted by them, and under the many pretexts which they make, they not only throw obstacles in the way of, but also prevent the employés of the breeding establishment from obtaining ova within a short distance of the works, thereby compelling them to make long, expensive, and very often fruitless, journeys to parchase supplies. On account of these difficultics and drawbacks, this hatehery has never yet been supplied with its necessary quota of ova; but now, with tho improvements and labour-saving facilities for more extensive operations, the inconsistency of the fishermen will be even more severely folt.

    In conversation with one of the principal fishermen, and one who is a'so a large dealer in the fish trade at Sandwich, I learned that the probable catch of whitefish on the Canadian side of the Detroit River, during last fall, would be about 170,000 .

    They were caught in the following places, namely:-

    | Bois Blanc Island. | 20,003 |
    | :---: | :---: |
    | Turker ${ }^{\text {a }}$ | 10,000 |
    | Fighting | 80,000 |
    | Peach | 14,000 |
    | Petite Cote Fishers | 46,000 |
    |  | 170,000 |

    Assuming that one-half of these $(85,000)$ wonld be females, and that each fish would yield the very low average of 10,000 ergs the result would be that $850,000,000$ of ora were totally lnst to the river for re-productive purposes. This very large drain upon the natural supply of whitefish ecrgs, has leen going on (only upon a much more extended scale) for a great number of years, and this has brought about the wonderfully great falling off in the number of whitetish at the present time.

    As the number of breeding fish have become so very much lessened, and the nets and other engines for their destruction have become more numerous, and greatly improved,-add to this the increased desire amongst the fishermen to capture them in order to secure the highest prices in the markets (which these fish from their scarcity now bring), we must feel convinced that, ere long, the whitefish will be wholly exterminated from the Detroit River, and will soon be considered only as a luxury of the past, unless there be some compulsory measures instituted by which a certain portion of the ova contained in them might be saved; some regulations by which the fishermen themselves should be compelled (or be made to assist others) to gather such quantities of ripe ova as could be obtained from the parent fish, immediately when taken from the nets, and before they are forwarded to the markets.

    It must be held that it is very necessary to preserve the whitefish (such a valuble source of food and riches to the country) from total destruction, and that the most pressing need is now demandod, by which their numbers, roduced as they are, shall at least be sustained-no matter whether it may or may not affect the interests of those engaged in their traffic, for it munt be deemed more wise to preserve to the future this natural product of the water than to allow the mercenary desires of a few, at the present time, to exterminate it.

    This national calamity has already been too truly experienced in the almost total destruction of the whitefish in Lake Ontario; it is rapidly reaching the same point in Lake Erie, and ere long the same misfortune will extend to the larger waters of Huron and Superior, and, in time, will cover those of the nowly formed Propinces of the far west.

    In almost every civilized country, laws bare been instituted to provent traffic in the flosh of pregnant animals. This wise provision implies the preservation of the creature itcelf for re-productive purposes, and the prevention of its use for food, which is at this time of an unclean and unwholesome nature. Why, then, should gravid fish be made an exception to this statutory principle, when it is well understood that, independent of their being unfit and unwholesome for food, the rapid extermination of their species is also being hastened?

    I would now desire to describe to jou the method adopted, last November, for procuring the ova that were laid down in the Sandwich nursery, in order that jou may readily comprehend the modus operandi by which, to a certain extent, the artificial method of propagation was applied in preventing the rapid extermination of those valuable fish, and to avert from total destruction a certain porcentage of the millions of eggs that were being barbarously cast away. Instructions were given to Mr . Nevin, the officer placed in charge of the establishment, to be in readiness with such perwons as he could entrust with the work, and to watch the opportunity when the fishermen would be engaged in hauling in the nets in the river, or when taking the fish from the pens; and as they were boing counted out to be carried to the market, to gather the eggs from those that were found ripe for spawning. The manner of performing tais work was as follows: One persou would pick
    out a female in the act of being cast into the waggon or boat, and with gentle pressur of the hand down tane abdomen, the eggs, if ripe, would flow ficely from the fish into a pan or other vessel previously arranged for this purpose. Another assistant would perform a similar work by expressing the milt from the male fixh into the samo pan. The eggs and the fluid coming in closo contact, by carefal stirring about with the hand, generally caused impregnation of the ova. They were then cleansed from all impurities by washing, and as quickly afterwards as posible carried in paile to the hatching house. Hero the eges were measued out with small cups containing a certain number each, and either put into the patent incubators holding 100,000, or spread upon the ordinary wire cloth trays containing 10,000 each. With the former the eggs aro at onco set in motion by letting in water by means of a tap, and th process of self-picking and self-cleansing goes steadily on; with the latter a number of boys are immediately employed to piek out the bad egrs with small wooden pincera, and to wash off impurities with brushes or feathers. By this process it has been found, when care and attention is given to the work, and when reasonable time and assistance is granted by the fishermen for the employes of the nursery to select the proper ripe fish at the time of netting them, that from fifty to eighty per cent. of the ova can be made to yield living fiy. These usually hatch out in March and April, and are at once allowed to pass into the Detroit River, the strong current of which carries them quickly into Lake Erie, to replace in part the total loss of the eggs, which otherwise must have been the case had not this means been adopted to save them.

    The engine, pumps and other appliances which form the motive power by which the whole establishment is furnished with water, have performed the work remarkably well; the machinery and apparatus used in batching the eggs are in good working order and repair: It has been found that the use of good sound hardwood is more economical and better adapted for running the engine than coal. I have, therefore, to advise the purchase of a sufficient supply of good cordwood for next season's operations; this should be delivered at the establishment during next summer. A good substantial boat is an indispensable requisite to the place in the collection of ova from different points on the river; considerable expense was necessarily incurred in hiring one last fall. It would answer a two-fold purpose; when not in actual employ at the fishery, it could be used for purposes in connection with the inspection of that district by the local fishery overseer.

    In contemplation of working up the full capacity of the hatchery next season, which, by the introduction of the new appararus has been nearly doubled, it will be necessary to increase the supply of water now used. This can be readily done by laying down another underground pipe from the building to the river. This conductor should be made sufficiently large to allow an abundant flow of water into the building. In this way a large amount of steam power would be saved, which is now used in forcing the water from the river through a pipe of too small dimensions. It is necessary that this improvement should be made early next spring. The number of whitefish firy reared at the Sandwich nursery last season amounted to $7,750,000$; they were hatched out during last March and April, and turned into the Detroit River. The anxicty of mind experienced in the perplexity attached to the rearing of this inmense number of minims was very great, the result, however, was somewhat compensating, from the fact that in the hatching and distribution of them the losses were only of small account.

    The quantity of ova laid down in this hatchery the past season, or fall of 1877, was very satisfactory, being more than double that of any previous year. The officer in charge reports the gross amount gathered at $31,000,000$; of these, some $5,000,000$ proved to be unripe and worthless, the balance of $26,000,000$ were deposited in the different kinds of hatching apparatus in the establishment; $£ 2,000,000$ of these have been saved, and are now doing remarkably well, being in an advanced stage towards hatching out, with life and motion plainly noticeable in them. The fuy will emerge from these eggs about the latter end of March next, and will be ready for general distribution almost inmediately afterwards. Appended hereto will be found a
    report of operations at Sandwich ly Mr. Nevin, my assistant in charge. This officer has performed the vers important and onerous duties devolving upon him in connection with this cxtensive fish-breeding entablishment in the most trustworthy and eatisfactory manner.

    ## NEWCASTLE FISH-BREEIING ESTABLISHMENT.

    In the Report of last year, a particular description was given of the improvements that had been made in the enlargement of this building, and the increased capacity thereby obtuined for the laying down of fish egrs. Nothing of an important nature has been required to add to the completeness of the arrangements in connection with the hatchery iteelf, but it was found necessary to lay down a conductor-pipe of larger dimensions than the former one. The more extendel area for hatching purposes, and the increased number of breeding troughs on both flats of the bnilding, necessarilf required an additional supply of water. It may not be out of place, however, to make some reference to the peculiar qualities of the stream upon which this fish nursery has been crected, for it is very doubtful indeed whether it would be considered by the gencrality of those who are engaged in the artificial propagation of fish to be well adapted or at all euitable for the work; and there is no doubt, so far as purity and bigh temperature of water is concerned, the Newcastle salmon hatchery labours under more serious disadvantages than any other fish-breeding establishment on this continent. At the first inception of the work of salmon breeding here, little if anything at all, was known in relation to it in America. The idea entertained by the originator of the novel undertaking was that, as the creek was known to be formerly a salmon-breeding stream, naturally, no special reason could be well given why these fish could not be reared in it artificially. This latter view of the matter has been most practically and satisfactorily demonstrated. The stream in quostion had, however, became thoroughly changed from its normal state, when salmon in the olden times so largely inkabited it fur spawning purposes. Then it was amply supplied with a flow of fine, cold, limpid water; the forest, from the source of the stream, all the way to its outlet into the fake, was in its primeval state, overshadowing it from the sun's rays and influences. This, with the multitude of springs of icy cold water oozing out here and there, and little rills trickling along the ever-shaded rurface of the earth, together with the constantly splashing current against logs and fallen trees, gare both aration and hiding places innumerable for the fish. These obstacles and brushwood als, prevented the graveliy beds in the stream from being shifted or carried away by the force of freshets. All these were nature's provisions for assisting these migratory fishes in the reproduction of their epecies. But now the forest has all disappeared by the labour of the husbandman, laying lare the face of the country to the rays of the sun and general influonces of the atmosphere, which by the process of absorption and eraporation have almost wholly dried up the numerous springs and rills, which were the original feeders of the creek. This has also diminished the flow of water fully one-half, and increased its temperature to such an extent during the spring and summer months as to create enormous quantities of infinitesimal spores for growth of fungi and other deleterious matter.

    In addition to the above must be mentioned the ungovernable force and destructive consequences of immense feshets that frequently prevail, rushing down the now unimpeded course of the stream, carrying away previously formed pawning grounds, sweeping along with its riolence the offiscourings from lately ploughed tields, and from turnpike roads, together with rotten regetable substances from barn yards, compost heaps and other depositories of foul matter, and the refuse from saw mills and other minufactures erected npon the stream. This turbid and dangerous state of the water in this stream (and it is the same in all others in the populous parts of the country) invariably takes place just previous to, or immediately at, the critical time in the spring of the ycar when the firy are energing from the cags, and the difficulties referred to cannot be overcome, cannot be oven ameliorated in the course of natural reproduction. And although the difficulties and damagen resulting therefrom can be orercome ly the artificial methods of propagation, s.evertheless the operation
    is attended with much labour and anxiety, for in this state of the water, lasting a fortnight or more at a time, cleansing, by means of filtratare, is found to be quite impossible. The foul particles of sediment permeate everywhere, covering the eggs at times during the course of a few hours, to the depth of half an inch with a muddy mixture of putrid earthy and vegetable matter; this insidious substance clings to the eggs with great tenacity and cannot be removed except by means of artificial cleansing. These and other causes, which neither time nor space will admit of entering into here tully, had well nigh exterminated the salmon from the waters of Ontario. But the object of mentioning in detail some of the difficulties which do prevail, and which go towards the reduction as well as destruction of the better kinds of food fishes natural to the streams and lakes of the country, is to show thet, even with the many besetting diawbacks which must necessarily arise from th.: carrying on of various industries and from the changed state of nature in many ways in the country, a remedy to a certain extent has been instituted through the instrumentality of your Dopartment, in the selection upon this stream of a well-limed and commodious artificial fish-breeding establishment.

    This instilution has already intugurated a new industry in the Dominion, and has practically demonstrated the feasibility of a science for overcoming manyof the inevitable disadvantages referred to in the fact of having reared and distributed many millions of salmon fiy, and of other valuable kinds of fish, and also of introducing the salmon of tho Pacific Ocean into the waters of Outario. From the many practical experiments which have originated from this eabablishmont in the perfecting of machinery and appanatus to simplify and ecomomse labour and ex pense in the carrying out of this enterprise, a systematizution of the methods of propagating fish by artificial means has been widely extended, not only in the several Provinces of the Dominion of Canada, but throughout the whole of America.

    The results in connection with the ova that were laid down in the Newcastle Nursery last season (1876) were of a satisfactory nature. The crop of young fry was very grood; they were distributed principally in Ontario, some were sent to the Province of Quebec; quite a number of the ova, when well advanced, were forwarded to the Fishery Commissioners of several of the States of the Union, and others weresent to England. The particular destination of the fry and of the egge will be found as follows, namely :-

    | Name of Person or Place Where Sent. | Salmon. | Troul. | Whitefish. |
    | :---: | :---: | :---: | :---: |
    | North River, Quebec. | 10,000 |  |  |
    | Magog do do | 10,000 | 2,000 | . |
    | Trent do Ontario.......... .......... ..... ............. ....... ......... | 40,000 |  |  |
    | Rouge do do ....................................... ...... ............ | 10,000 |  |  |
    | Humber do do | 20,000 |  |  |
    | Credit do do | 20,000 | . | ....... |
    | Saugeen do do | 40,000 | ................ | .... |
    | Gratton Creek do | 20,400 | ................. | ................ |
    | Barber's do do ....... .............................. ........... ........ | 40,000 |  |  |
    | Duffin's do do | 20,000 |  |  |
    | Lynds' do do | 10,000 |  |  |
    | Baldwin do do | 980,000 | 10,000 |  |
    | Ontario Lake do | 10,000 | 10,000 | 150,000 |
    | Balsam do do | ]0,000 |  |  |
    | Clear do do | 10,000 |  | 10,000 |
    | Sandy do do | 5,000 |  |  |
    | Gull do do | 10,000 |  |  |
    | Lord Exeter, England | 5,000 | 2,000 | 30,000 |
    | Prof. Buckland, per A. Begg, Esq., England ........................ | 5,000 |  |  |
    | Prof. Baird, United States Commissioner, United States......... | 6,000 | ........ ........ | ........ ........ |
    | New York Aquarium, United States ................................... | 4,000 | ........... | , |
    | Wisconsin State, United States........................................... | 5,000 | ................ |  |
    | Iowa State, United States .................................... ............. | 5,000 | ................ |  |
    | Seth Green, Esq., United States......... ................................... | 5,000 |  |  |
    | B. Lett, Esq., Ontario......................... ................. ......... ...... |  |  | 10,000 |
    | Total ........... ......... ......... ........ .................\| | 1,300,000 | 24,000 | 200,000 |

    $T l_{10}$ above table shows a grand total of one million five hundred and twenty four thousand fiy and ova, distributed from the Newcastle Hatching-bouse, during 1877.

    In performing this unusuallycritical and painstaking work, covering such a wide extent of country, a great deal of anxious consideration was felt for the safety in the transportation of the young fish; as the month of June and July is sometimes reached before the whole work is completed, the extreme heat of the weather prevailing then doubly enhanced the precariousness of the labour. But, notwithstanding all this, the persons engaged in carrying out this venturesome duty, reported most satisfactory results.

    Of the complement of California salmon cggs, receival from Prof. Baird, in the fall of 1970, eight thousand in number, one half were forwarded to the Tadoussac establishment, the balance were retained here. These did unusually woll, having hatched out without any losses worth mentioning, and the fiy, after retaining a large portion for this stream, were plinted in several places throughout Ontario; quite a number were put in the Saugeen Rived. I have again to repeat my experience with regrard 4, these tish as being much more rapid in their growth, and apparently better adapteri to the high temperature of water now prevailing in our streams than the native salmon of the country. Another consignment of forty thousand of the California cers were received at this establishment in October last. They were sent through the courtesy of Prof. Baird, Commissioner of Fisherice for the United States, and arrived here in splendid condition 1 not exceeding one hundred bad eggs were taken from the lot at the time of unpacting. There ova were despatched from the United States Government Fish-breerling establishment, on the McLeod River, a branch of the great Sacramento, on the Pacific Const. They were forwarded in a refrimerator car of the Pacitic Railway across the continent to Chicaso, along with ome millions of othere, for several States Commissioners in the Union, and for public establishments in Enrope. At Chieago, the sereral consignments of ova were transferred tiom the refrigerator car to others, and expressed to their destinations, where, woth but very fow exceptions, they arrived in the same somd condition as those received at this Nursery.

    Misfortune, however, befcl the second lut of cighty thousand that wore sent at a much later period, and by anther inode of shipment. An ipplication for half a million eggs had been made through your Department to Prof. Baird carly in the season; but, from senne unforeven caure at the McLeod hatchery, only forty thousand, as abve ralated, were sent. With this reduced contingent, Prof. Baird expressed much regret, and being selicitons to supply our wants, kindly ventured the latter shipment of 80,000 . Those eatae by ordinary uxpressi all the way through, atriving here late iu November. Thoy had evidently been placed in some very warm part of the car, as, upon opening out, steam arow from the straw packing, and the contents were found to be uncomfortably warm in handling, yet the ova, to outward appearancew, l,opked remarkibly well; but it was noticed that, whilst the ejes and the embryo were particularly visible, reither motion nor vitality of any kind was discernable in the cys. Fron previous experience in like cases, the critical position of the contents of this packuge was keen! $y_{j}$ felt, and it was ovident that extreme cantion had to be applied to savo them if it were ret possible to do so. Noarly a whole day was spent in reducing the ligh temperature of the eggs in the crato to the co!! standard of the water in which they were to be ;ut. This was done by lightly sprinkling water over the erate at diderent perion until the proper temperatuic was reached. They were then carefully removed to the hatching trays, and gently immersed in the breeding troughs. During the whole of this proceeding no oviclence of life whatever was given, but a small opaque white line began to show itself transrersely in many of the eggs. By the nest day this line was strongly shown in almost every one of them; many began to burst open. This continued increasing daily until every egg perishorl. 'This disaster was no donbt caused by negligence on the part of the expressmen iu placing the crate aloagside or near the shove in the cars. They wero literally cooked, lut retainel tho outward appermaces of health ani somelness, for sevoral
    hours afice being taken out of the crate.

    Difficulties and losses in connection with the shipment of fish-eggs by express companies, when the journey exceeds two or three days, have proved to be so disastrous (with my experience) that it may be said to be utterly useless to continue this means of transporting them. Yot no injury need necessarily happen during a passage of a fortnight, or even longer periods, should the instructions, which are invaliably written upon the package, be carried out. The method of packing has become so perfect, and the eggs themselves have been found to stand even rough handling, so that nothing further is required to ensure safety than to avoid freezing and too much heat. The great secret lies in keeping them as cold as possible without freezing them. I have forwarded and received fish-eggs to and from England with perfect safety when they have been given in charge of private individuals, whilst in every case they have purshed while in the care of the express carriers.

    ## Califo:nia Salmon.

    The experiment of introdneing and acchmatizing the salmon of the Pacific coast to the waters on this side of the continent, conimenced at this establishment (kindly aided by Professors Brird and $\mathrm{Mr}_{1}$. Livingstone Stone of the United States Fishery Commission) has been practically demonstrited by the fact that several of these salmon have beet: taken in Lake Ontario and in this stream (Wilmot's Creek) during last season.

    In October, 1873 the first ova of the California salmon (Salmo Quinnet) were brought over from the McLeod River. Twenty thousand of these were donated to this institution by Professor Baird. The eggs arrived safely and were hatched out in the following December. Many of the firy were let loose into this creek in April, 1874. In the fall of 1874 , a second lot of these esgs were obtained from the United States hatchery on the McLeod River. The crop of fry from these proved inost satisfactory. A large number of the young fish were put in Wilmot's Creek, and at other points in the spring of 1875. A third consignment was received in October, 1875. The firy of these were distributed during the spring of $187 \%$; some in the Sialugeen River, others in some of the back lakes, and the balance in the different streams.) The fourth quota received in October, 1876, has already been referred to; I will nowstate that the success attending all these consigrments of ova, both in their transportation, their hatching into fry, and their distribution afterwards, was with the one exception of a remarkably satistactory nature.

    The assidnity practised in connection with this interesting venture met its reward in the face of 1876 , by the capture of a veritable California salmon in Wilmot's Creek. Publisily was given to this fact, and I here quote an extract from the annual report of 1876 in which mention in made of it. "It is well to make mention here (for it is "the first record of the kind on this Atlantic side of the continent) that a California "ralmon was taken last antumu in this creek, in company with his Ontario cousins. "This fish, following ont the instinct of its species, must have migrated from Luke "Ontario (some would say the Atlantic or Pacitic Ocean) up this strean, for it was " taken out of the trap in the reception honse along with other salmon that hat entered "it. The appearance at once indicated the almo quinnet or California saimon; the "length was fifteen inches, the body decp and narr"cw, with a docply vermieutated "greonish shade on the back inclining to brown towards the belly. The tirst lot of -. California eges received at this place was in the fall of 1874 ; this salmon must, there"f,re, bave been two years old, from the egg, as it was taken in the month of Ottober
    " last. It was totally unlike the ordinary grilse or smolt of the stream; it was a male
    "fish and had matured milt. The fact of this young Californian being taken here " gocs to show that it is not requisite that salmon should go to salt water to obtain
    "their growth; and is also evidence in favour of the opinion advanced by me that the "salmo salar (in like manner as the salmo quinnet) cian be acclimated to, and also be " made natives of, our fresh water lakes."

    Further and more convincing proofs of thee tish becoming acclimatized to the $1_{\text {re }}$ h waters of Ontario is found in the fact of the nettins oi several ot them in July sast (187i) in Iake Ontario, near the estuary of Wilmot's Creek; they were captured $1 \mathrm{c}-2 \frac{1}{2}$
    along with others of the native salmen of the country. One was a very beautifully developed specimen of upwards of five pounds in weight; its symmetry, though perfect, was different to the native salmon, its bod 5 was much deeper, and more of the bass form; its flesh had changed fiom the deep red of the Pacific salmon to a whitish orange color; it was, however, wonderfully tat and extremely delicious for the table The skin of this fish was preserved and mounted, and is retained here as an interesting specimen of the first adult salmo quimnet taken on this side of the Pacific slope.

