## DEPARTVENT OF RAIIWAYS AND CANALS

## CANAL STATISTICS

## FOR THE

## SEASON OF NAVIGATION

1909

PRINTED BY ORDER OF FARLIAMENT


OTTAWA
PRINTED BY (. H. PARMELEE, PRINTER FO THE KING'S MOST excellent majesty 1910

To His Excellency the Right Honourable Sir Albert Henry George, Earl Grey, Viscount Howick, Baron Grey of Howick, in the County of Northumberland, in the Peerage of the United Kingdom, and a Baronet; Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, de., dec., dec., Governor General of Canada.

## May it Please Your Excellency, -

The undersigned has the honour to present to Your Excellency the report on Canal Statistics for the year ended December 31, 1909.

GEO. P. GRAHAM,
Minister of Railuays and Canals.

To the Honourable George P. Graham, Minister of Railways and Canals.

Sir, -I have the honour to submit the annual report of the Comptroller of Statistics in relation to the operations of the Canals of the Dominion for the year ended December 31, 1909.

I have the honour to be, Sir,
Your obedient servant,
A. W. CAMPBELL,

Deputy Minister of Railuays and Canals.

# Office of the Comptroller of Statistics, <br> February 7, 1910. 

A. W. Campbell, Esq.,

Deputy Minister of Railways and Canals.
Sir,-I have the honour to submit to you herewith Canal Statistics for the year ended December 31, 1909.

At the commencement of the season of navigation a new form of ship's report was adopted. This schedule presents the advantages of being considerably shorter than that which had for many years been in use, and of conforming closely with the classification of commodities in force on the railways of both Canada and the United States.

The traffic of the canals in 1909 amounted to $33,720,748$ tons, representing an increase of $16,217,928$ tons over 1908, or 92.6 per cent.

Of the total volume of business, $27,976,399$ tons were classified as down, or eastbound ; while $5,744,349$ were entered as up, or westbound. There was for the year an increase of $14,739,171$ tons in the former, and of $1.478,757$ tons in the latter.

The net increase of $16,217,928$ tons for the year 1909 was divided among the various canals as follows :-


The aggregate of business through the canals of Canada during the year 1909 may be better comprehended by a comparison with the results for the preceding nine years. The figures are as follow :-

| 1900 | 5,013,693 | tons. |
| :---: | :---: | :---: |
| 1901. | 5,665,259 | " |
| 1902. | 7,513,197 | " |
| 1903. | 9,203,817 | " |
| 1904. | 8,256,236 | " |
| 1905. | 9,371,744 | " |
| 1906. | 10,523,185 | " |
| 1907. | 20,543,639 | " |
| 1908. | 17,502,820 | " |
| 1909. | $33.720,7+8$ |  |

Following is a comprehensive table, showing both the volume and direction of freight traffic for a series of years :-



## SESSIONAL PAPER No. 20a



10-11 EDWARD VII., A. 1911
N'TAKMENT of tho ' 'inn

| YKARs, |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { FBos Cavabian } \\ & \text { To } \\ & \text { Canaman Pohtre. } \end{aligned}$ |  |  |  | Fros I'sinen NTATK TH <br>  |  |  |  | Town, |  | Toyal. ToNm. | $\begin{gathered} \text { Number } \\ \begin{array}{c} \text { o } \end{array} \\ \text { Verneln. } \end{gathered}$ |
|  | (1). | Wown. | U1. | Diswn. | 11 | Jown. | $\mathrm{Ul}_{1}$ | Down. | 11. | Down. | Up\& Down. |  |
| 1887 | 16,260 | 17,925 | 38,807 | 26,708 | 113,736 | 140,562 | 52.768 | 518,889 | 251,645 | 315,035 | 566, 6,40 | 3,488 |
| 188 s | 14,304 | 26, 801 | 42,425 | 30, 047 | 177.714 | 156,096 | 19,774 | 114,613 | 284,231 | 347,556 | $6.31,777$ | 3,421 |
| 1889 | 21,125 | 26, 449 | 56, 9694 | 26,732 | 253, 1808 | 206, 367 | 54, 249 | 160,412 | 386,408 | $4+1,160$ | 880,648 | 1,042 |
| 18:60 | 10,34 ${ }^{10}$ | 16,345 | 38,156 | 3i.397 | 3 4R, 418 | 23,7,728 | 39,647 | [17,266 | 334, 6461 | 384,736 | 721,397 | 3,384 3,4609 |
| 1891 | 10,357 | 29, 8581 | 70,6665 | 27,7\% | 283,018 | 2.68, 318 | 31,683 | 146,009 | 395, 118 | 142,9518 | 838,116 871,795 | 3,609 |
| 1892 | 12,023 | 292, 405 | 88,221 | 22,763 | +180,315 | 289, 48.48 | 37,037 | 179,544 107.740 | 117,596 | liy, 199 | 871,795 $1.286,295$ | 3,928 |
| $1 \times 98$ | 10,702 | 34,303 | 214,047 | 33.741 | 301,961 | 382,724 | 50,994 | 367,740 109 | 1227,787 198,216 | (608, 008 | 1,286,297 | 4, 11381 |
| 1894 | 18,5924 | 30,201 | 139,720 | 29, 833 | 302,048 | 269,78K | 37,406 | 192,9412 | 498,216 | 913,811 | 1,012,027 | 1.131 |
| 1886. | 8,838 | 24.768 | 138,504 | 17,712 | 368,241 | 216,542 | 232,295 | 185,730 | +11,927 | 144