    Still further evidence is given of their naturalization bere and of retaining their instinctive migratory habits, as several of these California salmon returned in September and October last to the hatching-house where they were reared, for the purposes of spawning. All of these were males, and of tilir size ; one measured twentythree inches in length. These fish were undoubted 5 a portion of the first fry turned out from this nursery in the spring of 1874, and will lic found to be the "advanced guard" or forerunners of others of their species that will show themselves next seasonf

    These salmon give interesting data for the naturalist and the study of physiology. They furthermore practically prove statements hitherto adranced by myself, that the salmon of the sea can be acclinatized and made natives of the fresh water lakes, and that it is not indispensably requisite for salmon to go to aalt water; large bodies of either salt or fresh water, with an abundant supply of food, is all that is requisite to give them growth and reproducing powers; and that the procreative qualities of the male salmon are usually developed at an eariier stage than the female, the former invariably commence their migration up the rivers for spawning purposes one year in advance of the latter; hence the indisputable fact of grilse taken in rivers being always males.

    A large number of eggs were gathered last October and November and placed in the breeding troughs of this nurseny. The quantity obtained was not as great as that of the previous year, but this is accounted for by the salnon not coming as far up the stream as usual, and laving entered the creek some ten days later than formerly. Seven hundred and fifty thousand ora were gathered by the artificial methods, and are now in a very bealthy condition, and are doing remarkably well, and bid fair to yield a satisfactory percentage of fry.

    Upwards of a million of the salmon trout egas were also laid down here; these were githered from fish caught in the Georgian Bay. The officor deputed to perform this work reported great difficulty in securing ripe egrs. The fish were found to be later in spawning than in former years, and the weather becoming rough and cold retarded the netting of the bish and prevented satisfactory impregnation of the eggs. It has hitherto been found more dificult to gather the ora of the salmon trout and to vitalize them than those of other fishes. The mode of taking the fish and manipulating them in boats on the open lakes, very frequently in rough disagreeable weather, necessarily prevents the requisito care and attention to insure full success. A very large porcentage of theso eggs, gathered last fall, proved to have been unfertilized

    A number of reil- trout eggs were obtaincd from the Saguenay district. They are doing very well and are further advanced towards hateling than the ova of the salmon or salmon trout.

    A million and th half of the whitetisl eggs werr laid down here. They were obtained in order to give a thorougl and practical test of the new patent incubator. A close personal observation made daily as to the operation of this apparatus, has given the most convincing proofs of it, wouderful adaptation and great capacity as a laboursaving and economical means of hatching whitefish cra. These eggs have progressed very satisfactorily and aro near batehing.

    A small lot of egss of the English char (salmo umbla) were also laid down in this est::blishment. These, through the kindness of Alexander Begg, Esq., were safely bronght across the Atlantic. This gentleman has taken a very deep interest in the
    work of fish culture, and through his untiring exertions quite a number of the Can:ulian tishes have, during tho past year, been introduced into English waters.

    Three millions three hundred and forty thousand two hundred egss of the most valuable commercial fishes of the country were placed in the hatching troughs of the Newastle fish-breeding establishment during the past season, as follows, viz.:-

    | Salmon (Salmo Wilmoti) | 750,000 |
    | :---: | :---: |
    | - California salmon (Salmo Quinnet) | 40,000? |
    | --- Char, English (Salmo Umbla) | 200 |
    | -- Sea and speckled trout... | 40,000 |
    | Salmon trout............ | 1,160,000 |
    | Whitefish (Corregonus Albus) | 1,500,000 |
    | Total.. | 3,340,200 |

    The general appearance of salmon in this stream during last autumn was very satisfactory, though the numbers might not have been quite as large as in the provious season. A general disposition was shown, more particularly by the larger sized salmon, to make their spawning beds at lower points in the creek; and so apparent was thie, that for some distance above the sluggish part of the stream, near the lake, the whole gravel bed of the creek was completely upturned by their laborious movements in making the beds and laying their eggs. It was not unusual to see a score at a time thus engaged in the broad open day, and so intent were they in this operation that it was with great diffieulty that they could be driven off.

    The quantity of ova laid in the manner above described must have been very large indeed, and judging from the numbers of salmon seen spawning, the natural deposit of cggs must have been much greater than the supply obtrined by the artificial means.

    Extracts from the report of Mr. Kerr, Fishery Officer at Hamilton, will be found appended hereto, in which he gives a statement of salmon that were observed spawning in Duffin's Creek, the River Rouge, Lyons' Creek and the Credit River. He further states that several salmon were accidentally caught in several of the fishermen's nets at different points in Lake Ontario. A number of salmon entered the Grafton and Darlington Creeks, but not in such numbers as in the previous year.

    Several violations of the law in respect to the killing of salmon, took placeon the Trent River, but were punished through the instrumentality of Mr. Charles Gilchrist, Fishery Officer.

    One hundred and forty-three salmon were captured in nets set along the shore of Lake Ontario, near Newcastle, and a number were also taken in trap nets set in the lake at Cobourg.

    The general progress of the science of fish culture is extending very widely throughout the world. On the continent of America the interest shewn is perhaps greater than elsewhere. Nearly every State in the adjoining Republic is now aiding the work by public grants and by the appointment of Fishery Commissioners, and a very pleasant rivalry exists among the soveral States as to which shall be most successful in redeeming the waters from previous barrenness, and supplying their populations with an edible food which is so generally prized by the people for its delicacy and wholesomenoss. Nor is the Dominion of Canada behind in advancing this important industry of propagating fish by artificial means. This is evidenced by the many establishments now in full operation, which for numbers, capacity and completeness, are not equalled by any other country. This desire to increase and multiply a valuable article of food and commerce is further evinced in the efforts which are being put forth by one of the most distant Provinces of this Dominion, where hitherto it had been considered, from the vast numbers of salmon that migrated up its rivers, that the supply could never be exhausted. With the unlimited demand, and the very great efforts that have been put forth to supply it, the unrestricted slanghter of the salmon in the Fraser River, in British Columbia, is creating considerable alarm, as it is seriously affecting the extensive
    traffic in this source of wealth. This feeling has caused a public expression to be given by the people of New Westminster for an application to the Dominion Government for a crant to erect a salmon-breeding establishment upon a large scale, on the Fraser River. This application will no doubt be laid before your Department, and will receive that consideration which its importance demands. A suggestion is, however, here ottered: That whilst heartily acquiescing.in the wish of the inhabitants of British Columbia in having a salmon-breeding establishment to assist in retaining the stock of fish that at present exists there, it is of equal necessity, also, that a policy for the the preservation and protection of fish by setting aside close-seasons for their natural reproduction should be most stringently enforced.

    In connection with this now popular enterprise I ber to submit for your approval and publication, a series of pictorial illustrations of the Newcastle fish-breeding cstablishments with explanatory remarks in relation to each picture.

    In conclusion, I beg to draw your attention to the appended table, which shews the statement of vitalized fish eggs at the several establishments in the Dominion, to be thirty millions six hundred and ninety-four thousand; to this may be added the number of fry which have been distributed from them in former years, amounting to twenty eight millions five hundred and fifteen tbrusand, making a grand total of eigs and fry, up to the present time, of fifty-nine millions two hundred and nine thousand.

    Table showing Number of Fry and of Vitalized Ova in the soveral Fish Nurseries in the Year 1877.

    |  | Fry Distributed in Spring of 1877. |  |  |  |  |  | Eggs Laid Down in Fall of 1877. |  |  |  |  |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  | Salmon. | Salmon Trout. | Speckled <br> Trout. | California Salmon. | Whitefish. | Total. | Salmon. | Salmon Trout. | Speckled Tront. | California Salmon. | Whitefish. | Tutal. |
    | Bedford......... ..... | 1,000,000 | ............ | ............. | $\cdots$ | $\cdots$ | 1,000,000 | :,450,000 |  | .............. | ........ ..... | ... | 1,450,000 |
    | Miramicbi ........... | 320,000 |  |  |  | - | 320,000 | 710,000 | ......... | ... ........ | ....... | ..... | 710,000 |
    | Restigouche ......... | 60,000 |  | ............. | ............ . | ... | 600,000 | 1,004,000 | ............. |  | ..... | ....... | 1,004, 000 |
    | Gaspé ............... | 1,051,000 |  |  |  |  | 1,051,000 | 750,000 |  |  |  | . ....... | 750,000 |
    | Tadoussac. .... ..... | 1,180,000 |  | 75,000 | 3,500 | ............ | 1,258,500 | 1,340,000 | ............. | 100,000 |  |  | 1,440,000 |
    | Sandwich. ........... |  |  | .............. | ............. | 7,750,000 | 7,750,000 |  |  |  |  | 22,000,000 | 22,600,001 |
    | Newcastle ........... | 1,300,000 | ... | 24,000 | 3,500 | 200,000 | 1,527,500 | 750,000 | 1,000,000 | 50,000 | 40,090 | 1,500,000 | $3,960,100$ |
    | Total ............ | 5,451,000 | ............ | 99,000 | 7,000 | 7,950,000 | 13,507,000 | 6,004,000 | 1,000,000 | 150,000 | 40,010 | 23,500,000 | 30,69,000 |

    ## Pictorial Illustration.

    A very general desire now prevails with the people of Canada to encourage by every possible meals the artiticial method of propagating fish, and also to obtain general information in relation to the modus operandi of fish culture. With this view, I beg to submit a series of sketches of the buildinge and grounds in connection with the Newcastle establishment, in which are delineated as minutely as possible, by pictorial drawings, the internal arrangements of the breeding-rooms and the apparatus used in the practice of artificial fish-breeding. These pictures will give a coluprehensive idea of this national enterprise, from which I trust the public will derive general information and useful knowledge.

    The pictorial illustration includes in it eleven drawings, each representing different sketches of the outside premises and grounds, as well as views and plans of the interior arrangements of the buildings, as ate more particularly adapted for the work. These drawings will be found numbered from one to eleven for more ready reference.

    No. 1 is a panoramic view of the building and grounds, and of the surrounding country. The building on the left of the picture, on the edge of the stream, is the Government fish-breeding establishment, with its long, low reception house alongside; just here a permanent weir or carrier is thrown across, "the stream, which prevents the upward passage of the salmon. Being thus stopped on their progress up the main channel, they are attracted by the rapid outflow of water coming through the reception house, and rushing up the current they pass through an ingeniouslycontrived triangular-shaped weir (No. 3), and become entrapped within tho house where they are kept cunfined till they become ripe for spawning. From this building the stream runs (along the side of the picture) down a distance of sometwo miles, where it empties into Lake Ontario.

    Beneath the two large clumps of evergreen trees, in front of the middle and the main tream, the several nurserics and retaining ponds are shown, dotted here and the e e with miniature islands. In some of these ponds the parent salmon are retained for as while to recuperate after the exhaustion produced by spawning; other's are used as nurseries in which the young fry are kept for a time just after they are hatched out, and have absorbed the umbilical sac.

    The small building to the extreme right of the view was the old or original reception house, but it is now used as the gateway and general outlet from the ponds. On the extreme left, just above the main building, is an old mill with its raceway and mill-pond beyond. From the highor elevation of this large reservoir a sufficient head is obtained to force through an underground pipe a large flow of water into the first and second apartments or breeding-rooms; thus giving a constant and sufficient supply at all times for the hatching troughs.

    The premises and ponds cover some ten acres of land. Two public roads lead from the grounds, one at each extremity of the picture, and converge together at the village of Newcastle, about three-quarters of a mile distant, where an important station of the Grand Trunk Railway is located. The town of Bowmanville is situated about four miles to the west, and the town of Port Hope seventeen miles to the east.

    On the suminit of the mill is my own farm and residence.
    No. 2 is a ground plan of the premises with the location of the buildings and ponds as described in the panoramic view No. 1.

    No. 3 shows the inside arrangements of the reception house for entrapping and penning up the parent salmon. The fish enter this building through the triangularformed weir, and beeomo imprisoned in the first or large compartment. They are afterwards transferred (as represented by the assistant dipping them out with a small net) into the smaller pens above. The males and females are then separated and placed in different pens; in this way they remain quiet, and are more easily retaken at the time when they become ripe for laying their egge. When mature, a dozen or more of these fish at one time are again caught with the hand net, and carried (only a few feet) to their tanks arranged for their safe keeping at the right
    hand side of the breeding-room, lower flat; (No. 4,) where the workmen are engaged at their work.

    No. 4. Here the process of taking the ova from the fish and impregnating it is carried on; this is done by lifting from the tank a ripe female fish and holding her over a ressel securely, and gently pressiug her body with the hand when the eggs will flow freely from her. (See figure No. 5). After this operation is performed, she is liberated by dropping her into a raceway running from the room, lhwn which she quickly swims into the pond, (matkerl $\Lambda$, on the ground plan No. 2.) 1 male fish is then taken from another tank, and operated on in a like manner as the female; the milk extruded from lim is mixed with the egos by a gentle stirring with the hand; this caluses immediate impreguation.

    The ova are then dipped out of the pan with a mall lade, and put into a measure malle to contain one thousand ces-; from this they are pread evenly on the hatching trays (see apparatus plate No. 6.) These trajs are made two feet long and ten inches wide, with a division in the centre, and hold four thonsand egge each; when tilled they are carefully laid in the bredhag troughs (shown in figures 4 and 7). After the ova are thus deposited they are closely watched, and regularly cleansed from all sediments or other impurition which may settle upon them during the process of incubation.

    The eggs are of a clear salmon color, but should any prove to be unfertilized, or bedome injured in any way, they change their appearance to an opaque white, when they are picked out with forceps and cast away, thus preventing the remaining ova from becoming contaminated.

    No. 4 and 7 explain the manner in which the breeding troughis are distributed in the rooms. In the lower flat they are placed lengthwise, in the upper room crosswise of the building. Six of these are laid side by side with intervening aisles two feet wide for the convenience of the workmen in picking and washing the eggs. The troughs are each supplied with a constant flow of living water from the tanks which are fed from the raceway above, and are regulated in quantity by wooden taps, as shown in the cut. In the lower flat a series of aquaria are shown; they are placed alongside the wall and contain young salmon and other fish which ace lept for observation, and also for exhibition, to the numerous visitors who frequent the institution.

    No. 8 represents the upper story of the building, which, after taking from it office rooms, leaves a large commodious apartment used as a museum, in which are collected a number of specimens of fish of various kinds and other animals. This natural history depository is only of a few months' existence; yet it comprises numerous specimens of tho salmon family and otaer fish, prominent among which are the large ones shown in the plate; the one on the right is a sturgeon weighing $\because 80 \mathrm{lbs}$; the one on the left is the tmm; or giant mackerel; it: weight when alive was upwards of $600 \mathrm{lbs} . ;$ a Greenland shark ten feat long, an immense moose deer, m:lle and female cariboo, a bear and other animals; also an alligator ten feet long. All these specimens present a life-like appearauce and are artistically mounted.

    No. 9 shows the front and side elevation of the fish-breeding house proper; its dimensions are 64 ft . in length by 92 ft . in width, with a cellar or lower flat built of stone, and two frame stories above ground. The building presents a handsome and commanding appearance externally, and the arrangements inside are converient and well adapted for the purposes for which they are intended. The whole establishment gives convincing proof throughout of the exercise of practical ingenuity and personal industry.

    No. 10 gives a view of one of the retaining ponds (marked A, figure 2) into which the spent salmon pass from the main building after manipulation. It is about forty feet in diameter and circular in form, with an average depth of water from two to three feet.

    At the time this view was taker there were in this pond between three and four hundred adult salmon, weighing from six to sixteen pounds each. It is doubtful, indeed, whether in any other part of the world a more wonderful or pleasing exhi-
    bition can be enjoyed at one sight, of such numbers of large salmon as were enelosed within this small space. This extraordinary display is not of long duration, lasting only about a fortnight, generally during the last week of October and first weck of November.

    No. 11 gives views of the several shapesgof the eggs during incubation and the growth of the embryo.

    Explanation to No. 11:
    Ko. 1. Shows the young ova developing the head (magnified).
    No. 2. Shows the young ova devcloped (magnified).
    No. 3. The head and body of the tish developed (magnified).
    No. 4. Young ova before the developins, in natural size.
    No. 5. Shows the oria of the natural size, after the vital principle has been developed. The boly of the fish in thirstate has a pinkish tinge and the eyes arevery large.

    No. 6. The shell of the ovum just burst, and the head of the fish protruding from it.

    No. 7. The state of the orum shown after the bursting of the shell, when the pulsations of the heart become visible.

    No. 8. The shell just thrown off; the tail drooping; about a third part of the shell, which is transparent, is fractured by the fish in its exertions to extricate itself. Before the shell is broken the tail envelopes the yoke, which is seen attached to the body of the tish.

    No. 9. The tail in a short time becomes straight and the fish more lively, the mouth assumes a different form, and the lower and pectoral fins, which are quite transparent, are in motion simultaneously with the actions of the heart, which beats from 60 to 65 times in a minuto.

    No. 10 is a magnified representation of No. 7, the fish adhering to the shell, which is partly broken. No. 11 represents No. 9 magnified; the beart is before the pectoral fins under the throat.

    No. 12 is a still more enlarged view of No. 9 , showing the direction in which the blood circulates, as seen by a microscopo.

    The blood flows from under the body of the fish through the blood-vessels ramified along the sides of the back, and is there collected into a large vessel which runs along the front and bottom of the bag, communicating directly with the heart. An equal quantity of air or some transparent matter circulates with the blood. The blood is drawn by the beart from the large vessel alluded to, and thrown into regular pulsations into the vessels of the heart and throat where it assumes a dark colour. The rays of the gills are visible, and the firh soon begins to assume a brownish colour.

    No. 13 Salmon, developed shape.
    No. 14 Salmon, seneral apperrance in proper eason.
    No. 14 Salmon (male) at the spawning season.
    I bave the honor to be, Sir, Your obedient servant,

    SAMUEL WLLMOT, Superintendent Fish-Breeding Establishments.

    Newcastle, Ont., 31st December, 1877.

    ## REPORT OF Mr. P. VIBERT, FISHERY OFFICER IN CHARGE OF THE GASPE FISH-BIEEDLNG ESTABLISHMENT IN THE PROVINCE OF QUEBEC, FOR THE YEAR 1877.

    Gaspe Basin, 31st December, 1877.

    Hon. A. J. Smitif,
    Minister of Maride and Fisheries.
    Sir,-I have the honour to submit my report on the operations connected with this establishment for the past season.

    Last yeir I stated that the number of salmon eggs laid down was 920,000 ; but, according to the young fish distributed, the number of ova must have been underestimated and may be placed at $1,100,000$.

    The result of last winters operations was very satisfactory, for during five monthe the average loss of ova was only 50 per diem. We commenced removing the fry about the 15 th June, and placed them according to instructions from your Department as follows :-

    | Dartmouth River. | 550,000 |
    | :---: | :---: |
    | St. John do | 313,000 |
    | Mal Bay do | 108,000 |
    | Grand Pabos River | 80,000 |
    |  | 1,051,000 |

    And besides these I planted about 20,000 at the pond in rear of the establishment. The loss in transporting the young fish was small, and the work was generally attended with success.

    I set a net in the Dartmouth River as early as practicable, and caught 100 parent salmon; out of this number, unfortunately, over thirty died at pond at the fish house, owing to the low and impure state of the water. A few fish purchased from nets at Anse an Cousin in June appeared to thrive well there, although some were much injured by gill nets. I, therefore, placed the remainder at the upper retaining pond, 61 salmor, and they did very well.

    At this pond (No. 2) we have now two solid dams, scows,and all that is required for the prosecution of the work; and I believe that if the Dartmouth River was reserved principally for supplying parent salmon for this establishment, therc would be no trouble in securing 150 to 200 breeding fish every season by setting a net as early as possible, and placing them all in this pond, which is only a short distance from the main river; and in case it was deemed advisable to seine in the river in October, so as to have a large supply of ova, this could generally be accomplished; although it may sometimes be found impossible to do so on account of heavy rains, and this is why it is so necessary to secure a number of fish during the summer. When the spawning time arrived we had 76 fish in ponds, from which 400,000 ova was obtained.

    Fifty-three salmon were seined in St. Jobn River for this purpose, which gave 300,000 egge ; the size of the fish both in pond and on the river was very small, consequently the number of ova obtained was much less than it would otherwise have been, and these salmon were all late in spawning, it being the first day of November before all was finished.

    If I could have seined in the Dartmouth River, as last year, I am sure that over one million and a half of eggs might have been laid on the rills.

    It will thus be noticed that the actual number of ova in the troughs of this establishment is 750,000 , which at present are looking well, and promise a large porcentage of young try for distribution next year.

    Mr. Samuel Wilmot visited the establishment and retaining ponds this summer. Both my assistant and myself derived some valuable information from Mr. Wilmot with regard to fish culture, and the operations generally connected therewith.

    The troughs were all thoroughly dried and varnished as also the trays. The water was drawn off the Reservoir and all the sediment removed.

    The dam is in good order, and the outside of the building has been properly secured for winter; the roof requires painting next summer.

    I have the honour to be, Sir,
    Your obedient serrant,
    PHILLP VLUBERT, Fishery Officer in charge of the Gaspe Fish-breeding Establishment.

    # REPORT OF MR. JOHN MOWAT, FISHERY OFFICER IN CHARGE OF THE RESTIGOUCHE FISH-BREEDING ESTABLISHMENT, IN THE PROVINCE OF QUEBEC, FOR THE YEAR 1877. 

    Matapedia, 31st December, 1877.

    Hon. A. J. Sminh, Minister of Marine and Fisheries.

    Sir,-In presenting my Annual Report on this establishment, I am happy to be able to inform youthat a very fine and large lot of eggs have been secured, and are at present in good condition. I caused the usual nets to be set near the house on the 24th of August, and from that date until the 11th September, caught thirty-seven males, twenty-eight females, and eleven grilse. On that date nets had to be lifted owing to rise of water, and were not again set until the 17 th, fish going up in large numbers during the rise. On the 27th they were again lifted ; owing to leaves and rapid current it was impossible to keep them to bottom, the small mesthes of the nets forming a complete dam; small lots of lumber also were being driven down the river, and they had to be discontinued; in the interval, however, 19 males and 22 females, with 10 more grilse were secured. Those fish were carefully transferred to the ponds. Out of this number. 2 males and 11 females sickened, previous to 3 th September, and were let go again, and 3 males and 11 females died without giving any ova, the fungus carrying them off very rapidly; some of the fish to k it after a day or two in pond. and without the slightest sign of abrasion, whilst others, who bore marks of injury, remained healthy until turned out. They were all used with the greatest possible care. Although, on account of their large size and strength, it is difficult to handle them without injury, particularly the females,who, at this period, will not stand rough usage.

    On the 28th September the river rose greatly, and from former experience, afraid I could not secure fish here, I started up the river taking fous floating cribs, seine, two large eight-inch mesh nets, two canoes, three men, scow and two horses. At both Indian House and Patapedia pools, the rise of water prevented me from using seine; the fish also had left the pools to go further up, and on the bars; I atonce went on to the Lodge pool, seven miles up the main river above the Kedgwick junction; the river here is very smooth bottom and a forty fathom net sweeps the whole river. There were a good many tish showing on the bars, still they were shy and difficult to surround, retreating instantly into deop water. The men here commenced work with orders to cross down the river, while I visited the Unper Kedgwick. This river, for thirty milcs, was full of salmon just commencing to nest, and it was a great sight, running down the river, seeing the fish busy on the gravel. The roughness of the bottom on this stream prevents nets from being used on it; it is full of large white quartz boulders, generally from 20 to 500 lbs . weight. The Patapedia is of the same formation, while the main river is perfectly smooth above the Kedgwick seven miles below this last named river, on the 7 th, 1 overtook the men with 74 fish, and the same night took 32 more, 55 males, 41 females, all very large. As some of them seemed ripe, I found it necessary to get down, so, leaving a spare crib, I got to Dee side on the 9th, sending the men immediately back to fill it; they arrived on the 16 th with 45 more fish and caught ten more after arrival, by night, seining 133 males, 87 females and 20 grilse. I cannot account for the preponderance of males; but as 22 females from poud died and were turned out without maturing, the difference is not so great.

    Out of those fish I grot $1, \because 04,000$ eggs or an average of 13,800 per fish; many of them were over 36 lbs , none under $\because 0$; three fish gave $28,000,27,000$ and 25,000 respectively. The very large mesh net with which the lant fish were taken accounts partly for
    this; the 14 lb fish went through. I had to enlarge floor room in house and made room for fifty more trays, and there are now two tiers of trays, containing 290. When the egge ordered for Miramichi are taken out there will be more room; still there will be danger of smothering when fry come out. Should eggs all keep well, I expect to deliver those eggs shortly now as their eyes are quito visible.

    The opportunity did not occur to test the Indian house pond this season, as the seine ordered, through some mistake, did not arrive here until 27 th October, when the rise of water not only prevented its use, but the fish left the only pools on that account, where it can be used successfully, but it will be tested pext season. As the water is colder and the flow greater there is every prospect of the fish keeping without disease. Up to date I have measured 51,000 dead eggs, a large portion of which has come from two lots; treated the same as the others, but from some cause or failure in the tish, very few of their eggs were impregnated. The only method of impregating was closely adhered to as ordered by Mr. Wilmot, and the percentage of unfertilized eggs is very small.

    The first ova laid down here was:-

    | 1873 | 120,000 |
    | :---: | :---: |
    | 1874 | 800,000 |
    | 1875 | 300,000 |
    | 1876 | 600,000 |
    | 1877 | ,200,000 |

    and were distributed as follows:-

    $$
    \begin{aligned}
    & \text { From } 1874 \text { to 1877, in Metapedia River.................. 350,000 } \\
    & \text { do do in Upsalquitch....................... 300,000 } \\
    & \text { do do in Min Restigouche............. 800, } 000 \\
    & \text { 1874, } 1875 \text { and 1877, in Jac•quet River................... 150,000 } \\
    & \text { 1875, } 1876 \text { and 1877, in Nonvelle River................ . } 150,000 \\
    & 1876 \text { and 1875, in Little River............................. } 70,000
    \end{aligned}
    $$

    The building was cheaply put up, of hewn cedar logs, plank supply pipes, brush dam; it was placed in an excaration, and has no light only on one side; the action of frost, combined with the weight of embankment behind, is continually throwing and twisting the building, cansing troughs to be rencurel and re-levelled every season. I am also appe ebensive of the supply lipe giving out, and would respectfully suggest the necessity of making preparations to put up a new building in place of putting costly repairs on the old. We hive a fine level plot on our own groum, and from what I have seen now of Bedford and Newcastle, 1 ann satistici inat his establishment can easily be made warm without earth embankments to the caves. It can be built at a very moderate expense, particularly if tho erection and finishing is extended over two seasona, enabling the work to be cheaply done, atilizing the present building until the new is completed, and I belicve that a building equal to either of the abovo bouses, excepting such a fine outside finish, can be placed for $\$ 200$ if extended over two years.

    The utility of fish-breeding is now acknowledged, and the Restigouche River shows, from its continued increase, the value of artificial means, assisted by thorough protection. I have no hesitation in asserting that tor the future a regular annual supply of salmon will be assured, not subjoct, as formerly, to one good year and two bad ones, causcd by the heavy ico jams and freshets, completely destroying the whols season's young brood, and no means of roplenishing the loss. The artificial means adopted by your Department will now obviate this, and at least one million young fiy should be yearly placed in this river.

    I have the bonour to be, Sir, Your obedient servant, JOHN MOWAT, Irishery Officer in charge of the Restigouche Fish-Ureeding Establishment.

    # REPORT OF MR. A. B. WILMOT, PISHERY OFFICER IN CHARIE OF THE BEDFORD FISH-BREEDING ESTABLISHMENT, IN TIIE PROVINCE OF NOVA SCOTIA, FOR TIIE YEAR 1877. 

    Bedford, 31st December, 1877.

    ## Hon. A. J. Smith, <br> Minister of Marine and Fisheries.

    Sir,-I hare the honour herewith to submit my Report upon the operations at the Bedford Fish-breeding establishment, for the past ycar.

    It affords me very great pleasure to inform your Department, that the great success which attended the opening of this establishment, and the introduction of the system of artificial fish propagation, as detailed in my last annual report, has been far exceeded by the successful results obtained from my more extensive operations during the past year.

    A more intimate knowledge of the great work in hand, and the urgent necessity of its adoption is also boing gradually diffused among the people, and I find that many who at first were inclined to oppose what they considered a mere njeculative theory, have now become convinced that the artificial propagation of salmon is really a feasible and practical art, and that by its means many thousands of dollars will, in a shor't time, be added to the value of our coast and inland fisheries.

    The spirit of opposition which existed among the fishermen so largely last year, I ani pleased to find, has almost entirely disappeared. Daring my travels through the Province, and whiln ope ating apon the diferent rivers, many opportunition of meeting and conversing with the tishermen presented themselves, and I have endeavoured to enlighten them upon this important and somewhat novel national enterprise, and to improsi them with the necessity of their heariy co-operation with your Deparimeat in carrying out the means introdnced for the creation of a great wealth for their direet henefit. The further convincing exidence of seeing thousands or artiacially-hatched intano sation phaced in their rivers has very materially assisted in removing many of the old prejudices existing; and I am now happy to state that the moral support and assistance I bave reccived froni all classes of people during the last year have been very encouraging, and, in a measure, removed the difficulties to be met with in the prosecution of a work, which, in some of its branches, is of such a precarious nature.

    In my report upon this establishment for the jear ending 30th December, 1876, I stated that $1,000,000$ eggs had been successfully laid down in the hateling troughs, and from their healthy and promising appearance I assured your Department of a very satisiactory result to the season's operations. I am now happy to inform you that the issue quite exceeded my most sanguine expectations, and that $1,000,000$ fry, or about $\mathfrak{G 0}$ per cent. of the original number, were safely hatched. This favourable result, while being chiefly attributed to systematic arrangement of the interior of this hatchery room, and the perfect nature of the appliances introduced for the safe and easy management of a lurge number of ova, was, to a large extent, brought about by the propitious circumstances attending the process of incubation.

    The weather, from the lst of January to the 15th of March, was very steady and equable in temperature; the ground was well covered with snow; no thaws or freshets took place during that period, and the water in the river continued clear and pure. Consequently very little sediment or other foul matter was deposited opon the ova, and the loss occasioned by the wishing and handling required when frequent freshets occur, was almost entirely avoided. The period during which the young fry burst the shell, and the following six weeks or musing season were also exceptionally farourable. The temperature of the water continued low, thus presenting the rapid growth of fungus, and lessening the care and labour usually necessary during
    this critical period, so that notwithstanding the somewhat overcrowded state of thenursery troughs, the loss of fry was quite inappreciable.

    ## Distribution of Fry last Spring.

    As soon as the infant fish had attainol the proper age this important part of the work was undertaken, and was performed with the greatest possible despatch. The work of distribution is of necessity very much hurried, and is a searon of great anxiety and labour to all concerned. In order to be successful the transportation of the fry should not be attempted until the age of three weeks has been reached, and should be completed before the umbilical sac is entirely absorbed, which is about forty days from the time of emerging from the shell. During transportation care must be taken that the water be kept well aerated and at a uniform temperature, otherwise the fry will become exhausted before reaching their destination. Caution and judgment, which can only bo acquired by experience in the business, are necessary in every detail of this work, which is the consummation of all the labour and pains bestowed upon the ova during the previous seven months. Under these conditions, and with a million fry in the nursing troughs, all ready for distribution, the magnitude of the work at this season can be understood.

    The distribution which extended over a very large portion of the Province, and comprised thirty rivers, was performed with almost perfect success, no loss being met with except from those intended for the rivers entering Mahone Bay, Lunenburg County. The losis from this lot amounted to about 50 per cent, from the unfavorable circumstances I was obliged to contend with in attempting to reach that remote point.

    In accordance with the instructions received from your Department, the distribution was as follows :-
    

    | Salmon River, Colchester Co. | 60,000 |
    | :---: | :---: |
    | Stowiacke " ${ }^{\text {a }}$ | $2 \overline{2}, 000$ |
    | North " " | 2.),000 |
    | Debert " " | 20,000 |
    | Total Colchester Co. | 130,000 |
    | West River, Pictou Co. | 50,000 |
    | East " " | 50,000 |
    | Middle " " | 50,000 |
    | Sutherland's River, Pictou Co. | 20,000 |
    | Total Pictou Co. | 170,000 |
    | Martin's River, Lunenburg Co. | 8,000 |
    | Gold " " | 6,000 |
    | Middle " ، | 6,009 |
    | Total Lunenburg Co. | 20,000 |
    | Tracadie River, Guysboro' Co | 20,000 |
    | Retained for experimental purposes | 5,000 |
    |  | 35,000 |
    | Showing a grand total of.. | 1,000,000 |

    salmon fry distributed among the principal rivers of the central counties of this Province. The cool and favorable state of the weather during the greater part of the month of May materially assisted me in this important and arduous work, and reduced the risks of loss during the long and tedious journeys some of the fry were subjected to before reaching their destination, and in almost every instance they were quite as strong and healthy when placed in the rivers as when first taken from the hatching troughs.

    The attempt to deposit 20,000 fry in the waters of Martins, Gold and Middle Rivers, as stated above, was unsuccessful. In consequence of the failure in regard to those streams the previous year, I was particularly anxious to secure succos this season, and to this end I communicated with Overseer Redden and requested him to render me assistance and give me information as to the best and most expeditious route by which Chester Basin could be reached. He advised chartering a sailing vessel from Halifax direct to the mouth of Gold River ; but, in consequence of the uncertainty of this route and the probable detention from fogs, calms, storms or head winds, I decided to take the more speedy route by steamers trom Halifax to Lunenburg, then by wagon twelve miles, to Martin's River, and thence by row-lnat to Gold and Middle Rivers. The necessary arrangements being made, I left the hatching-house, on the morning of the 16 th May, with three barrels containing the above number of fry; they were conveyed to Halifax by whale-boat, where passage was taken by steamer, and the town of Lunenburg reached at 12 noon the same day, when nosigns of exhaustion was exhibited, but the fry was as strong and lively as when first taken from the nursing troughs. From here they wero conveyed to Martin's River on a light spring wagon; but before reaching that wint I ofserved that many became exhausted from the effects of the violent motion imparted to the water in the barrels, caused by the exceedingly rough state of the roads. At the river I was met by C. E. Church, Esq., M.P., Overseer Redden and otbers, and the condition of the fry stated. As very few had as get become exhausted beyond recovery, if placed into running water, I had decided to put the whole number in this river and thus avoid any great loss; but finding that a strong desire existed among the partics present to
    $1 e-3 *$
    have a portion put into Gold River, I yielded to their wishes, but met with a very heavy loss by so doing.

    From this second falilure in attempting to convey salmon fry to such remote points, and actuated by an earnest desire to sucessfully carry out in all its details the work entrusted to me, and to prevent any partial subversion of the great benofits accruing to the country through its introduction, I beg most respectfully to submit the jollowing remarks.

    I do not consider it advisable, or in the best interests of the enterprise; to attempi at present to restock from this establishment those rivers which are not within 15 or 20 miles of the lines of railway now in operation. It cannot be done with any certainty of success, and, besides entailing a probable loss, it occupies two or three days of time (which at that season is invaluable) in the transportation of a comparatively small number of fry to those remote points which might be much more profitably employed in distributing a larger number among those rivers to which a round trip can be made by means of the railway in operation in one day. When the large number of rivers (about 30) so situated is considered, and the enormity of work which is always requisite at this season is taken into account, it will be seen that a very large tield is to be covered. As railway conveyance is the only easy and rapid and, consequently, eafe mode of transporting the young fry to any great distance, it would be useless to attempt to restock the rivers at the extreme parts of this Province until the lines' now in course of construction are completed; then every river fiom Yarmouth in the west to the Gut of Canso can be reached in safety and reccive its quota of fry annually.

    When selecting suitable localities on the different rivers in which to deposit the young fry, the upper portions of the stream were invariably chosen, as offering the greatest natural advantages for their rapid growth and protection. Animalcula and the egge of the water insects, which comprise the principal ford-of the infant fish during the parr stage, are found there in the largest quantities, and greater immunity from destruction by the swarms of predacious fish which enter the rivers in the spring of the year in search of food, is obtained. Many of these streams possess almirable natural facilities for the rearing of young salmon; generally the beds are of a gravelly nature and afford magnificent spawning grounds for the parent fish, and now, that in many instances the lumbering interests are of but slight importance, in consequence of most of the valuable timber being cut off, it appears to be an opportune time to regain the wealth they formerly possessed in their salmon fisheries. The great obstacle to the accomplishment of this object in a short space of time, is the number of impassable dams which obstruct the parent salmon to the spawning grounds. In some instances, as many as seven or eight of these obstructions exist. The mill ownors, generally, are very reluctant to provide suitablo fish passes, but appear to ontertain the idea that the rivers are their special properties, and that they alone are entitled to the benefils to to derived from the oxistence of those streams. This disposition will materially retard the progress of the work contemplatod by your Dopartment. and until efficient fish ladders are erected over every dam, tho great object can never be reached; the rivers will never becomo self-sustaining, but will bo useful only as nursing or feeding grounds for the artiticially hatched salmon. It is a well establishod fact, that all anadromous fish seek to return, for the purpose of spawning, to the place where they were first introduced into the water, and that their homen for reproduction are those rivers where their first or parr stage is passed, henco the necessity for a free and uninterrupted passage way from tho sea to the heads of the rivers. The fact that almost unlimited numbers of salmon fry can be hatched and successifully planted in our rivers, has long since been fully demonstrated, but that our river or coust fisheries will be benefitted by this is doubtful indeed, unless moans are adopted which will on able theso fish to assend to the spawning grounds, and in turn produce their kind.

    ## Oris collected this Season.

    The work of collecting a stock of ova for this establishment during the past season was accompanied by much less difficulty than in former years, bat I was
    unable to reduce the expenditure to any great extent, in consoquence of the necessity for operating upon so many rivers, and employing four or tive different crews of fishermen. During the past summer considerable improvements and additions wore made to the appliances for catching and retaining a supply of the parent fish on the Philip, where an efficient reception tank was built last year, and that the temporary creels which I had used last season were not satisfactory, I obtained permi-sion from your Department to build additional reception tanks on West River, Picton Co., and Musquodoboit River, Halifax Co.; these applianes were accordingly prepared for the reception of the parent fish, and gave perfect satisfaction. The choice of the Musquodoboit as one of the points of collection prored to be a fortunate one, its a much larger number of salmon were caught on this river than from any of the others. The presence of a very efficient fisl ladder over the dam which obstructs the channel of this river immediately at its mouth, rendered the work of eatching the salmon a comparatively easy matter. By means of a small woodeu tirip placed at the head of this ladder, the tish were captured without any handling, and free fiom the bruises and injuries always received when the ordinary mesh or gill nets are used as on the other rivers. After being caught in this trap, they were conveyed a distance of two miles by waggon to a beantifully clear raceway, whene they were allowed to dieport themselves on the tine gravelly beds until ready for manipulation, when they were driven into a reception tank built at the lower end of this raceway, and soparated preparatory to spawning. The natural advantages for the work which this place possesses are of an exceptionally favorable nature, and as an evidence of this I might state that of 190 fish caught and treated as above, not one died or was fonnd injured or at all scarred. From my cxperience of this place, $f$ an so favorably impressed with its perfect adaptability for the purpose, that, with the consent of your Department, I purpose making it the principal point of collection for the future. The fish in that river are as large as those frequenting Iiver Philip or the rivers of Pictou Co., and in numbers far exceed those streams. I have reason to belicre that had the fishermen been permitied to labour undisturled during the month of October, that over 300 salmon would havo been taken from this river alone. It West River, owing to the high freshets of Getober, the catch was small, being only 80, aud of this number about two-third were males, add, consequently, of no value to me. On River Philip the catch amounted to 120, wilh a great superabundance of males; some beautiful specimens were taken from this river, many weighing over 95 lbs , and two femalcs excoeded 35 lbs in weight each, and fielding respectively 20,000 and $\mathbf{2 5}, 000$ eggs.

    For the purpose of obtaining an approximate idea of tho number of salmon entering the Sackville River, and the extent to which that stream could be depended upon for a supply of ova, I placed a small trap at the head of the fish ladder over the dam, immediately above the hatchins house, and succeeded in capturing about 60 fish, mostly grilse or small salmon. These were taken in the latter part of September, and a subsequent large run in October entered the river, but escaped me. From the numbers scen leaping over the dam at this time, I have reason to believe that fully 200 might have been caught if more efficient means had been enployed; but with the rather limited knowledge I possessed of its resources, I did not deem it advisable to expend much money or devote much time to it at this busy season of the year. However, enough was observed to warrant me in advising your Department to adopt some neans which will enablo me to utilize these fish, and thus reduce the annual ontlay for the collection of ova as under the present system. The details and requirements by which this can be accomplished have been farnished your Department, and I beg to again urge upon you their adoption during the coming year.

    The total number of fish secured at the different points of collection was 420 , of these 340 were males and 180 females, from which I obtained 1,650,000 eggs; 200,000 of this quantity were disposed of as directed by your Department ; the balance of $1,450,000$ were deposited in the hatching troughs of this Establishment. The lose up to the present time has been very light, and, as the embryo is now plainly visible, I have every reason to expect a most successful hatching.

    1 e-3 $\boldsymbol{z}^{*}$ *

    The interior of the hatching-room is in the same satisfactory condition as reported last yoar. and I hope to be able to lay down a much larger number of ova next season.

    I have the honour to be, Sir:
    Your obedient Servant.
    A. B. WILMOT,

    Fishery Officer in charge of the Bedford Fish breeding Estabhishment.

    # REPORT OF W. H. VENNING, Esq., INSPECTOR OF FISHERIES, ON THE MIRAMICHI FISH-BREE]IXG ESTABLISHMENT FOR THE SEASON OF 1877, AND THE TRANSPORT OF SALMON OVA FROM BEDFORD AND RESTIGOUCHE. 

    Hon. A. J. Smitit, Minister of Marine and Fisheries.

    Gir,-The wa laid down in the fall of 1896 continued to progress favourably with very small loss until the latter part of Murch, 1877. when a heavy freshet set in. Large deposits of black sediment covered the egrs, and a very serious loss by addling occurred. On being informed of these facts by Mr. Sheasgreen, the caretaker of the establishment, I suppcsed that this loss was occasioned by some substance in the water, which acted on the zinc of which the trays were made, and I immediately instructed him to transfer all the ergs from zine trays to carthen ones obtained from Mr. A. B. Wilmor, of the Belford IIouse, and to reduce the number on these, so as to give them more room, thinking they would be better if but a single layer of eggs was on the bottom of each tray, as this would prevent so much sediment from adhering. He did this, but an alarming loss still continued, and on the 7th April I went to Diramichi to see if ahything could be done to remedy thie scrious and unexpected misfortunc.

    On arriving at the Hatehing Honse I found the fresliet still very high and the water loaded with an amount of sediment that completely covered the esers, rendering it necessary to wash them every day. This had continued for ten days, and the loss in that time had more than trebled the total lows since the egges were placed in the trourins. The leaths had been greatest on the zinc trags, next on the gravelled ones, and was very serious indeei. I carefully measured the trays, and found as follows:-

    $$
    \begin{aligned}
    & \because 17 \text { earthen trays, containing } 1,500 \text { each ...................... } 325,500 \\
    & 106 \text { saucers, " 350 " .................... 37,100 } \\
    & 3 \text { double zinc, " } 3,000 \text { " .................... } 9,000 \\
    & \because \text { wire, " } 3,000 \text { " } \ldots . . . . . . . . . . . . . \\
    & \text { 377,600 }
    \end{aligned}
    $$

    Showing that over forty per cont of the whole number laid down had perished, while the daily loss still groing on was very considerable.

    I immerliately apprised you of all these facts in my report, dated 11th April, and Samuel Wilmot, Esq., was sent from Ontario to aseertain the causes that had led to this disastrous loss. I met Mr. Wilmot at Newcastle on the 16th April, and with him visited the House. The freshet was theu subsiding and the water running much clearer than when I saw it on the 7th.

    All the facts above recorded weie stated to Mr. Wilmot, and every wecurrence known to me was fully detailed, to enable him to form a correct opinion as to the cause of this unfortunate calamity. He measured the trays, and found as follows:-
    
    4 zinc " " $1,400 \ldots \ldots . . . . . . . . . . . . . . . . . . . .$. . 4,600
    2 wirc " " $850 \ldots \ldots . . . . . . . . . . . . . . . . . . . . . . . . . . .$.
    106 earthen saucers, $\quad 180 \ldots . . . . . . . . . . . . . . . . . . . . . . . .$.
    330,800
    Deduct some scant trays ...................... . $\quad 4,180$

    Showing a loss between the 8 th and 161 h April of 51,600 eggs.
    As the fireshet fell and the water ran clearer the daily loss grew smailer, until about the last of April, up to which date only about 7,500 more were lost, and from that time until the fish emerged from the shell, early in May, the loss did not exceed 500 , leaving 318,000 healthy young fish in the troughs.

    These were nursed without further loss, and early in June were distributed as follows:-
    

    The tramsportation, principally by horse and waggon, was made without any appreciable loss, as the weather was cool and fivourable for the purpose.

    The report made by Mr. Wilmot attributes the loss to want of judgment and carelessness on the part of Mr. Sheasereen. In my remarks on this report, submitted to you, I have giren my reasons for dissenting from the conclusions arrived at by Mr. Wilmot, and have also given you my opinion of the real cause of the two disasters that have befallen this house. The first one occurred when it was under the care of Mr. A. B. Wilmot, and the superintendence of Samuel Wilmot Esq.; the second one occurred under the care of Mr. Sheasgreen, and my superintendence, undertaken at the earnest wish of the Commissioner of Fisheries, while Mr. Samuel Wilmot was busily engrged at sandwich, and Mr. A. B. Wilmot at Bedford.

    Of course it is an easy solution of the difficulty to attribute it in both cases to incompetence and negligence, as Mr. Wilmot has done.

    Neither of the accused parties has had an opportunity given him of rebutting this charge, nor has Mr. Wilmot given any proofs of its truth, further than to state that such 18 his opinion, based upon a very limited induction. As I have bad much better opportunities of judering in this mattor, and a much more intimate knowledge of the stream that supplied the Honse, and its peculiarities, 1 am forced to a conclusion entirely different from the one expressed by Mr. Wilmot, and I have given you my reasons for beliering that the "carclessness and want of judgnient" were shown in the original arrangement of the ILonse and not in the sub-equent management of it.

    In my opinion, based upon a careful consideration of the facts recorded and detailed to you in my special letter on this snbject, the real cause of all the trouble has been an inadequate flow of water from the tank into the hatching troughs, owing to the insufficient head in the supply pond, or to the incapacity of the supplying pipes to keep the water at a sutficient height in the tank. I have stated this opinion to Samuel Wilmot, lisi., and expressed my belief that in order to make this establishment successful it will be necessary to largely increase the supply of water, either by raising the head in the pond or by :ncreasing the capacity of the pipes that lead from the pond to the reservoir in the hatching room. I think it my duty to record my conviction that until this is done the same loss will occur in future whenever a large number of ova are laid down, because the flow through the hatching troughs is not snfficient to supply the requisite arrated water to a large number of ova in an advanced stage of development. If this defeet is remodied, I see no reason why this House should not succeed as well as any othor now in operation.

    During last summer, Samuel Wilmot, E-q., took the entire control and naanagement of the IIouse, and I trust that, with his superior knowledge and experience, and with the change I have pointed out as absclutely necessary, the difficulties that have beset this establishment will be overcome.

    On the 14 th November, I received a tolegram from Mr.A. B. Wilmot requesting me to mect him at Moncton and take charge of 200,000 salmon ova for the Miramichi Hatching-House. I left here on the night train, and on arriving at Moncton met Mr. Wilmot with the eggs in charge. I requested him to accompany me to Miramichi to assist me in carefully handling the egrgs and also to give me his opinion as to the sufficiency of the head of water now in that establishment to hatch and nurse all ova the troughs will hold.

    We were mot at the Station by Overseer Hogan with a good spring waggon, and immediately started for tho House, where we arrived about 4 a.m. on the morning of Saturday. Mr. Wilmot assisted in laying down the eggs, which I am happy to state looked well and gave every indication of being healthy and in good condition. Mr . Wilmot then inspected the'feeding'dam,"measured the height of water in the tank, and expressed his belief that the increased flow of water will removo at least one cause of failure, and that the chances of success are now much increased.

    There are in the troughs 510,000 ova, which are doing well, with a small percentage of loss. With the 200,000 to be supplied by Mr. Mowat, there will be 710,000 , which will enable us to test the establishment this winter and next spring. I have great confidence in the successful result, and bope my judgment will be found correct.

    On the 17 th January, 187 , I left St. John by night train for Dee Side, Matapedia, in order to transfer to the Miramichi batching-house the overplus of 200,000 salmon eggr, of which Mr. Mowat was desirous of being relisved, fearing overcrowding in his restricted trough room when the young fish came from tho shell.

    I arrived at Dee Side on Saturday, and as the down trains lay over Sunday at Campbellton, I could not leave until Monday night. On Monday atternoon, with Mr. Mowat's assistance, I packed the eggs, which were in good condition, the young fish being plainly visible in all. The weather was very favourable, being soft and mild, and we reached Miramichi station about two o'clock on the murning of Tuesday. Overseer Hogan met us at the station with a suitable conreyance, and about 4.30 a.m. we reached the House and proceeded to transfer the eggs to the hatching troughs which was done as quickly as possible.

    The eggs tarned out exceedingly well, having stood the journey and the double operation of packing and anpacking with very small loss, not over 2,000 having died. They were transferred to the troughs, and when I left the house on Tuesday moraing all looked well and promising.

    There are now in this house 710,000 healthy ova; the embryos are visible in all the eggs, and many of them show signs of life, thoir motions being very perceptible. From present appearances I confidently anticipate a successful issue. If anything should happen, I have no hesitation in saying it will be in consefuence of the limited supply of water flowing into the troughs. Although this is nearly double what it was last winter and previously, in consequence of raising tho head in the supply pond, which was done last winter by Mr. S. Wilmot's directions, still tho supply is not much more than one half that of the Bedfurd house, and not more than quarter that of the Dee Side house. I am in hopes, however, that it will prove sufficieat to hatch and nurse the quantity now in the troughs; but I must again repeat my conviction, that, before it will be safe to lay down a million in this House, the supply of water must be largely increased. I have expreased this conviction to Mr. S. Wilmot, and I trust he will see the necessity of having the requisite alterations made before next season passes.

    I have the honour to be, Sir, Your obedient servant, W. H. VENNING,<br>Inspertor of Fisheries, Hetw Brunswick. $^{r}$

    ## REPORT OF MR. JOIN NEVIN, FISIIERY OFFICER IN CHARGE OF The sandulch fish-breeding establishment, in the PROVINCE OF ONTARIO, FOR THE YHAR $187 \%$.

    Lon. A. T. Smitil,
    Minister of Marine and Fisheries.
    Sanificir, 31st December, 1877.
    SIR,-I herewith beg loave to present my annual report as officer in charge of the Fist-breeding Establishment at Sandwich :-

    Owing to the small catch of white-fish, and to the fact that the fish did not commence npawning this yeur until the 9th of November, some fourteen days later than last year, we wero unable to obtain any spawn from the swing-nets, and we had conviderable diffealty in obtaining the amount we required. We collected altowher $26,000,000$ ogg , of which we have at present, in an advanced state of hatching, some $\because 2,1004,000$.

    The following list will show the numbers of eggs taken from each ground, the date of getting them. and the names of partics owning the grounds; also the names of the pernons who collecteri-the eggs; and also the names of those persons who did not furnish any egers, and the reasons why :-
    

    The new hatchng tins work remarkably well, if the spawn be collected by competent persons, it will only require one person to look after every $25,000,000$ eggs, which by the other plam required about ten.

    The engine and pumps are working well; by burning wood we will make a saving in fuel of fully one half over coal. Everything buing in good order in the House, we are prepared to lay down and take care of $35,000,000$ eggs.

    > I have the honour to be, Sir,
    > Your obedient servant,

    > JAMES NEVIN, Fishery Officer in charge of the Sanduick Fish-breeding Establishment.

    ## EXTIAUTS FROM FISHERY OVERSEER JOIIN W. KERR'S REPORT ON SLLMON FREqUENTING THE RIVERS AND CREEKS OF LAKE ONTARIO.

    ## dUFFIN's CREEK.

    On the loh October, in company with Mr. John Gordon, Sre, the lueal guardian of this creek, I made a careful examination and found the first bed of the season, anl from this date up to the 24th day of November last, salmon were daily seen, when the lase salmon took his departure. In all, there appeared to be 40 distinct beds, and 55 salmon were counted in this creek from time to time during the periol herein set forth.

    ## LYON'S CREEK.

    Mr. James Story, the guardian on this ereek, reports that he observed six salmon beds in this ereek, between the Grand Trunk Railway and the Kingston Road, upon the Flats and on the Rapids, but he saw no fish, althongh twelve salmon were seen there liy other persons. I would recommend that a gate, wired, should be placed under the bridge at the Kingston Rame every fall during the spawning season, so as t" prevent the salmon going beyoul this bridge; for the simple reason that during other and previous years, I have heard and known pareut salmon to ascend the two lranches of this creek, which run north and west, and getting frozen in ; and when spring broke up the ice and it came down stream, salmon were found embedded therein dead.

    ## the rouge river.

    Mr. Henry Moon, the guardian, states that he noticerl fire salmon beds in the Littie Rouge, and three beds in the Bir Rouge; and he reports that, to his belief, a salmon was speared and taken away one night, after he had pasel a certain spot on the Little Rouge to cross over to the Big Rouge.

    ## THE RIVER CREDIT.

    Mr. James G. Wilcox, Fishery Warden on a portion of this stream, reported no salmon being observed in that stream during the spawning season last fall. The Messrs. Barber, of Streetsville, being remonstrated with for permitting dye-stuffs, creosote \&c., to pass into this river from their woollen tho other factories, alleged that no salmon has been seen north of Dundas Street at springtield, cluring the last thirty years. I differ from them, as a few salmon were caurht last spring by anslers, in a small creek which enters the River Credit at Norval, and in which Mr. Samuel Wilmot deposited some fry about four or five years ago. Two salmon were also caught. one of them with a fry in the Credit, on Lot No. 3, 2nd Concession, Township of Toronto, about 13 incbes long, and on the same day after a freshet, the person who caught this salmon, states he saw several small salmon left dead after the water. receded.

    LAKE INTARIO.
    With respect to the catch of salmon during the past year in Lake Ontario, I beg to report that a salmon was caught at the mouth of the Rouge, by Mr. William Cowan, and liberated. Mr. Black caught two salmon at Frenchman's Bay. Mr. David Ward, of Toronto Island, caught two salmon in a hauling seino, and one in a herring gill-net. Mr. Gray, Toronto, caught a young salmon and liberated it. Mr. Patrick Hand, caught a salmon in a herriug gill-net, 5 pounds weight, at Winona. Mr. Duncan McGillivray, Burliggton Beach, caught a speckled trout 2 lbs. weight, and a salmon $1 \frac{1}{3}$ lbs. weight, in Lake Ontario. Mr. David Tryson, same place, caught two salmon in Lake Ontario, $2 \frac{1}{2}$ and $1 \frac{1}{2} \mathrm{lbs}$. weight. Mr. Mortimor Cory,
    same place, caught a small salmon. Mr. Ben. Folds, same place, caught two small salmon; Mr. Ben. Clink, same place, caught a small salmon in Lake Ontarin, Burlington Beach. Mr. John Taaffe, caught,two small salmon in Lake Ontario, at Burlington Beach; and Mr. Charles Shears, when spearing last spring in a fish-house on Burlington Bay, near Willow Point, speared a 7 lib . salmon. This shows that, whatever others may say to the cootrary, salmon are still on the increase in Lake Ontario. The cost of guarding the salmon creeks last fall was $\$ 160$. I may also state that many salmon that were found alive in the gill-nets by fishermen, were liberated; thus showing that there was no intention on the part of fishermen of taking these young salmon fish, wherever it could be avoided. The people in general have a more kindly diaposition towards our salmon.
    

    # SPECIAL REPORTS 

    # FISH-BREEDING ESTABLISHMENT 

    ## MIRAMICHI, NEW BRUNSWICK.

    The Hon. A. J. Surth,
    Minister of Marine and Fisheries, Ottawa.
    Sir,-On the 16th of April last, I visited the Miramichi Salmon-Breeding Establishment at your request, with a view to ascertain, if possible, the true position there with regard to the numbers of ova on the batching trays, and learn the cause of the great discrepancy reported to exist between the quantity of eggs that were originally laid down in Novumber last.

    On arriving at the Hatehery in company with Mr. Inspector Vepning and Mr. John Hogan, local Fishesy Overseer, I found the external and internal appearance of the establishment to be in a satisfuctory condition. The breeding troughs and hatehing trays were well supplied with good living water and all the appliances in connection with the works gave evidence of cleanliness and order, and the ova were found to be in a very healthy state and far advanced. The embryos were well developed and showed unmistakable signs of strength and vigour.

    A heavy flow of water was running in the stream which supplies the hatchery at the time of my visit; this was accounted for by the general melting of the snow throughout the country, and was called a "freshet" by the persons present ass well as by Mr. Sheasgreen the officer in charge.

    The time of my inspection was therefore an opportune one, as I was enabled to see the state of the water as compared with other streams upon which other breeding establishments have been built in other sections of the country, and particularly so during the time of a "freshet." I therefore examined this water very closely so far as its purity and taste was concerned. I found it dark or porter coloured, nevertheless quite pure and seemingly free from sedimentary matter, and quite palatable to drink. In fuct, judging from general appearances and without a chemical test, II should pronounce the water of this stream for fist-breeding purposes equal to any other whero similar establishments are now being carried on successfully. Having satisfied myself with regard to the unexceptionablo character of the water, I then proceeded to make a fair and accurate calculation of the number of ova then lying upon the hatching trays. This was done by tho usual process of counting and measurement, which for all reasonable and practical purposes will so nearly appr oxi
    mate the actual numbers as to leave no doubts concerning tho correctness of the result. The sum total of eggs this ascertained anounted to 326,000 healthy vivified spawn. They were distributed as follows:-
    

    On the 6th of November last, 650,000 eggs were reported to your Department by tho officials as having been laid down in the Miramichi Hatchery.

    On the 17 th of November, Mr. Sheasgreen, the caretaker, writes thus: "Between 600,000 and 700,000 egse laid down here; they look well."

    On the 2nd Decomber, Mr. Venning reports: "Loss almost inappreciable, not " more than 1,500 dead ones having been removed; the eggs showed a bright and "hoalthy appearance, the embryo being plainly discernable in all."

    From the above official statements I made mention in my annual return to your Department, of 31 st December lisis, " that 600,000 salmon ova were deposited in the "Miramichi Breeding Eistablishment during the fall of $1876 . "$

    The difference between the numbers of eggs reported to have been laid down in the autumn of 1876 , and the actual quantity on hand at the time of my visit to the hatchery on the 16th April, would show a falling off of one-half of the whole, or fifty per cent of a loss. This appears very extraordinary indeed, in the face of the several statements which were made from time to time, "that every thing was going on well, "and that the losses were inappreciable."

    The alleged cause of this extremely unusual loss of eggs is attributed by the officer in charge to tho large quantity of sedimentary matter that was deposited on them from the effects of heavy spring freshets, and fiom being placed on zinc trays, or from both causes combined, by which some chemical action was produced which killed the ova. Should either of these cauces, or a union of the two, have produced this terriblo loss, then the disaster might be accounted for. But it is very doubtful indeed whether these were the real causes of the great reduction in the numbers of eggs.

    At a period ats late as the end of the month of March, it was reported by the caretaker "that the total loss of eggs did not exceed 50,000 ." Taking this statement to be correct, there would still hare been on hand about 92 per cent, or nearly 600,000 ova.

    On the 4th of April, the works were visited by Messrs. Snowball and Smith; these gentlemen each made a hurric d calculation of the number of eggs on the trays, putting thom down at 280,000 . Whilst this count nay have approximated the quantity, it was nevertheless quite under the mark, as the true estimate should have becn upwards of 320,000 .

    On the 9th of April, Mr, Venning, during a visit which he made to the hatchery, madea calculation of the number of eggs, as noar as could be, which was as follows:

    $$
    \begin{aligned}
    & \text { On } 217 \text { earthen trays, each 1,500 eggs......................... } 325,500 \\
    & \text { " } 106 \text { " saucers, each } 350 . . . . . . . . . . . . . . . . . . . . . . . . . . . \text {...... 37,100 } \\
    & \text { " } 10 \text { zinc and } 1 \text { wire tray, } 1,500 \ldots \ldots \ldots \ldots . . . . . . . . . . . . . . . \text {........... } 15,000 \\
    & \text { Total .......................................... 377,600 }
    \end{aligned}
    $$

    As the correct count was 326,000 on the 16 th April, being the time of my inspection of the establishment, the estimates made by Messrs. Snowball and Smith
    of $2 \leq 0,000$ on the 4 th of A pril, and that of Mr. Venning on the 9 (h April. of 355,600 (though differing widely) nay be taken :ss some data tron which to fix the time in which the great bulk of the alleged loss of ova took place ; this, then, must have been between the latter paru of the month of March and the 4th or 9 th of April. During this period of time some $2-0,000$ ergs (which just previousiy were reported to be in good condition) all at once perishal.

    This great loss of fish eggs being of such in extraordinary nature, the statement of their numbers on the truys so conflicting, and the canse of their mortality as related being untenable, has not been satisfactotily explained; I am therefore compelled, however unpleasant it may be, in following out the dictates of my judgment, to say that the true cause of the difticulty and loss of ova at the Miramichi FishBreeding Establishment, has resulted, in my opinion, from incompetency or neglect, or both, on the part of the officer in charge of the building, and that deception has been resorted to in order to cover up the actual state of affilirs.

    Incompetency bas been sbown either in the incorrect method of counting the eggs when first taken, or in the improper mode of impregnating them, whereby the numbers became so greatly reduced on tho 16 th A pril, to what they were represented to be when first laid on the batching trays in the previous month of March.

    Neglect must have been practised to allow such an extraordinary percentage of ovit to die (assuming that the alleged numbers were laid down and properly fertilized) as it would be almost impossible, even whe thost cidinary care, (and quite unprecedented elsewhere) that the enormous loss of tifty per cent of the whole should take place in so short a time, and at that advanced period of incubation when the embryos had become almost perfect fry, and possessed great powers of endurance and vitality.

    Deception, I fear, has been resorted to in order to cover up incompetency or neglect, by attributing the falling off in numbers and the death of the eggs, to sedimentary matter in the water, and to alleged injury in tho use of zinc trays.

    As this is the second oecurrence of a similar misfortune in the serious loss of salmon ora at the Miramichi Salmon-Breeding Establishment, I feel it incumbont upon me to wake these plais statements of my views with regard to the working of that institution. Of the loss there in 1875, I very plainly stated to your Department that it was caused by negligence and want of attention to the work; I am of the same opinion still. Of the loss of 1876 , I am compelled to say that incompetercy, added to mistatements of the number of ova, and of other facts, bave produced results similar to the season of $18 \% \overline{0}$.

    In addition to my instructions concerning the loss of eggs at Miramichi, my attention was directed to a complaint against the officer in charge, for incivility offered to certain gentlemon when visiting the Hatchery. As Mr. Sheasgreen has already, by letter, admitted his error in this case, it will be unnecessary for me to further revert to it. I may, however, hele state, for your information, that I have made it an invariable rule to draw the attention of the officers ill charge of the several fish-breeding establishments, that it was desirable that every possible attention and civility should be extended to visitors; and one of the principal objects aimed at by me has been to make the several institutions as attractive as possible, in order to induce persons to visit and inspect them, for by this means more knowledge would be disseminated amongst the people in relation to this somewhat novel, yet highly important national enterprise.

    I have the honour to be, \&c.,

    Fisheries Office, St. John, N.B., 1st December, 1877.

    The Mon. Minister of

    > Marine and Fisheries,
    > Dorchester, N.B.

    Sir, -I thank you for directing a copy of Mr. Wilmot's report, on the Miramichi Hatching House, dated 28 th June last, to be sent to me.

    I have carefully read it, and am glad to find that no charges against my official integrity have been made, and that the reiterated slanders of the Editor of the Advanre, against me personally, are entirely unsupported by anything Mr. Wilmot has written. My own reports to the Department, dated 7th and 11th April last, are fully corroborated by Mr. Wilmot, who also corrects the crroneous statements of Messrs. Snowbail and Smith, as to the number of ova in the House at the time of their risit.

    As the Miramichi River sadl; needs the assistance of this establishment to keep up its stock of s:almon, which has been visibly failing for some years, I have always felt a great interest in its success, and I still hope that it can be made as successful ats any other house now in operation; but I am convinced it has some serious obstacles to contend with.

    While I freely admit the great ability of Mr. Samuel Wilmot, and his superior knowiedge of all matters connected with practical fish culture, still, with deference and respect, I yenture to submit some remarks on several opinions expressed in his repor't, for which I respectfully beg your consideration, because I have had better olportunities than he has had for knowing the nature and peculiarities of the stream which supplies the hatcbing trough, and the character and honcsty of Mr. Sheasgreen, the officer in immediate charge of the House.

    1 st. Mr. Wilmot errs in saying that he was "enabled to see the stato of the water during the time of a frosbet." At the time he considers so opportunc for this purpose, the freshet had nearly subsided, and tho stream was comparatively clear and puro. Had be seen it on the 9 th April and previously, instead of on the 16 th, he would scarcely have written his remarks on its purity and freedom from sedimentary matter. Even on the 16th of April, six days after the water had fallen sevoral feet, he describes it as "dark or porter coloured." How pure and free from sedimenary mattter such water could be, you are quite as well able to judge as either Mr. Wilmot or myself. But this I affirm-that when I saw the water on the 9th of April, and described it in my report to you of the 111h of April, its character was entirely different from that which Mr. Wilmot describes on the 16 th, and no man with eycs could truthfully say that it was anylling but most foul and dirty. Therefore I submit that Mr. Wilmot was sadly in error when he says he "satisfied himself with regard to the unexceptionable character of the water," and pronounces it, for fish-breeding purposes, equal to anj other where similar establisments are now being carried on successfully.

    2nd. I honostly beliove that Mr.iWilmot errs in attributing the loss of either 1875 or 1877 to incompeteney or neglect. Of the former year, Mr. A. B. Wilmot's report gives his opinion, founded on the facts recorded, and I see no fair grounds for questioning these facts, while there are grounds for his opinion, of which Mr. Samuel Wimot appears to be ignorant; at all events, he has not alluded to them. From my knowledge of Mr. Sheasireen and from the character he bears among his neighbours, I am very unwilling to believe, without some show of proof, he would resort to deception to cover up anything that happened or lnowingly make misstatements to deceive me or the Department as to the loss of 1877. Besides, he could not possibly do these things without the knowledge and connivance of Overseer John Hogan, and this man, at least, is quite incapable of such conduct, as the record of his whole life shows. Therefore, I think Mr. Wilmot has been hasty in jumping to this harsh conclusion. I have seen more of this man than Mr. Wilmot has, and I have seen much
    more of the Hatching-House while under his care. Irad I seen anything in his conduct to lead me to the conclusion Mr. Wilmot expresses, I would not have hesitated one moment to report the facts to yon, and I would have gone further than Mr. Wilmot has done-I would have strongly urged his dismissal-for no establishment could succeed under the charge of so dishonest and unreliable a man ats Mr. Wilmot describes. As to his competency to manipulate the fish, to impregnate the ova, and to take proper care of the ova in the troughs, I think Mr. Wilmot will admit that he was the best man then available for these services, haring had more practice and experience than anyone that could then have leen obtained. His practical experience of the house through all its past tronbles, now qualifies him fir its care much better than any other inan; and I have not a shadow of doubt of his intense wish to succeed in overcoming the difficilties that have beset him. It should he borne in mind that Mr. Sheasgreen has never seen any other hatching house, and had to follow the directions given him by the Messis. Wilmot and myself, and I have no reason to doubt that he has done so with more than ordinary intelligence and care. I feel that in thus giving you my opinion of Mr . Sheasgreen, in opposition to that expressed by Mr. Wilmot, I have done only scant justice to a man who has no opportunity to clefend himself against very grave and damaging suspicions, expressed, as I believe, hastily and without sufficient grounds.

    With these remarks on Mr. Wilmot's report, I will now, with your permission, state my presentopinion of the cause that has led to the ill-success of the HatchingHouse, and my reasons for believing that this cause has already been partially, and can be ontirely removed. As this opinion has been arrived at after much careful observation and anxious thought, 1 submit it as worthy of consideration.

    I will promise by a short resume of the facts as shown by the recond: of the Department. Late in the fall of 1873 , the house was only partally finished, and many of the ova laid down that fall were lost from exposuie to cold and want of proper conveniences for earing for them. During the summer of 1874 , the House was completed, and means provided to keep up a suitable temperature. That fall, Mr. A. B. Wilmot laid down in the troughs $1,500,000$ ova, which continued to progress favourably until the month of May, 1875, just as the young tish were bursting the shell. At that time, a sudden and great fatality befel the ova, -so great that only 150,000 young fish were produced. [n the fall of 1875 , owing to extensive freshets, the dam of the retaining pond gave way, and all the parent fish escaped before they were ripe for spawning. By great exertions, Mr. A. B. Wilmot succeeded in getting some 65,000 ova, by going far up one of the tributaries of the South-West. After having laid these down in the troughs, Mr. Wilmot was removed to Bedford, and, at the request of Mr. Whitcher, I consented to do the best I could to supply his place ; Mr. Sheasgreen having the immediate care of the house. The ova then in the troughs were hatched out with very small loss, and in the spring of 1876 the young fry were successfully planted according to your directions. In the summer of that year, the dams were rebuilt, and in the fall, 610,000 ova were laid down, which continued to do exceptionally well until the latter part of March, $\mathbf{1 8 7 7}$. Between that time and the 9 th of April, a loss occurred, amounting to 50 per cent of the whole number. This loss occurred during a very heavy freshet, which deposited a great quantity of black sediment on the eggs. Only 318,000 fry were hatched and distributed. Now, in alt this time, from 1874 to 1877 , Mr. Samuel Wilmot paid but three or four flying visits to the House, and had no sufficient opportunity of investigating facts or making careful observations. He never gave me any notice of his visits, consequently I had no opportunity of advising with him, or even of taking his instructions. Neither did he communicate with me by letter.

    When the first great loss occurred in 18745 Mr . A. B. Wilmot attributed it to the foul water and its action on the zine trays. From certain facts stated in his reports to you, there were some strong grounds in support of his opinion. So firmly convinced was he of the correctness of this opinion, that when he found the same character of water at Bedford, he urged your Department to furnish him with earthenware trays, and he also applied filters that intercepted the sediment before it reached the
    eggs. He was very successful with these appliances and consequently more firmly convinced that zinc trays were not suitable for the Miramichi House. But from the above resume you will observe a fuct that operates strongly against his conclusion. This fact is, that in 1876-7, the loss occurred on both zinc and earthen trays, although less on the latter. You will alao observe another fact that operates even nore strongly against his conclusion-that is, when only a small number of eggs were in the tronglis, they did well and no unasmal los occurred. Now, these two facts struck me with great force, and I could not but see that Mr. A. B. Wilmot's theory did not mect these facts. If the peculiar nature of the water was the cause of the loss, why did it not kill all the eggo-why did a portion escape out of the large crops of ova, and why did all the small crops escape? There questions caused me much anxious thought. Mr. Samuel Wilmot, not having my opportunities for observation, hastily concluded that neglect was the cause of loss, but 1 had strong reasons for believing otherwise. In the course of my thinkingover all the ciroumstances, another fact in the resume struck me with the force of a sledre hammer-and that fact is that the great losses in the large crops of ora occurred just before the young fish were ready to emerge from the shell! Here a new direction was given to my thoughts, and I was led to suppose that at this particular time the sediment did the mischief. This was my belief up to April last, when I accompanied Mr. Samuel Wilmot on his risit to the Bedford House. The first thing that siruck me was the greater body of water flowing out of bis tank over the eggs, and I called Mr. S. Wilmot's attention to it, and asked him it the small supply of water might not have had something to do with our trouble. He replied that our pipes ought to supply all the water needed. When next I saw our House I was still more forcibly struck with the difference. Our streams were small, and the water flowed rery sluggishly over the eggs. Suddenly, as if by inspiration, it became clear to me, that at the time when our lage crops of ova were about bursting the shell, the pipes did not supply water enough to give them the air they needed. Previous to this, and before the ach of breathing, the embryos do not need so bighly xrated water, and consoquently the ora would do well until the time came when more air was wanted. Now, a small sluggish stream flowing through the troughs would give only a certain quantity of air, and that quantity was not enough to supply the wants of hundreds of thousards of embryos struggling in their shells. The consequence would be that suffocation would commence and continue until enough had died to give the remainder the air they needed to sustain them. This is precisely what occurs in the natural process. While the oggs are developing under the ice in winter, they nced but slightly terated water, buit when they are nearly hatched and need the air, in the months of May or April, the ice breaks $u_{p}$, the streams riso, the flow of water is greatly increaved in the rivers and streams, and the water becomes much more highly arated, and so supplies the wants of the now breathing embryos. This want of sufficient water flowing from the supply tank to the trougha was, I am now persuadel, the radical trouble with our House, and another consequence of this deticient supply was that the flow would not carry off the sediment, and hence the great accumulation on the ora.

    I cannot help thinking that Mi. Sammel Wilmot must have come to this conclusion himself, and must have had doubts of the correctness of his opinion, that incompetency, neglect and decoit wore the camses of our loss. Else why did he, this season, order the supply dam to be ruised over a foot? Why did he have the pipes over-huuled and made tight? the result of which is that there is now nearly double the quantity of water flowing over the eggs, but still not such full and rapid streams as the Bedford troughs have. This, Mr. A. B. Wilmot and myself testod when he was there with the ova fiom the River Philip-while it took 30 seconds for one of our streams to fill a bucket, one of his streams tilled the same bucket in 19 seconds. And these full rapid streams, passing over his ova, are, in my opinion, the cause of his great success in the Redford Honse. He lias treated his ova just as be did in Miramichi, and he considers the water of the latter house just as good as that of the former. All the facts contained in the resume above given bear out the conclusion at which I have arrive l from my experience of the Miramichi House, and my observar
    tions of the Bedford House strengthen it. When we get the quota of 200,000 from the Restigouche House, there will be 710,000 ova in our troughs, which number, although not so large as I could wish for a rigid test, will give me the means of either verifying the correctness of my conclusion, or proving it erroneous. 1 am , of course, very anxious about the result, and yet I have confidence enough in Mr. Sheasgreen to leave the care of the house in his hands. If the result is a success, I think no doubt can remain as to the cause of past failures, and no fears need be entertained as to future success. But yet, in my humble opinion, it will be necessary to increase the flow from the supply dam, before it will be prudent to lay down a million and a half or two million ova. With a sufficient flow of water, I see no reason why this house, with its great amount of trough room, cannot just as safely hatch $2,000.000$, as I feel sanguine it will, this winter hatch 710,000 .

    The interest I feel in the success of this house must be $\mathrm{m}_{y}$ excuse for the length of this letter, and I hope when Mr. Samnel Wilmot considers all the facts that I have stated, he will agree with me in the opinion I have already expressed in a previous letter,-that we have all been looking for a remote and bidden cause of failure, while the real canse has been plainly before our cyes, but has been overlooked.

    Recent advices from Mr. Sheasgreen inform me that the nva are doing well, with very small loss. About the 10 th instant, I purpose going to Restigouche, to get the eggs from that housc, and see that they are carefully and properly laid down, as I wish this winter's test of the house to be a crucial one.

    Respectfully submitting to your consideration my conclusion and the reasons that have led to it,

    I have the honour to be, Sir, Your ubedient servant, W. H. VENNING, Inspector of Fisheries, N.R.

    Fisheries Office, St. John, N.B., November 6th, 1877.

    ## W. F. Whitcher, Esq., <br> Commissioner of Fisherios, Halifax.

    Sir,-When in Newcastle, on Monday 29th ult., Mr. Hogan intormed me that under instructions from Samuel Wilmot, Esq., he commenced fishing for salmon early in September, with the net I had made for catching shad (see my roport of lst August), which I sent to him for the use of the Hatching-House. By the middle of October he had secured over 350 parent fish, a larger number than has ever yet been taken for manipulation on the Miramichi. Part of these were placed in the pond, and part in the reception house, where a good flow of water continually passed over them. In a short time the greater part of those, in both places, began to show marked evidence of disease; large blotches of fungus appeared on their bodies, which spread rapidly and ended in the fish becoming hard and finally dying. On opening several of those that died the ova was found to be congested into a hard mass. As this disease appeared to be spreading rapidly, and affected the healthy fish, Mr. Sheasgreen was obliged to liberate them, retaining only such as gavo promise of maturing their ova.

    Mr. Hogan continued his efforts to procure a further supply, until all the females taken were spent, when be ceased operations, being satistied that the fish had all spawned.

    These facts I related to you in Chatham, ou Tuesday evening, 31st ult., and asked your permission to make another effort, hoping that some later run females might yet les secured.

    In accordance with your instructions, I accompanied Mr. Hogan and Mr. Sheasgreen up the maiu Nurth Fest, and swept several of the spawning beds on the

    31st nit We took twelve female fish, but every one of them had spawned, and no hope tranined of increasing our supply of ova from the Miramichi.

    Acting on your telegram of 1st inst., Hogan, Sheasgreen and myself went to Bathurst, where Overteer Hickson met us, he having made al! the necessary arrangements for swecping the epawning beds of the Nepissiguit River; Mr. Nicholson, the lessee, kindly giving his permission to do so. We spent the whole of Friday, and inst., in eftorts to capture fish in these pools, but the rough and rocky bottom of this river rendered it impossible to use the sweeping net, the fish enclosed escaping under it in every instance. We made strenuous exertions until late in the evening, when a violent storim of rain and sleet set in and rendered it impossible to continue the labor. We then hell a conversation with Overseer Hickion as to the possibility of using a bar-nct and pound with any hope of success; but both he and the canoe-men agreed in opinion that as the fish were on their spawning beds and not moving up or down the rirer. there wa: no reasonable prospect of succeeding in capturiner them by that mode. As the storm contiaued with increasing violence, we were obliged to feturn to Batburst, complesely drenched and worn out with our unsuccessful labour. The next morning was very cold, and ice was forming rapidly, which precluded any hope of seculios the nva, even if we succeeded in capturing the fish. Under these discon'aginer ciccumstances we all concluded that any further efforts would incur only a useless expense.

    Mr. Sheasgreen informed me that, out of the large number of fish taken in the Miranichi, he has laid down in the hatching troughs but 310,000 impregnated ova. He was obliged to liberate all but 00 females and about 75 males; of the former, many were small fish. and a number were hard and would not yied their ceres.

    I made seu.ching eaquiries of the men employed in citcehing the tisl, as to the canse of the fungus growth, and was informed that a great many were thus affected at the time of their capture. I also enquired of old fishermen if they could give any reason to this, and was told that some seasons a great many salmon shew theso signs of disense, but they wore not agreed as to cause. Some thought it resulted from injuries received in the sut nots during their ascent of the river; others were of opinion that the cause was rough handling in capturing them and conreying them to the hatching housc, while others thought thoy were caught too early, and kept too long in confincmenc. This last opinion is, to some extent, strengthened by Mr. Mowatt's experionce last yeir, when several bundred fish taken by him early in the season, and kept in confinemen:, showed precisely the same symptoms, and had to be liberated lefore they were ripe for spawning. Both Mr. Hogan and Mr. Sheasgreen assured me that all care was used to handle and transpoet the fish as tenderly as possible, and that a very large number of them was affected by the fungus growth at the time of their capture. This statement is borne out by the fact that of the twelve taken by me under your instructions, eight were more or less diseased, and covered by large patches of white fungus.

    It is mach to be regretted that the quantity of ova laid down is so small, as I am very vimuline that the improvements made this season in the water supply of the hatching house, wit effectually remove the diffeculties hitherto experienced at this establishment. During the past summer the supply pipes have been laid bare; scveral extensive leaks have been stopped; the head of water in the feeding dam has been raised over a foot; the hatching troughs bave been made tight; and at the time of my visit, on tho 29 tl: ult., a much more rapid stream of water was discharged from the recervoir into the sereral hatching troughs. These improvements will, I think, settle the question whether there is anything in the water unfavorables to the healthy development of falmon ova. If this question is once decided favorably, I seo no reason why, with bet!or arrangements for procuring the parent fish, this establishment should not be as successful in its results as any other hatching houso now in operation.

    During the last summer, Samuel Wilınot, Esq. took the entire control and management of the Howe, rince which time, although I have repeatedly written to him on the subject, I have hiad no reply. Wheu I was in Newcastle, on the 29th October
    last, Overseer Hogran informed me that, under instructious from Mr. Wilmot, he commenced fishing for salmon early in September. By the middle of October he had secured over 550 parent fish, a larger number than has ever yet been taken for manipulation on the Miramichi. Part of these were placed in the pond and part in the reception house, where a good flow of water continnally passed over them. In a short time the greater part of these, in both places, began to show marked signs of disease. Large blotches of fungus appeared on their bodies, which spread rapidly, and ended in the fish becoming hard and finally dying. On opening several of those that died, the ova was found to be congested into a hard mass. As this disease appeared to be spreading rapidly, and affected the healthy fish, Mr. Sheasgreen was obliged to liberate them, retaining only such as gave promise of maturing their ova.

    Mr. Hogan continued his efforts to procure a further supply until all the females taken were spent, when he ceased operations, being satistied that the fish had all spawned.

    These facts I related to the Commissioner in Chatham, on the 30th October, and I asked his permission to make another effort to procure parent fish, hoping that some later run females might be secured.

    In aecordanco with hisinstructions, I accompinied Mr. Hogan and Mr. Sheasgreen up the main Norts-West and swept several ot the spawning beds on the 31st of October. We took twelve fomale fish, but every one of them had spawned, and ins hope remained of increasing our supply of ova from the Miramichi.

    Acting on the telegram of the Commissioner dated 1st November, Hogan, Sheasgreen and myself went to Bathurst, where Overseer. Hickson met us, he having made all necessary arrangements for sweeping the spawning beds of the Nepissiquit River, Mr. Nicholson, the lessee, having kindly given permission to do so. We spent a day in efforts to capture fish in these pools, but the rough and rocky bottom of this river rendered it impossible to use the sweeping net, the tish enclosed escan)ing under it in every instance. We made strenuons exertions until iate in the evening, when a violent storm of rain and sleet set in, and rendered it impossible to continue the labour. We then beld a consultation with Overseer Hickson as to tho possibility of using a bar net and pound with any hope of success; but both he and the canoe-men, all of whom were old fishermen, well acquainted with the river, agreed in opinion that as the fish wore on their spawning beds, and not moving up or down the river, there were no reasonable prospect of capturing them by that mole. As the storm continued with increasing violence wo were obliged to return to Bathurst, completely dronched and worn out with our unsuccessful labour. The next morning was very cold and ice was forming rapidly, which precluded any hope of securing the ova, even if we succeeded in capturing the tish. Under these discouraging circumstances we all concluded that any further efforts would incur only a useless expense.

    Mr. Sheasgreen informed me that out of the large number of fish taken in the Miramichi, he laid down in the hatching troughs but 310,000 impres rated ova. He was obliged to liberate all but 60 females and about 75 males ; of the former, many were small fish and a number were hard and would not yicld their ova. An soo: as the disease became apparent, both Mr. Shcasgreen and Overseer Hogan wrote and telegraphed to Mr. Samuel Wilmot and required his immediate presence; but he neither went or gave them any advice by letter. I was not informed of the trouble uutil it was too late to take any measure to ameliorate it; as Mr. Wilmot give explicit orders that no instructions except his own were to be followed.

    It is much to be regretted that Mr. Wilmot did not himself visit the Heuse at the time the fish slowed these not unusual signs of disease, as it would have extendel his experience and given him the means of forming a judgment in a case that occurs not unfrequently on our rivers. At present he knows, from actual experience and personal observation, nothing about the nature of the disease, the appearances it presents, nor the causes that lead to it, and hasty theorizing from very insufficient data has more than once led Mr. Samuel Wilmot intw great errors of fact and judgment. His*practical experience has been confine to the House on Wilmot's Creek $1-242^{*}$
    in Ontario, where the habits of the fish are so essentially different from those of the fish in our rivers that any general conclusions drawn from the former must necessarily be crroneous when applied to the latter. Our fish enter the rivers as early as May and June and their ova and milt are developed while in the rivers. The Ontario fish do not enter his creck until late in Ostober, and then they are fully ripe for spawning, and as soon as they are captured, or at furthest in a fow days after, they are ready to be manipulated. Consequently his fish are but a few days in confinement and rarely or never become diseased. Mr. Wilmot does not appear to possess that caste of mind which enables bim to reason abstractly and to take into account all the varied circumstances which are necessary to be considered before a correct judgment can be formed. If, added to this mental defect, he will not take the tronble to acquire a personal knowledge of the ordinary and exceptional diffculties that may arise, it is quite plain that his conclusions are much more likely to be erroneous than correct. I feel it my duty to make these observations because I know that in three or four instances his conclusions, drawn from his experience at Wilmot's Creek and applied to our rivers, have been ludicrously erroneous, while the consequences have been seriously disastrous.

    I made searching enquiries of the men employed in catching the fish, as to the cause of the fungus growth, and was informed that a great many were thus affected at the time of there capture. I also enquired of old fishermen if they could give any reason for this, and was told that some scasons a gieat many salmon show these signs of disease, but they were not agreed as to the cause. Some thought it resulted from injuries reccived in the set nets during their ascent of the river; others were of' opinion that the cause wats rough handling in capturing them and conreying them to the Hatehing House; while others thought they were caught too early and kept too long in confinement. This last is my own opinion. I cautioned Mr. Wilmot against this error, because Mr. Mowat's experience, the previous season, went to show that long confinement will result in a growth of fungus and the same hardening of the body and congestion of the ova as was experienced last scason on the Miramichi.

    As there were but 310,000 ova in tho House, and as I was very desirous of testing my conviction that want of sufficient water was the cause of our former losses, I telegraphed the Commissioner to be allowed to get 200,000 ova from Bedford, and the same quantity from Restigouche, these Houses having each a surplus of ova, their managers having followed their own experience as to the proper time of capturing the parent fish, unembarrassed by the erroneous opinions of Mr. Samuel Wilmot. Hiving obtained bis permission, I communicated with Mr. A. B. Wilmot, of the Bedford House, and by arrangement met him at Moncton Station on the night of the 15th November. He accompanied me to Neweastle, to assist in carefully handling the ova, which were carefully packod in four boxes provided for the purpose. We were met at Neweastle Station by Overseer Hogan, with a good spring waggon, and immediately left for the Hatching House, where we arrived on the morning of Friday, the luth. Mr. Wilmot assisted in laying down the ova, which looked well and gave every indication of being healthy and in good condition.

    Mr. A. B. Wilnot inspected the feeding dan, measured the height of water in the tank, and found that a much better head and flow of water had been obtained, in consequence of changes made by order of Mr. Samuel Wilmot, during the last summer. The sup ply pipes had been laid bare; several extensive leaks had been stopped ; the head of vater in the feeding dam had been raised over a foot; the hatching troughs had beou marlo tight, and a much more repid stream of water was di-charged into the several hatcining troughs. Indeed, there was every reason to believe that Mr. Samuel Wilmot had, at last, become convinced that the carelessuess and incompetency which he had charged upon Mr. A. B. Wilmot and Mr. Sheasgreen, were due to himself in the original arrangement of the works. But, of course, he can hardly be expected to admit so dam:rging a fact, which, however, the following true statement will demonstrate. When first laid down, according to the directions of Mr. Samuel Wilmot, the pipes leading from the supply-pond to the reservoir in the
    hatt-hing room, consisted of only two pipes of threo inches each in diameter. To expect to keep up a head of water in a tank, into whish only two streams of three inches diameter each, flowed, while sixteen streams, of one inch each, flowod out, displitys a total ignorance of the first principles of bydraulics and bydrostatics. So great was this original error, that Mr. A. B. Wilmot was compelled to lay down two additional prpes of three inches each, which he did in spite of Mr. Samuel Wilmot's protestations that "there was water enough." Even with these additional pipes, the supply was not sufficient, and this last summer the supply dam was raised, as above statel, over a foot, which improvement, however, does not give much more than half tbe supply Bedford House has, and not much more than ove-rourth of that which the Kestigouche House has. In the former tank there is a waste-pipe which discharges a surplus of nearly haif as much as the whole supply of the Miramichi House, while at Bedford, pipes of $\frac{5}{8}$ inch diameter supply the troughes with more water than inch pipes do in Miramichi. This we proved by actual measurement; while it took thirty seconds for one of our inch streams to fill a bucket of twelve quarts, one of the Bedford $\frac{5}{8}$ inch streams filled the same bucket in nineteen seconds; a fact that shows, beyond a doubt, that whatever other defects the Miramichi establishment may labour under, want of water is the radical and most serious one.

    Mr. Samuel Wilmot gave strict orders that the ova from Restigouche should not be moved until the motions of the embryos were plainly visible. Though I thought, and still think this another error of judgment from Mr. Wilmot's limited experience in moving ova, I strictly followed his orders, and when Mr. Mowat informed me that the embryos moved, I left St. John on the night train and arrived at Dee Side on Saturday, 19th January, with proper boxes for conveying the ova to Miramiehi. On the afternoon of Monday we packed 204,000 ova, conveyed them by sled to Mctapedia Station, went by the night express to Newcastle, were met by Overseer Hogan with a suitable conveyance, and reached the Hatching House by $4: 30$ a.m. on the morning of Tuesday, 22nd January. We immediately transferred the ova to the hatching troughs; they turned out exceedingly well, having stood the journey and the double operation of packing and unpacking much better than I expected. Not over 2,000 had died, and when I left the House on Tuesday morning, all looked well and promising. The ova from Bedford had done quite as well as those previonsly laid down, and the percentage of loss had been, according to Mr. Sheasgreen's memoranda, quite small. Subsequent advices from him informed me that he has since lost about 2.000 more of the Restigouche eggs, which I attribute entirely to Mr, Samuel Wilmot's error in judgment in delaying their removal to a time when the greatest darger of loss was to be apprehended. However, on the whole, the operation has been successful, and the loss not more than might have been expected.

    There are now in the House 710,000 bealthy ova. The embryos are visible in all the cggs, and most of them show signs of life and motion. From present appearances I confidently anticipate a successful issue. If anything should happen, I have no hesitation in saying it will be mainly in consequence of the limited supply of water flowing over the ova at the time when they burst the shell, and will requiro plenty of zerated water to enable them to breathe. Although the supply is now nearly double what it was when the iast great loss oecurred, still it is not sufficient, in my opicion, to ənsure perfect safety to so large a mass of breathing fish. I am in hopes, howevor, that it may prove sufficient to hatch and nurse the number now in the troughs; but I must again repeat my conviction thal, before it will be safe to lay down a million ova in this house, the supply of water must bo largely increased. I have expressed this conviction to Mr. Samuel Wilmot, and, though he has not even acknowledged the receipt of my communication, I trust he will see the neces:ity of having the requisite alterations made bufore next season passes. And I also truit ce will now see the necessity of paying more personal attention to this House, which has some other important and serious drawbacks to its success. I am of opinion that the stream is not the best that could have been selected, but the works being there, it is of the very first importance that no efforts should, now be spared to overcome, by close personal attention, the errors in judgment originally made, and not to shirk the
    responsibility of his own errors by throwing the blame of "carelessness and incompetency," upon men who have shown much more solicitude for the success of the House than he ajperms to have done.

    In thas stating my convictions with perfect frankness and plainness, I wish to observe that mo ill feeling towards Mr.S. Wilmot has any share in dictating my remarks. That gentleman possesses much ability and perseverance, and deserves the highest praise for hi:s cfforts and shccess in bringing pisciculture to its prssent successful and promising state in Canada; bul somewhat different habits of thought, and a more extended acquaintance with the habits of our Salmo Salar, are necessary to enable him to be as successful in their artificial propagation as he has been with the Salmo Wilmoti, a variety very different in its habits and requiring a different mode of treatment, eeprecially in the management of the parent fish.

    As Mr. Wilmot has assumed the "whole and absolute management of the works," and is rather jealous of any interference with, or departure from, his stereotyped ideas, gained from his experience with the inland establisbment at which the Salmo Wimoti is propagated, I shall, in future, take no action in tish-breeding without clear and explicit orders from the Department, as I do not care to be held responsible for Mr. Wilmot's theories, nor for his neglect of a duty which devolves upon him, and for the proper performance of which he is paid, while hitherto all my labour and anxiety ard lest efforts for the success of this house have been gratuitous, except, indeed, liberal payment in slander and abuse.

    Respectfully submitted,

    ## W. H. VENNING, Inspector of Fisheries, N.B.

    P.S.-Cojey of this Report has been sent to Mr. Wilmot, and I think it would be advisable for lim to visit the House as soon as possible, in order that he may see for himself tie truth of it, so that no malicions falsehoods may mislead the Minister in the tuture, as has been done in the pant, with regard to the veracity of my statementy in connection with this establishment.

    Shint John, N.B., 31st Dec., 1874.

    ## Hon. A. J. Smith, Minister of Marine and Fisheries, Ottawa.

    Sir,-I have the honour to submit the following report of proceedings in connection with the Miramichi Fish-Breeding Eistablishment, from 31st December, 1876, to middle of June, 1877, when Samuel Wil:not, Est., assumed its entire control and supervision.

    The ova laid down in the fall of 1876 continued to prouress favourably with very small loss, until the latter part of March, 1857, when a heavy frenhet set in; large deposit, of hack nediment covered the ciges, and a very serious lows by addling occurred. On being iuformed of these facts by SIr. Sheasgreen, the care taker of the establishment, I supposed that this loss was occasioned by rome substance in the water, which acted on the zine of which the trays were made, and I immediately instructed him to transfer all the eggs from zinc trays to earthen ones, obtained from Mr. A. B. Wilmot of Bedford House, and to rednce the number on these, so as to give them more room. thinking they would do better if but a single layer of eggs was on the bottom ot each tray, as this would prevent so much sediment from adhering. Ife did this, but an alarming loss still continued, and on the 7 thi April I went to Miramichi to see if anything could be done to remedy this serious and unexpected misfortune. On arriving at the Hatching-House, I found the freshet still very high, and the water loaded with an amount of sediment that completely covered the
    eggs, rendering it necessary to wash thom every day. This had continued for ten days, and the loss in that time had more than trebled the total loss since the eggs were placed in the troughs. The deaths bad been greatest on the zinc trays, next on the gravelled ones, and was veiy serious indeed. I carefully measured the trayand found as follows:-

    $$
    \begin{aligned}
    & 217 \text { earthen trays, each containing } 1,500 \text {.............. ....... 325,500 } \\
    & 106 \text { saucers, each } 350 \text {................................................. 37,100 } \\
    & 3 \text { double zinc, each 3,000 ........................ ..... ......... } 9,000
    \end{aligned}
    $$

    $$
    \begin{aligned}
    & \text { 375,600 }
    \end{aligned}
    $$

    Showing that t" per cent of the whole number laid down had perished, while tle daily loss still gring on was very considerable.

    I immediatoly apprised you of all these facts in my report, dated 11th April, and Samuel Wilmot, Esq., was sent from Ontario to ascertain the caukes that had led to this disastrous loss. I met Mr. Wilnot at Newcastle, on the 16 th April, and with him visited the House. The freshet was then subsiding and the water running much clearer thain when I saw it on the 7th.

    All the facts ahove recorded were stated to Mr. Wilmot and every occurrence known to me was fully detailed, to enable him to form a correct opinion as to the cause of this unfortunate calamity. He measured the trays and fom as follows:-

    | 217 | tray |  | 1,400. | 303,800 |
    | :---: | :---: | :---: | :---: | :---: |
    | 4 zinc | do | do | 1,400. | 5,600 |
    | 4 wire | do | do | 850. | $1,{ }^{1} 00$ |
    | 106 cirth | auc |  | 180. | 19,080 |

    Deduct some scant trays.............................. | $3,10,180$ |
    | ---: |
    | 4,180 |

    $2 \cdot 6,000$
    Showing is loss between the Sth and 16th April, of 51,600 engs.
    As the freshet fell and the water ran clearer the daily lose grew smaller, until. about the last of April, up to which date only about 7,500 more were lost, and from that time until the fish emerged from the shell early in May, the loss did not exceed 500, learing 318,000 healthy young fish in the troughs.

    These were nursed without further low, and early in June were di-tribated as follows:-

    $$
    \begin{aligned}
    & \text { North•West Miramichi................. ................................ 50,000 } \\
    & \text { South-West do ................................................. 50,000 } \\
    & \text { Little South-West........................................................ ss, } 000 \\
    & \text { Sevogle ........................................................... ......... 20,000 } \\
    & \text { Bartibog ................................................................... 20,000 } \\
    & \text { Tabusintac............................................................... 20,000 } \\
    & \text { Burnt Church.. ........................................................... 20., } 000 \\
    & \text { Napan River.............................................................. } 20,1100 \\
    & \text { Black River.............. .......................... .................... 20,000 } \\
    & \text { Salmon River, lient Co................................................. 20, } 1010 \\
    & \text { Shediac River West'd Co.................................... ..... ..... 20,0.10 } \\
    & 318,000
    \end{aligned}
    $$

    The transportation, principally by horse and waggon, was made without any appreciable loss as the weather was cool and favourable to the purpose.

    The report made by Mr. Wilmot attributes the loss to want of juigment and carelessness on the part of Mr. Sheasgreen. In my remarks on this report submitted
    to you, I have griven my reasons for dissenting from the conclusions arrived at by Mr. Wilmot, and have also given you my opinion of the real cause of the two disasters that have betallen th s house. The first occurred when it was under the care of Mr. A. B. Wilmot and tire superintendence of Samuel Wilmot, Esq.; the second one occurred under the cure of Mr. Sheasgreen and my superintendence, undertaken at the earnest wish of the Commissioner of Fisheries, while Mr. Samuel Wilmot was busily engaged at Sandwich, and Mr. A. B. Wilmot at Bedford.

    Of course, it is an easy solution of the difficulty to atrribute it, in both cases, to incompetence and negligence, as Mr. Wilmot has done. Neither of the accused parties has had any opportunity given him of rebutting this charge, nor has Mr. Wilmot given any proof of its truth, further than to state that such is his opinion, based upon a very limited induction. As I have had much better opportunities of judging in this matter, and a much more intimate knowledge of the stream that supplied the house, aud its peculiarities, I am forced to a conclusion entirely diffcrent from the one expressed by Mr. Wilmot. and I have given you my reasons for believing that carelessness and want of judgment were shown in the original arrangement of the house, and not in the subsequent management of it.

    In my opinion, based upon a careful consideration of the facts recorded and detailed to you in my special letter on this subject, the real cause of all the trouble has been an inadequate flow of water from the tank into the hatching troughs, owing to the insufficient head in the supply pond, or to the incapacity of the supplying pipes to keep the water at a suffieient height in the tank. I have stated this opinion to Samuel Wilmot, Esq., and expressed my belief that, in order to make this establishment successful, it will be necessary to largely increase the supply of water, either by raising the head in the pond or by increasing the capacity of the pipes that lead from the pond to the reservoir, in the hatching-room. l think it my duty to record my conviction that, until this is done, the same loss will occur in future whenever a large number of ova are laid down, because the flow through the hatching tronghs is not sufficient to supply the requisite ærated water to a large number of wit in an advanced stage of development. If this defect is remedied, I see no reainn why this house should not succeed as well as any other now in operation.

    During last summer, Samuel Wilmot, Esq., took the ontire control and management of the house, and I trust that, with his superior knowledge and experience, and with the change I bave pointed out as absolutely necessary, the difficultios that have beset this establishment will be overcome.

    $$
    \begin{aligned}
    & \text { I have the honour to be, Sir, } \\
    & \text { Your obedient servant, } \\
    & \qquad \text { W. H. VENNING, } \\
    & \text { Inspector of Fisheries, N.B. }
    \end{aligned}
    $$

    Note.-As a local paper in Miramichi has charged me by name with "fraud" and "dishonesty" in my official reports in counection with this establishment, and has stated that Mr. Wilmot's report would substantiate these charges, I bog to be allowed here to give an indignant and unqualified denial to them, and to state that not one wrord in Mr. Wilmot's report can, by any possibility, be construed to reflect upon my ofticial integrity in this or any other connection. All my reports have been true and correct, so far as the facts wore made known to me. They were made without loss of time, as soon as I had become aware of them. They were detailed with all the circumstancos attending them, with strict fidelity and in all good faith. They are now on record in the Departinent and speak for themselves, or are open to the severest scrutiny. I may mention that I have always taken the greatest interest in the success of this IIouse, because I know that the salmon fisheries of the river sadly noed its assistance to neutralize the many causes that are at work to reduce its stock. This interest in the House, and this desire to see 1 t succeed, induced me to
    andertake its superintendency at a time when no one better qualified was arailable for the work. This did not belong to my legitimate duties, but was undertaken as a " labrur of love," at the earnest request of the Commissioner. It added very much to my onerous duties, both physical and montal, for which I have never asked nor received one cent of additional remuneration; but I have received, instead, much slander and abuse from those who were entirely iguorant of all the facts connected with the Establishment, and all the difficulties that have hitherto beset its successful operation. This much I fuel it due to myself to say in denial of charges that have not even the semblance of probability to sustain them, but are calculated and intended to do mesront injustice. All these facts are known to you, and I trust that this plain statement will receive the inprimatur of the Department.
    W. H. V.

    ## To the Hon. A. J. Smith, <br> Minister of Marine and Fisheries, Ottawa.

    Sir.-I have the honour to acknowledge the receipt of a copy of Mr. Sammel Wilnot's report on the great loss of oggs in the Miramichi Hatching-House, between the last of March and the first of May, 1877, on winich I ber to malse the following remarks.

    I respectfully ask your consideration of these, as I have had much better opportunities than Mr. Wilmot has had of knowing the peculiarities of the stream which feeds the hatching troughs, and am better acquainted with Mr. Sheasgreen, the caretaker of the house, who bears a high character among his ncighbours.

    1st. Mr. Wilmot bears witness to the excellent state of the establishment, both internal and externsl, and in this he corroborates all my reports.

    2nd. I must express my very decided dissent from Mr. Wilmot's opinion that "the breeding troughs and hatching troughs were well supplied with rood living water." In my opinion, based on comparison with the houses at Dee side, Matapedia and Bedford, Nova Scotia, I consider the flow of water through the troughs of the Miramichi House quite insufficient, and, this, I am fully persuaded, was the radical cause of the trouble. While the flow from one of the troughs in the Bedford House filled a bucket in 17 seconds, and from one in the Dee Side House in 19 seconds, that from one of the Miramichi troughs required 30 seconds to fill the same bucket, showing that the supply of water in the latter house is not much more than onehalf that in the former two.

    3ıd. Mr. Wilmot errs in saying that "he was enabled to see the state of the waie- during the time of a freshet" At the time he considers so opportune for this purpose the freshet had greatiy subsiled, and the stream was compratively elear and pure. Had he seen it on the 9th April, and previously, instead of on the 16th, he would scarcely have written his remarks on its purity and freedom from sedimentary matter. Even on the 16th April, six days after the water had fallen several feet, he described it as " dark or porter coloured." How pure or free from sedimentary matter such water could be, you are as well able to judge as either Mr. Wilnot or myself. I positively affirm that when I saw the water on the 9 th April, i', was as described in my report of the 111 h , most foul and clirty, and very different tiom the appearance it piesented on the 16 th. Therefore, I subinit that Mr. Wilmot was sadly in crror when he says be "satisfied himself with regard to the unexceptionable character of the water," and pronounced it for fish-breeding purposes equal to any otber where similar establishments are now being carried on successfully.
    -4 h . Mr. Wilmot's method of measuring the trays on the 16th April was precisely the sime I adopted on the 9 th when I reported 377,600 ova. He found but $\mathbf{3 2 6 , 0 0 0}$, showing that between the 91 h and 16 th the loss had been 51,600, a fact that ought, in my opinion, to have made him less hasty in attributing it to carelessness and deception on the part of Mr. Sheasgreen.

    5th. The difference between the number of ergs lait down in the uutuma of 1876 and the actual quantity on hand at the time of Mr. Wilmot's visit on 16th April, 1877, was fully reported by me in my letters dated 11th and 13th April, and no attempt was made, so far as I am aware, to keep back any facts, or make any false statements to cover up facts.

    6th The opinion I then held as to the cause of this disaster was honestly given in the letters above referred to, and this opinion was strengthenod by the testimony of Mr. A. B Wilmot, who had met with a similar loss in the spring of 1875 . I have since then harl reason to change that opinion, and to form another, which with the causes and reisoning that led to it, will be fully given ere I conclude these remarks. Mr. Wilmot has striven much more ingeniously to suggest his assumption of carelessness and deception, than to ascertain the real cause of the disaster.

    7 th. In saying that the loss was of an "extraordinary nature," and that the statements of the numberiof egge on the trays were conflicting, Mr. Wilmot displays more disingenuousness than I like to see in a candid searcher after truth. He knew that just such a loss had before ozcurred in this house, under precisely similar circumstances when it was under the care of his nephew, and he knew that the only statement of the number of eggs that conflicted with mine and Mr. Sheasgreen's was one made by Messrs. Snowball and Smith, who could not possibly have made a correct one by their mode of counting. Knowing these things, it seems to me that he was more bent on supporting his foregone conclusion of carelessness or incompetency than on discovering and removing the real cause of the catastrophe that had now, for the second time, befallen this housc.

    8 th. I entircly differ from Mr. Wilmot in his conclusion "that the true cause of the difficulty and loss was incompetency or neglect, or both, on the part of the officer in charge of the building," and I am fully persuaded that no deception was resorted to by him to cover up the actual state of aftairs. I respectfully submit that nothing Mr. Wilmot states bears out this conclusion, nor when the facts are fairly considered, even points to it. Before Mr. Wilmot made such grave charges against one who has always borne the character of an honest and truthful man, I think he should have taken tvidence under oath.

    Overseer Hogan, Mr. Sheasgreen and myself were present, and could all have testified to the entire truth of all the statements made, either to Mr. Wilmot or to the Department. In regard to Mi. Sheasgreen's incompetency to count tle eggs when laid down, I may state that he followed precisely the same method as Mr. Wilmot himself did. In impregnating the ova, he did precisely as he was tanght to do by Mr. Wilmot himself, and he did a large portion of the work in the presence of Mr. Mowat and myself. I thought he was exceptionally careful in doing it well, and Mr. Mowat expressed the same opinion. Whether neglect was afterwards practised or not, of coursc I cannot positivel $y^{\prime}$ s: $: \%$, but I have the very strongest reasons for believing the contrary. Mr. Shesespreen was particularly auxious to succeed, as his prospect of being continued in charge depended on his successful management of the establishment. He was never absent from his posi, and, at the time of the freshet, was in the House day and night. Mr. Wilmot, howerer, thinks neglect must have beon practised, "as it would be almost impossible, even with ordinary care, that the enormous loss of fifty per cent of the whole should take place in so short a time, and at this advanced period of incubation, when the embryos had become almost perfect fyy." It is very surprising to me that Mr. Wilmot's active mind and large experience could suggest no more rational and fair conclusion. But, not content with charging this man with incompetency and neglect, Mr. Wilmot concludes that, in addition to these, deception has been reso:ted to to cover them up. On this subject I think I can speak positively, and I have no hesitation in expressing my unqualified disbelief of this grave charge, becanse it could not possibly have been practised without my knowledge, except with the connivance of Overseer John Hogan, and this man, at least, is quite incapmble of such conduct, as the whole record of his life proves.

    9th. Mr. Wilmot alludes to the previous loss sustained by this IIouse, when under his nephew, and attributes it also to "negligence and want of attention to the work." As I had no official connection with the Housc at that time, I $=: 11$ sily nothing positively on this loss. Mr. A. B. Wilmot's reports of his management are on record. and give his opinions as to its cause. But I think Mr. Samuel Wilmot here shows how much easier it is to support a foregone conclusion, than to reason on facts presented Here were two instances in which the "almost perfect firy" had died by hundreds of thousands in a few days, and yet Mr. Wilmot can think of no otbor cause than "incompetency and neglect." If he did think of one, he has not been sufficiently ingenuous to admit it. Does it not seem a very curious coincidence that, in both these cases, the "incompetency and negligence" occurrel just at the timo when the embryos had become almost perfect fry?

    Does it not seem strange that this incompetence and negligence did not caluse any unusual loss when only a small number of ova were in the troughs? Is it not remarkable that the same incompetence and negligence should meet with unusial success all through the period of incubation that is inost difficult and eritical, viz.: the first months after laying down the ova in the tronghs, and fail only when the least care and attention were required, riz: : when the embryos had become almost perfect fiy, and possessed great power 3 of endurance and vitality?" Had Mr. Wilmot not beon so intent on ingeniously fitting facts to his hasty assumption, these things would probably have received more attention than he hav given them. But the fact is that Mr. Wilmot has given very little attention to this House ; since its completion he has paid but three or fomr tlying visits to Miramichi, and these at times when none of the difficulties that have beset the House were observable. Originally the dants of the supply and retaining pouds were wholly inadequate to resist the great freanets which occur on the stream both in spring and fall. The head of water in the tank was quite insufficient to supply the troughs with the requisite flow of water, and though Mr. A. B. Wilmot made a considerable improvement in this respect, still the supply is very much less than that of either the Dee Side or Bedford Houses.

    With these remarks on Mr. Wilmot's report, I will now state my present opinion of the cause that has led to the ill-success of this Hatching-House, and my reasons for believing that this cau*e has already been partially and can be entirely removel. As this opinion has been arrived at after much careful observation and anxious thousht, I submit it as worthy of consideration.

    I will premise by a short ressume of the facts as shown by the records of the Department. Late in the fall of 1873 , the House was only partially tinisherl. and many of the ova laid down that fall were lost, from exposure to cold and wint of proper conveniences for caring for them. During the summer of 187 , the Houne was completed, and means provided to keep up a certain temperature. That fall Mr. A. B. Wilmot laid down in the troughs $1,500,000$ ova, which continued to progress favourably until the month of April, 1875, just as the young fish were bursting the shell. At that time a sudden and great fatality befel them, so great that only 150,000 yonng tish were produced. In the fall of 1875, owing to extensive freshe1s, the dams of the supply and retaining pomds gave way and all the parent fish storel in the latter escaped before they were ripe for spawning. By great exertions. Mr. A. B. Wilmot succeeded in getting some $65,0 \times 10$ ova by going tar up one of the tributaries of the South-West. After having laid thes down jur the troughs, Mr. Wilmot was removed to Bedford, and at the request of Mr. Whitcher, I consented to do the beat I could to supply his place; Mr. Sheasereen having the immediate care of the House. This superintendence was really Mr. Wilmot's work which he was paid for not doing. The ova then in the troughs were hatched out with very small loss, and in the spring of 1876, the young fish were successfully planted according to your directions. In the summer of that year the dams were rebuilt (still without any assistance from Mrr. Wilmot, on whom the work properly devolved), and in the fall 610,000 ova were laid down, which continued to do exceptionally well until the latter part of March, 1877. Between that time and the 16ith of April, a loss occurred, amounting to nearly 50 per cent of the whole number'. This loss
    occurred during a heavy freshet, which deposited a great quantity of black sediment on the equs, just at the time when the embryos had almost become perfect fry. Only 318,000 fry were hatched and distributed. Now, in all this time, from 1873 to 1877, Mr. Wilmot paid but three or four flying visits to the House, and had no sufficient opportunity of investigating facts or making careful observations. He never gave me any notice of his visits, consequently I had no opportunity of advising with him, or even of taking his instructions. Neither did be communicate with me by letter. Bearing all these facts in mind, I now crave your close attention to the following:

    When the first great loss occurred in $187475, \mathrm{Mr}$. A. B. Wilmot attributed it to the foul water, and its action on the zinc trays. From certain facts stated in his report to gou, there were streng grounds in support of his opinion. So firmly convinced was he of the truth of his opinion that. when be found the same character of water at Bedford, he urged your Department to furnish him with carthen trays, and he also applied filtors that intercepted the sediment before it reached the ova. He was very successful with these appliances, and, consequently, more firmly convinced that zinc trays were not suitable for the Miramichi House. But, from the above résume, you will cbserve a fact that operates even more strongly against bis conclusion. This fact is that, in 1876-77, the loss occurred on both zinc and earthen trays, although less on the latter. You will also obscrve another fact that operates strongly against his conclusion, that is: when only a small number of eggs were in the troughs, they did woll, and no unusual loss occurred. Now, these two facts struck me with great force, and I conld not but see that Mr. A. B. Wilmet's theory did not meet these facts. If the peculiar nature of the water was the cause of this loss, why did it not kill all the egga, why did a portion of the large crops of ova cscape, and why dicl all the small crops encape? These questions caused me much anxious thought. Mr. Samuel Wilmot not having bad my opportunities for observation, hastily concluded that neglect was the canse of loss, but I had strong reasons for believing otherwise. In the course of my thinising over all the circumstances, a third fact in the résume struck me rery forcibly, and that fact is: that the great losses in the large crops of ova oceurred just before the young fish were réady to emerge from the shell! Here a new direction was given to my thoughts, and I was led to suppose that at this particular time the sediment did the mischief. This was my beliet up to April last, when I accompanied Mr. Samuel Wilmot on his visit to the Bedfurd House The first thing that struck me there was the greater body of water flowing out of this tank over the egge. I called Mr. S. Wilmot's attention to this, and askod him if the small supply of water might not bave had something to do with our trouble. IIe replied that our pipos ought to supply al! the water needed. Whan next I saw our House I was still more forcibly struck with the difference; our streams were weak and the water flowed sluggishly over the eggs. Suddenly, as if by inspiration, it became clear to me, that at the time when our large crops of ova were near bursting the shell and the embryos had become almost porfect fry, the pipes did not supply water enough to give them the air they needed. Previous to this, and before the act of broeding, the cmbryos did not need so highly aorated water, and consoquently the ova would do woll until the time came when more air was wanted. Nuw, a woak sluggish stream flowing over the ova, would give only a limited quantity of air, and that want was not enough to supply the wants of hundreds of thousands of embryos vtruggling in their shells. The consequence would be that suffocation would conmonce and continue until enough had died to give the remainder the air they neerled to sustain them. This is precisely what the patural process suggests. While the oggs are developing undor the ice in the winter, they need but slightily arated water, but when they are noarly hatched and need more air, in the month of April or May, the ice breaks up, the streams rise, the flow of water is greatly increased and becomes much more highly zerated, and so supplies the wants of the now breathing embryos. This want of sufficient water flowing from the supply tanks into the troughs was, I am now persuaded, the radical trouble with our House, and another consequence of this deficient supply was that the small flow of water
    would not carry off the sediment, and hence the great accumulation on the wa which at this particular timo would also help to suffocate them.

    Had Mr. Samuel Wilmot not been so bent on supporting his hasty conclus ion of incompetence and neglect, he would probably have reasoned out this same conclusion. Indeed, I cannot help thinking that ho had an inkling of it, and must have had doubts of the correctness of his theory of incompetency and neglect; else why did he this season order the supply dam to be raised over a foot; why did he have the pipes overhauled and made tight, the result of which is that nearly double the quantity of water is row flowing over the eggs, but still not in as full and rapid streams as the Bedford House has, which, in my opinion, are the cause of Mr. A. B. Wilmot's great succers in that establishment. He has treated his egge just as he did in Miramichi, and he considers the water of the latter House just as good as that of the former.

    All these facts contained in the resume above given bear out the conclasion at which I have arrived, from my experience of the Miramichi House; and my observation of the Bedford House strengthen it. When we get the quota from Restigouche of 200,000 , there will be 710,000 ova in our troughs, which number, although not so large as I could wish for a rigid test, will give me the means of either verifying the correctness of my conclusion, or proving it erroneous. I am, of course, very anxious about the result, and yet I have confidence enough in Mr. Sheasgreen to leave the care of the House in his hands. If the result is a success, I think no drubt can remain as to the cause of the past failures, and no fcars need be entertained : $s$ to success in future. But yet, in my opinion, it will be necessary to still furiher increase the flow from the supply dam before it will be safe to lay down a million :nd a half' or two million ova. With a sufficient flow of water, I see no reason why this House, with its great amount of trough room, cannot just as safely hatch $2,000,000$ as I feel sanguine it will this winter hatch 10,000 .

    The interest I feel in the success of this house must be my excuso for the length of this letter; and I hope when Mr. Samuel Wilmot considers ail the facts taat I have stated, he will agree with me in the opinion I have already expressed in a previous letter, that we have all been looking for a remote and hidden cause of failure, while the real cause has been plainly before our eyes, but has been orerlooked. That Mr. A. B. Wilmot, Mr. Sheasgreen and myself should have hitherto overlooked this plain cause of failure, is not strange, but that Mr . Samuel Wilmot, with his large experience has done so, ought to lead him to be more carcful in future before blaming others for his own neglect.

    Recent advices from Mr. Sheasgreen inform me that the ora are doing well, with small loss; those from Oxford quite as weil as the others.

    Respectfully submitting my conclnsion and the reasons that have led to it, to your consideration,

    I have the honour to be, Sir, Your obedient servant,<br>W. H. VENNING,<br>Inspector of Fisheries, N.B.

    $$
    \text { Newcastle, Ontario, tth February, } 1878 .
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    ## The Hon. A. J. Sarth, <br> Minister of Marine and Fisheries, Ottawa.

    Sir,-I beg to acknowleder the reeeipt of your communication of 29 th January, referring to matters in connection with the Miramiohi Fish-Breeding Establishment, with an enclosure; also containing an "abstract" from a letter of Mr. Inspector Venning, touching upon certain proccedings at the hatchery, and in its imputing to
    me a "want of attention" and "neglect of cluty" in the supervision of that institution.

    In the Departmental letter I am reminded that it beboves me to keep myself well acquainted with the care of the huildings, \&c., until the result of such experience shall be known, and to talse every precaution to know the eondition of affairs in order that I may judge of the real cause of any further failure, should it occur.

    In complianco with the desire expressed in the above paragraph, I will use my best endeavours to carry out the instructions as fully as possible; and it will be my object in this communication to lay before you the true state of things as I found them in relation to tho failure in procuring the requisite supply of eggs at the Miranichi Hatchery last autumn, and the precaution that was exercised on my part to prevent that unfortunate occurrence.

    With regard to the charge of "neglect and want of attention," as alleged by Mr. Venning against me, I do not desire to enter upon, or importune you with explanations concerning his perversion of the facts, unless required by you. The animus through the whole "eximet" gives unmistakeable evidence of ill-wili and jealousy towards mo. This expression of feeling is not contined to this "extract" alone, for it has been frequently shown in that officer's previous correspondence with your Department and with myself.

    This envious and quarrelsome disposition on the part of Mr. Venn'ng, has of late becorne very conspicuous towards me, but as the matier is not of public or official importance, no comment is required. I desire however to express regret that such unpletisantness should exist, as the want of unity of purpose and mutuality of interests between officors must more or less retard the success of any undertaking which you may be desirous of confiding to them.

    Your official letter is very explicit that I shond take every precaution to know the condition of atfairs at Miramichi, \&se. I do uot think lath be in error when I state, that in faithfully performang that duty bitherto, amd in seconding your stroug wishes to have that institution put upon a more satisfactory basis in order to prevent, if possible, a further repetition of the misfortunes that hatve befallen it, the unpleasunt and uswaranted steptures of Mr. Inspector Venning have been pussed upon me.

    It will be needless for me, in this letter, to touch upon the disanters that have bofallen tho Miramichi Hatchery previous to last antumn, only to reiterate a still stronger belief in the statements which I made in my report to your Department on the 28 th of June last. But it is conceraing questions and mishapis which have taken place there since then that I consider necessiny for me to refer to now.

    In August last, when in Halifax on a general inspection of the several institutions for artificial fish culture under my supervision, I had an interview with yourself and your Commissioner of Fisheries recrardins the best method to be adopted to make the salmon-breeding works on the Mirainichi River more succossful, if possible, than had boen the case in former yearr. I was then instructed to proceed at once to the place to inspect it, and to mako such improvements ass I found necessary, and also report to you the best meaus for putting the Institution on a proper basis for future operations.

    After visiting the premises, and having ordered some improvement, whichs were only trivial in their nature, as I found almost everything in connection with the establishment in good working order, I reported to you my views in a letter from Gaspe which you acknowledged by instructing me to carry out the suggestion I had made; namely, that in order to prevent further conflicting interosts in the supervision of the works, I should be put in the sole control and management of them, subject, however, at all times, to your Departmental instructions.

    In taking upon mysolf this extra responsibility of the direct charge of the Miramichi Breeding-House, it must appear quiet obvious that I was putting npon myself a much greater amount of labour and anxiety of mind in the supervision of a work upwards of a thousand miles distant from my residence, than it was desirable for me to perform; more particularly so was it the case when the multitudinous duties in
    connection whth the Sandwich and Newcastle Establishments in Ontario demanded my personal oversight and juactical application, mentally and mechanically.

    The objocts that prompted me to take upon myself this additional reyponsibility were a; follows: he great desire so redeem, if possible, the unpopuarity into which the institution had run itself; and that Mr. Venning (with whom I had previously had a conversition on the subject) should bo relioved from a work in which he absolutely refused to take any further responsibility; and to stay the vary bitter aud unpleasint newspaper controversy then goins on, and the frecuent complaints being made to your Department, imputing to Mr. Venning's mismanarement of the institution. In addition to the above, I felt assured that in havines the several employes in connection with the establishment under my immediate control, l could so instruct thom, and also receive from them sach frequent and constant information in reation to all matlers, as would enable me to bow the exact position of affairs, and to carry on the whole work more satisfactorily.

    With this view I gave to Mr. Isaac Sheasgreen, the officer in charge of the buildings, the most particular instructions with regard to his duty, and specially he was ordered to write weekly, and oftener, it found necessary, as to what was transpiring about tile premises, and further, should anything of an extraordinary nature take place, he wils to give me immediate notice of it by telerram. I also wrote Mr. Hogan, the locai Fishery Officer at Newcastle, telling him that the breeding establishment had been put under my control, and that he was to make every preparation for cupturing the requisite supply of parent salmon at tho proper time. I furthermore notified Mr. Vonning that the sole nanagoment of the Hatehery had been given to me, asking from him at the same time, his hearty cooperation in all anaters where I might require bis advice and assistance.

    It will le unnecessary to give you in detail the correspondence which took place betwen Mr. Shempreen and myseif up to the Stih September, only montionil.g that it consisted of circulars and letters of instruction for bis guidance. But from that time I will give you extracts from his letters, the originas's of which will bo fond appented hereto marked A.

    Oa Sepl. 24, Sheasgreen writes "Establishment in grood running order; have now 110 parent fish in the pond, expect another lot down to-morrow; working haril to make all things go right."

    Oct. 2nd. He says: "Fish are very plenty; have taken over 200, but have lost some; fish don't seem to do well here this fall; fishermen say they dou't look well when taken. Weather very warm, loss amongst females is greatest; will commence spawning about 20 th of the month."

    Oct. 6th. He says: "We have good luck in getting fish; we have now 277 in the pond, more than half are male tish; expect men down on Monday with more; there is a good run in the river."

    Oct. 15th. "Yours of 1st Oct. received; will follow instructions given therein. Freshet very high, but no damage done. I think a few fish may have gol out; all danger now over for the season. Fishermen will be down to-day with 100 more - almon; we have now a sufficient number to fill the House."

    Oct. 22nd. He writes: "I am going to commence spawning on the 24th; I have a fair share of fish in the reception-house and some in the pond. Fish taken in first part of the season have not doue very well; had to let some of them go. I am bound to till the fish-bouse this fall if possible. Would like to see you after eggs :are laid down, if you would came. Will write again in a few days and let you know how I get aloug."

    From the above date, Sheasgreen's correrpondence ceased altogether, until after my visit to the establishment in the beginning of November.

    From the foregoing statements, which were communicated to mo by the officer in charge, as well as by a confidential friend, I felt safe in my cenclusions that everything was progressing most satisfactorily at the Miramichi aalmon nursery. These ideas were, however, all at onco dispelled by the receipt of a telegram from your Commissioner, Mr. Whitcher, bealing date the 31st October, and received by me the
    following day, stating that "Messre. Venning and Hogan reported salmon sickened and died,-fear water has something to do with it. Something must be done to ascertain cause of repeated failures-look to this."

    On the day following I received a letter from my confidential friend at Newcastle, in which it was stated that be had just seen Sheasgreen, who had informed him that he had spawned all the fish, 78 in number, obtaining from them 308,000 ova, and that he, Sheasgreen, had been up river two or three days, cadeavouring to catch more fish, but without success : and that Messrs. Sheasgreen, Hogan and Venning were going to Bathurst to seek more eggs there.

    Upon receipt of the above (to me) very extraordinary intelligence, I concluded to start for Miramichi at once. Sunday intervening, I started from home the following day, and reached the establishment as quickly as it was possible to get there, and found, as had been stated to me, that only some 300,000 eggs had been laid down in the hatching-troughs, instead of ppwards of a million that I had confidently anticipated would have been secured, from the numbers of salmon that were reported to me by Mr. Sheasgreen as having been placed in the pond.

    Upon a close examination of everything in connection with the establishment, $\mathbf{I}$ found the ponds, buildings, apparatus of every description, and the ova that had been laid down, all in the most perfect, cleanly and satistactory condition that could be desired. But I could discover no real or apparent cause, just then, why so great a mortality should have bcfallen the parent salmon, that were reported to have sickened and died previous to their manipulation.

    In the investigation that I made with Messrs. Sheasgreen and Hogan, in reference to this unusual and extraordinary loss of parent fish, both of these officers gave it as tineir opinion that it bad resulted from some peculiar disease which had attacked not only the salmon in the ponds, but in the open river as well; that they presented a weakly and sicklyappearance when first captured, their bodies being covercd in many instances with sores, which when the surface was removed, presented the appearance of proud flesh formed in wounds, and that a growth like fungus rapidly spread over the bodies of the fish, quickly causing them to die. This fungoid growth upon the bodies of fish is of no uncommon occurrence where abrasions of the skin are made either in the netting of them, or in rough, coaree handling. Afterwards a parasitic growth sets in, which in close confined limits, or in small supplies of fresh water, spreads over the body of the fish very rapidly, causing extreme weakness, and finally death. This cutaneous affection is seldom if ever noticuable amongst fish when enjoying freedom in the open waters of their native streams. In myexperience, now covering many years, in the capturing and handling of salmon and other fish, I have never detected this disease amongst them in their native open waters; but I have very frequently noticod it upon the fish when injured as above montioned, and when kept in too close confinement, or in too small a supply of water. When this insidious fungus growth sets in upon the fish, it will be found almost a matter of despair even to attempt to save them.

    Another malady is found to prevail amongst fish, particularly when thoy are fir advancel in pregnancy, in the caking and solidification of the ovaries, by the stoppage of the fluids through the small membranes by which the egge are connected togethor and fed previous to their maturity. From the observations which I have made as to the cause of this disease, I am of opinion that it is brought about by the close confinement of too many fish within small circumscribed limits, in which they are unable to roam about and partalse of sufficient freedom and exercise of body, thus preventing the heallihy circulation of the natural functions so requisite at his critical period, or spawning season of the fish.

    In connection with the Miramichi salmon-breeding establishment a very large pond was formed, comprising a large surface area, with a depth of water varying from two to ten fect, and fed by a constant flowing stream, quite sufficient, for all the requirements of the pond. It is also additionally purified from time to time by heary spring tides, which lack up into it fiom the Miramichi River, through the sluicegates. The object of forming this large body of pure living water was that it should
    be a receptacle for keeping safely such numbers of parent salmon as might be refuired for the uses of the breeding-house, until they became perfectly mature and ripe for spawning. This reservoir, or mill-pond, has area and capacity sufficient to ${ }^{\circ}$ fully one thousand salmon.

    To supply this pond with the requisite stock of salmon, a means has been devised by which they are captured in small meshed nets in the main river, at the head of the tide-way, about twelve miles from the pond. They are taken from the traps of the set-net by means of a small hand-net, and quickly put into a large scow, which is completely covered in, and is also sub-divided into numerous small compartments, made with round wooden stakes set about two inches apart; the two ends of the scow being open, and it being fastened in mid-river, the water flows through the whole length of the soow and amongst the fish, almost as freely as would be the case in the open river. This vessel is then towed or poled down river to the reception pond, and there empticd of its contents by dipping out the salmon and putting them in the large mill-pond or reservoir; here they find themselves at freedom, and can simim about at plea ure, partaking at will of the deep or shallow portions of the pond, as well ats shelter and shade which is afforded them by the high banks and trees which almost encircle it. During their sejom in the pond, let it be either for a long oi short period, they neither take nor require food of any kind for their sustenance. It is now a well-known fact in ichthyology, that salmon eat nothing on their migration up livers to their spawning grounds after leaving the tidal or salt waters of the sea.

    At the head of this pond, for the distance of about thirty yards until the small reception-house is reached, the stream runs quite rapidly over a gravelly bottom, where the salmon must resort to for laying their eggs at the time when their ova has become perfectly ripe for spawning. And it is further arranged that by giving an extra supply of water from the dam above, the fish most eager to rid themselves of their egge, will follow up this increased flow of water into the reception house, when they become entrapped and are caught and manipulated. By this methol of operating, there need not necessarily be a large number of ripe fish in the small reception-house at one time, the spent ones being transferred to the main river almost immediately after the work of artificial spawning has been performed; thus, giving plenty of room for the incoming tish.

    The reception-house just referred to is a small building expressly built for the purposes above related. It was never intended to accommolate but a small number at one time, and only then for short periods; its size is about thirty feet long by twelve wide; roofed in, floored at the botton, and so arranged as to be sub-divided into compar tments or pens, and with places for fixing weirs for entrapping the fish as they enter the building.

    Ihe superficial area for the accommodation of salmon inside the house cannot exceed 300 feet. The allowance of space that would be taken up by an ordinary sized fish would be 3 feet long, by 6 inches wide, or $1 \frac{1}{2}$ superficial feet; the building would in this case hold $\because 00$ salmon when closely packed together. To allow anything like freedom of movement, this number should be relnced one half, thus giving the extreme limit at 100 ; and even with this number the period of their confinement slould be of short duration.

    I obtained from Mr. Orerseer Hogan, who had the management in capturing and delivering the salmon, the following statement as to time and place of delivery. The particulars were taken from his diary ats follows:-

    Sept. 15th.-"Twenty salmon put in pond. (a few sick)."
    Sept. 17th.-"Seventy salmon put in small reception house; floated them up through the pond to the house (two or three sickly)."

    Sept. 22nd.-"Thirty salmon put in poud (one or two sickly)."
    Sept. 26th.- "Fifty salmon put in pond (nothing particular wrong)."
    Sept. 99 th.-"Seventy salm $\cap \mathrm{n}$ put in pond (nothing particular wrong)."
    Oct, 5th.-"Forty-nine salmon put in reception house with boat (in good condition)."

    Oct. 16th.—"Eighty-five salmon put in reception house (one hundred and ten were brought down, the balance were turned into river, being sickly)."
    "Total-Three hundred and seventy-dour. Of this number thele were put into the reception-house two hundied and four; the balance, one bundred and sceventy, were jout into the large jond."

    Mr. Sheargreen's statement, taken from his letters, (appended), with regard to the disposition of tich, is as follows:-

    Sept. 24th.-"One hundred and ten salmon in poud."
    Oct. -nd.-"Two bundred salmon; (lost some).
    Oct. 6th.-"Two hundred and serenty-seven salmon in pond; (more than half males)."

    Oct. 9 nd.-Reports, "fair share of fish in reception house; some in pond have not come up."

    If we alld the eighty-five, the last lot delivered by Hogan, to 277 , the number reported by Sheasgreen, 362 will le the total, making a difference of twelve between the tallies.

    It will be noticed from the above statements in Mr. Sheasgreen's letters, that no mention of any salmon being put into the reception-house is made until the 22 nd October, when he reports (without any numbers) that a "fair share of fish were in the reception-house; some in pond not come up."

    During my visit at theMiramichi establishment on 7th November,Mr.Sheasgreen gave me the following statement, which, be says, is a true and correct onc, of the disposition of the salmon received by him, namely:-
    Females spawned. ..... 76
    Females died ..... 45
    Males turned out ..... 210
    Sickly fish run over dam ..... 20
    Sheasgreen's total ..... 351
    Difference not accounted for from delivery made by Hogan ..... 23
    Hogan's total ..... 374

    The abovestatement appears to me so extraordinary upon its face, that I am compelled, for the present, to discredit it. But to take the figures as they are here represented, in order to ascertain the amount of mortality, the alleged number of males, 210 , and of females, 76 ; in all 286 living tish, are said to bave been turned into the river, out of the gross number of $3 \overline{4} 4$. This would leave a balance of 88 for deaths, inclusive of the 20 sickly ones, and the discrepancy between the counts of 23 . Now, if these two latter numbers are delucted from the 88 , there remains but the 45 dead females ats the total loss out of the gross number originally delivered by Hogran, of $: 774$.

    Assuming, then, that only $45^{5}$ femalos died, it is of importance to ascertain the cause of their death, and why it was that many others of the salmon (as it was stated to mo) "had become hard, and no spawn could be got from them."

    Mr. Sheasgreen informed me that he "put in" and "run in" 96 salmon from the ponl to the reception house. This number, in addition to the 204 put in by Mr. Hogan, would form it total of 300 fish that were imprisoned within the small limits of the reception-house, when its calacily was barely sufficient to safely keep over 100 at a time.

    It alsi appears that the number of ova taken from the 76 females was only 308,000 , making an arerage of 4,092 eggs from each salmon spawned.

    In making a résumé of tho above statements and matters. and laying before you the conclusionst I have come to as to the canse why the samonn "sickenod and died," I feel that I shall again come in contlict with the opinions of Messrs. Venning and gheasyrcen. But,whilst I regret that contradictory views should bo held by us in
    reference to these repeated misfortunes at the Miramichi Fish-Breeding House, I, nerertheless, feel it my duty to express frankly my convictions, borne out, as $\bar{I}$ trust they will be, by the facts as related, with the application of common wense and reasoning.

    Greater detail has been entered into with the whole suljeel in this letter than might otherwise be considered desirable; but it was essentially necessaly to show the nature and the cause of some of the diseases that salmon are liable to, when taken for the uses of artificial propagation, and also of the importance to show clearly that the necessary means were provided and were available for the prevention of sickness and disease in the parent fish, which means: if they ha' lieen judiciously uscd, micht, and no doubt would, have prevented the misfortme which took place at the Miramichi establishment last autumn.

    It has leen shown that 374 parent walmon were captured and convered to the establisliment during the months of September and October lant ; that ive of this number were conreyed directly from the main river into the small reception house, and that !! more were also put into it from the poncl during the same period, making a total of 300 nalmon confined within the narrow limits of 30 by 12 feet. This most serious and fatal want of judgment produced the effect of sickness, diseave, fungoid growth and caking or hardening of the ovaries of the fish, and consequent death of the numbers reported; and I fear that many whers also met a similar fate; and the riew is sustained by Mr. Venning's statement male tw your Commiswioner when at Chatham, that the eggs were hardened in about 300 salmon that died. Yet. in utter contradiction of this, Mr. Sheasgreen says that he turned out from tho Reception House and from the pond 300 living fish, from the total number of 351 received by him from Orersecr Hogan.

    Small roughly-made crates or open boxes were used for convering the salmon down the river, instead of the large scow fitted up purposely for the work. It is stated that the small boxes were better for the work than the scow, on account of the greater freedom for the passage of the water through them, and being more easily handled. This to a certain extent may be the case, but the connteracting influences were two-fold worse; as in the boxes, with their rough construction, agged edges and angles, the fish would be almost certain to injure themselves, and more particularly would thi be the case from the inereasod liability to nervousness and fear to which they would be subjected in seeing every movement of the men engaged in towing them down river. In the scow, which was thoroughly decked over, the danger from fright and consequent liability to come in contact with the sides of the small compartments would be almost overcome.

    In my judgment, the loss of salmon at Miramichi last fall was brought about by the causes above mentioned, namely: Want of sufficient forethought and care in transporting them to the works, and want of judgment in confining such a large number of parent fish in the small limits of the Reception House for so long a time previous to spawning, when it was quite unnecessary, as immediately alongside was the large reservoir or mill pond, erected for the purpose of retaining the fish, and sufficiently large for the safety and accommodation of at least eight hundred salmon.

    The discrepencs in the numbers of ova laid down in comparison with former years, also demands consideration. If the report of Mr. Sheasgreen be a reliable one, he says that 76 females were spawned by him; 210 males were liberated; 45 flsh died, and the remainder were sickly fish and ran over the dam. In 187t, some 360 salmon were put into the pond; half of these, as nearl $y$ as can be stated, were females; say 180. These gave nearly one and a-half millions of eggs, making an average from each female of between 7,000 and $8,000 \mathrm{ova}$. In the year 187 , no definite data is at hand to give the average of eggs. But in referring to other establishments for an average of ergs taken from each female during the fall of 1877, the numbers are:-

    $$
    1 \epsilon-5 \frac{1}{2} *
    $$

    | Gapié-avarge fiom eacb female |  |  | $1: 500$ |
    | :---: | :---: | :---: | :---: |
    | Restigoucle | do |  | 3, 000 |
    | Bedfiod | do |  | 9,000 |
    | Miramichi | do | 1874 | 7.500 |
    | do | do | 1876 | 11,000 |
    | do | do | 1877 | 4,000 |

    This extacordinary falling off in the average at the Miramichi, last fall is, to me, quite unaccoumtable, unless an error in the count of 76 temales is assumed as being too greses ; and if this was the case, then a worse dilemma presents itself in the conclusion that the mortality amongst the salmon was greater than reported.

    Asain, the unusual prepondency of males over females in the statement is such as to cinar doubts s- to its accuracy. 206 living males stand against only 76 living t'emates, but; 45 fen ales weac reported as having died; malsing altogether 121 females, whilst the gross number of males was 210 with no losses mentioned whaterer. In 1876, there were manupulated at the Miramichi 65 females and 76 males; total 141. This great disproportion in the sexes particularly when captured in accending the main riser, as these were, is quite unprecedented; Int when salmon are tuken on their spasning grounds, a preponderanco will sometimes ie noticeable; yet, as a general rule with the adult tish, the sexes are about equal in numbers. It is also worthy of note here with regard to mortality among the sexes, taking Prof. Buckland as an authority, added to my uwn observations, it is found that greater emaciation and a larger percentage of death takes place with male chan with the females, during the spawning season of the salmon.

    In connection with this discrepancy in numbers of ova, and the untial preponderance of males over females, I desire to quote from Mr. Venning's letter of November 6th, $1 \mathrm{ET6}$, which relates to the operations of catching salmen and gat hering -ggs for the Miranichi Hatchery for that year.

    He says: "O" the first of September, the nets were set, and in October, 141 salmon were cauglit in the river and placed in the pond, withont the loss of a single fish. These fish in the pond were conveyed to the Reception House, and on the 30th October were read.y for manipulation. There were in the Reception House 141 salm n, sixty-five females and seventy-six males, all in good condition. The ova and milt were well developed and ready for depositing. The females yielded an arerage of 10,000 ova; ; $610,000 \mathrm{impregnated}$ ova were laid down withont any appreciable loss, not one dead egg in : thousand. In all his experience he had never seen so small a $l^{\text {oss in so large a number of manipulated fish. Everything promised a most successful }}$ issle, and the supply of water was ample."

    From the above extracts it would appear that everything in conrection with the Miramichi Hatchery, during the senson of 1876 , was of the most satisfactory uature, and quite umprecedented, as not une single fish was lost; ten thousand eggs were obtained, and there wat not one dead egg in a thousand. From this statement it will be observed that a verys reat difference existed in the proportion of males and females, as between the seasons of 1876 and 1877. In the former year, the numbers of the sexes were not of an unusually disproportionate character, whilst in the latter they are beyond all preceden'.

    With regard to the guantity of ova taken from each female salmon in 1876, as compared with the season of 1877 , the difference is so unaccountably wide, as to leave no doubts in the minds of any person conversant with the subject that either miscalculation or missepresentation has been resorted to. The calculation of the numbers of ova procurable from a lemale sulmon is now pretty well established at 500 for every pound weight of her flesh; therefore the Miramichi salmon of 1876 , giving 10,000 eggs oach, would weigh tweuty pounds, whilst, in point of fact, this will be found to be fully double thei: u*ial average size. But, with Mr. Sheasgreen's statement of 4,000 eggs each in 1877 , the weight of the salmon would be reduced to eight pounds. Here, again, the variance in size of the salmon, from twenty to eight pounds, in two
    consecutive years. is such as to give grave doubts concerning the accuracy of the statements reported to your Department in relation to the Miramichi Hatchery.

    If the several mishaps which have occurred at the Miramichi establishment had taken place at the same stage of the incubation of the ova, or at the same season of the year, or from the same causes, then the statements of those persons who endeavour to establish certain theories of their own for these misfortunes, might be held ats somewhat tenable. With one, for a serious loss which took place just previous to the hatching out of the eggs, a chemical effect brought about by the use of zinc trays conted with paraffine varnish was assigned as the cause; nevertheless, a large number of fry were actually hatched out on the same trays during that winter; and with the same apparatus, and in the same institution, the season following, ninety per cent of the whole of the ova deposited on the hatching-trays were reporte I to have producal living fish.

    A nother severe loss also occurred there at an earlier stage of tho hatching of the eggs; this was attributed to the sudden deposit of sedimentary matter upon the ora during the cxistence of a heavy freshet in the stream in the month of March; this substance, it was alloged, quiekly caused the eggs to die; ret upward: of 300,000 firy were actually hatched out from the vely same lot of ora, laid down in the same troughs that scason. This disaster has been attempted to bo covered up in the opinion of interested persons, by stating that the strcan upon which the estathishment is built, is not, from the nature of the water with the sedimentary deposits in it, naturally adapted for the propagalion of salmon. This erroneous statmont is set aside, from the fact that hundreds of thousands of fry have been reared in this water, and that previons to tho building of the establishmont thero, the stream for a mile or more up, was literally swarming with salmon fiy, parrs and smolts; many of these were caught with hook and line by myself and other porsons, provions to, and since the erection of the works.

    I beg to draw your attention here to an extract from your Inspector's letter to your Department of 31st Decomber last, in which he speaks of the non-injurious effects of this sediment upon the eags. Ho says: "The freshet in the stream which supplies the Hatcherg, continued several weeks after the eggs were laid down, and caused the water to becomo very impure. About the 2ath November, Mr. Sheasgreen informed me that the quantity of sediment deposited on the ova was so great as to threaten their destruction. I immediately asked and obtainel your permission to place filters in connection with the main tank to remove the source of danger."
    "On the 27 th , I went to Newcastle for this purpose, and, on reaching the Hatchery House, I'found the ova so covered with a beavy deposit of black sediment, that they were scarcely visible on the trays, but, I also found, to my great gratification, that, so far, the loss had been almost inappreciable, not more thon 1,500 dead eggs having been removed since the ovawas laid down. On caretully washing several of the trays, the eggs presented a bright and healthy appourance, the embryo being discernable in all. During the first week in December the whole of the ova was carefully washed, with the most gratifying result, all coming out of the sediment bright and healthy, with the loss of only 700 in this critical operation. I bave strong hopes that no further danger from sediment need be apprehended. Before the spring freshets set in the ova will be so far advanced that I do not fear any serions danger from them."

    But when it is clearly established that, notwithstanding the alleged unfitness of the site, the impurity of the water, unsafeness of hatching trays and injurious sedimentary matter in the stream, that large numbers of young salmon have been actually reared there, then anothor idea is put forth to account for the numerous misfortunes, namely: that there has not been a sufficient supply of this peculiar water let into the building for the proper health and aeration of the eggs; and further it is alvanced that in order to give a crucial test to the establishment during the coming season, salmon eggs from the Provinces of Nova Scotia and New Brunswick must be procurcd and laid down in the troughs of the Miramichi breeding house. Surely, if the eril effects from the trajs and the water and the sediment
    hitherto (said to have been) experienced at this institution have proved so disastrous to the native eggs, greater misfortunes must necessarily be apprehended from the introduction of toreign ones.

    There are other anomalies in connection with this Hatchery, concerning the gathering of the ova, which require to be mentioned. During one season, when only a small supply of ecrs was procured (although a goodly number of parent fish had been secured) the cause assigned was that the salmon had escaped by the breakage of the dam. During another (the past) season, just when it was roported that a sufficient stock of parent fish wis secared to supply the establishment with a million and a half of eggs, all at once it was found that only 300,000 of this quantity is procured and the great diminution is accounted for by a statement that the salmon "sickened and died." In making a contrast of this year with that of 1874 , it is found that, with about the same number of parent salmon in the pond, and with an officer (a perfect stranger to tho place) being despatched from Ontario to perform the work of spawning, $1,500,000$ ova were successfully impregnated and put upon the trays.

    After the most careful and unbiused consideration of all the circumstances referred to in this letter, I cannot do otherwise than repeat the conclusions which I arrived at in my report to your Department of 28th June last concerning the conduct of the officer in charge of the Miramichi Fish-Breeding Establishment: I then reported incompetency, neglect and want of veracity. I must now add, an utter want of ability and judgment for the supervision of so important a work as that of artiticial fish-culture. Disobedience is also chargeable against him, for had he obeyed the positive instructions for putting the parent salmon in the large pond, the great loss in the death of the fish might have been averted.

    In giving my extimate of the abilities of Mr. Sheasgreen for the position he holds, I regret very much that it is in direct opposition to the opinion given by your Inspector of Fisheries for New Brunswick, who in his correspondence with your Deprirtment of the 1st Decembor last, writes in the most laudatory manner of the titness of Mr. Sheasgreen, and of his honesty of purpose for managing the establishment on.the Miramichi River. Nothing would be more gratifying to me than to be able to endorse those sentiments were it in my power to do so fairly and honestly, for the interest of that institution and of your Department. In the one case, fictes ton clearly demonstrate incompetency, coupled with disastrous losses; in the other, mere vague assertions are made to sliow competency and sophistry to rebut irrefutable facts.

    It will, no donbt, be asked, and quite properly too, why it was that under my control of the institution, success did not attend the operations there last soason ? My reply is that, when I sought the matigement of the Miramichi Breeding-IIouse, I did it with but a single eye for its sucecs. I was then, and I am still of the belief that, with the careful help of a painstaking and honest care-taker, one having had some previous knowledge in the handling and spawning of fish, success could be achieved. In my effort to accomplish that end, the most clear and positive instructions, both of a verbal and written nature, were given to the then only available officer to be had to carry them out. (This will be seen by copies of correspondence appended marked B.)

    Everything was done by me that could be done humanly (without actual pre sence) to mako success certain. I could not be ubiquitous. From correspondence frequently obtained from the seone of aetion evorything appeared to be progressing satisfactorily. Yot, from the want of judgment, and tho holding back of a nost important fact in relation to the impounding of the parent fish by the officer in charge, another serious misfortune occurred, entailing further discredit upon the establishment and militating most seriously against a work in tnat section of the Dominion which it has been my greateri ambition to advance, and also retarding the progress
    of an industry which your Department has taken such evident pains to foster and encourage.

    > I have the honour to be,
    > Your obedient servant,

    Samuel Wilmot,<br>Supt. F. C.

     Miramichi, also a plan showing the large reception pond for safe keeping of parent salmon.
    S. W.

    ## APPENDIX A.

    Samuel Wilmot, Eeq.,
    (" Yirr,-Your letter recoived today. Have the establishment in good running order. Have now 110 parent fish in the pond, and expect to have another lot down to-morrow. I am working hard to make things go all right.

    I am, Sir,
    Yours very respectfully
    Isaac Sheasgreen.

    > Nortil Esk, October Ond, 1877.

    Samuel Wilmot, Esq.,
    「庳. Sir,-The fish are very plenty at present. We have taken over 200, but have lost some out of that number. The fish don't seem to do very well here this fall. We handle them with great care, but still lose some; the fishermen say some of them do not look well when taken. Weather very warm here all this fall; the fishermen think that has something to do in regard to them not doing as well as they clone other falls. It's female fish that we lose most of.

    I will commence to take eggs about the 20 th of the month.
    I am, Sir, Yours very respectfully,

    Istac Sheasqreen.

    Shmeen, Widmot, Fisq.,
    Sir, - Yours of 1st October just received. We have had very good luck in getting fish. We have now in the pond 277 ,* but more than half of those are male fish. I expect the men down on Monday with more. There is a good run in the river at present. I saw Mr. Hogan to-day, he said he telegraphed you to know if he would take any more fioh. They have not commenced to work up stream yet. Will write soon again.

    I am, Sir, Yours very respectfully,

    Isafc Sheasgreen.

    * Note.—Only 170 were put into pond by Hogan's diary.
    (Teleyram from Newcastle, N. B., Oct. 5th, 1877, to S. Wimot.)
    2S9 salmon now in house pond. How many should I get? Answer.
    John Hogan.
    (Anster.)
    Secure well on to four hundred.
    S. Whimot.

    North Esk, October 15th, $187 \%$.
    Samuel Wilmot, Esq.,
    New castle, Ontario.
    Sir,- Your letter of the 1st inst., came duly to hand and contents noted. I will follow the instructions given therein. The freshet has been very high but done nodamage, or at least nothing to speak of. The water was running ovor the lower dam and I had to run a net along the top in order to prevent the fish from going over. I think some have got out. I had to remain at the racks all night in order to keep them clear of leaves, otherwise there would have been a clean sweep; this being the first rise of water this season brought a large amount of leaves and other rubbish. All danger is now past for this season, and I hope we will not have such a sudden rise of water again. The fishermen will be clown to-day with one hundred more fish, this will conclude this season's fishing; I think we now have a sufficient number to fill the bouse.

    > I remain, Yours truly,

    Isato Sileascareen.

    North Esk, October 22 nd, 1877.
    Samuel Wilmot, Esq.
    Sir,-I am going to commence to take spawn on the 24th. I have a fair share of fish in the Reception-House and some in the pond 'that have not come up yet. The fish taken in the first part of the soason has not done very well; had to let some
    of them out. I am bound to fill the house, if possible, this fall. Would like to sce you after eggs are laid down if you could come. Will write in a few days asain and lot you know how I get along.

    I am, Sir, Yours very respectfully,

    ## I. Sheasqreen.

    Newcastle, Ont., Sept., 5th, 1877.

    ## Mr. John Hogan,

    Fishery Oversecr, Newcastle, N.B.

    Sir, -After leaving you and Mr. Venning at Nercastle, I received instructions from the Minister that the Miramichi Fish-Breeding Establishment had been put wholly under my charge and supervision. When on my way home, at Gaspe, and at Quebec, I telegraphed you to make all necessary preparations for taking a supply of farent fish. Un the 1st Sept., whilst at Ottawa, I received a telegram from you, stating that you "had no instructions before, but would then go on at once." With this view then I shall rely upon you using every exertion to procure a large supply of fish. I telegraphed Mr. Venning to forward you the net he spoke of, which way intended for taking sharl, and which should be well adapted for netting salmon at the Bridge above, or other portions of the river. [have also caused a letter to be sent to the Minister asking for authority to use Henderson's net should you require it. With these appliances for catching salmon and with the net you have on hand, you should experience no difficulty in securing all the fish we may want this season. I have instructed $\mathrm{Mr}^{\prime}$. Sheasgreen to join you and assist you in taking the fisk, and in carrying them safely to the pond at the breeding-house, so that between you both I shall rely upon the necessiry quantity of salmon being caught and safely conveyed there. Such assistance as may be required to secure this end you are authorized to get, but there must be no failure in getting the fish; useless expendituro however must beavoided.

    Should you find it necessary to get any further supply of nets or apparatus for catching salmon, telegraph or write me immediately upon receipt of this letter. Please keep me regularly acquainted with your doings and the number of salmon you have secured, and let me know your prospects for getting all that may be required.

    > I am, Yours, very truly,

    Samuel Wilmot, Superintendent of Fish Culture.

    Newcastle, Ont., September 7th, 1877,

    Mr. Isaac Sheasgreen,
    Fishery Officer,
    Newcastle, N. B.
    Sir,-I telegraphed you some time ago from Gaspe to go on with the improvements I ordered when at the Miramichi ; this I presume you have donc. I wish Jou to understand the great necessity of having the arrangements safely carried out for the winter's operations. Get everything in such a shape as will prevent the possibility of a stoppage of the water in the pipes during the hatching of the eggs. The painting
    of the trays and boxes will no doubt have been done by this time, as well as the floor; if not, do not delay one moment in having it done. Get your boxes and trays well dried and then turn on the water and let it run through the boxes and over the trays until you lay down your egge. I have written Mr. Hogan to use his best exertions to get a sufficient supply of salmon to fill the house with the eggs, and I have told him that you will render all aid in your power in helping him to get the salmon and in bringing them down to the pond. I want you to have no jealousy with him, or any one else, in relation to the work at Miramichi. Go at the business with zeal, and with a resire to retrieve the establishment from the bad name it has now got. Attend to no instructions from any one except myself, but do all you can to make matters a success this season, and you will find it greatly to your interest. Bu civil to everyone, but allow no liberties inside or outside of the premises. Write ne immediately upon the recept of this letter how everything is now getting on; and also the prospects of getting your supply of salmon. Do your best to act harmoniously with Mr. Hogan in getting salmon, and write every two or three days what you are doing and how things are progressing. Should anything special turn up, telegraph me immediately.

    # I am, <br> > lours, de., \&c., > Sabrel Wilmot, Superintendent of Fish Culture. <br> <br> lours, \&c., \&c., <br> <br> lours, \&c., \&c., <br> <br> Sambel Wilmot, <br> <br> Sambel Wilmot, Superintendent of Fish Culture. 

    Superintendent of Fish Culture.[^2]:    * Average.

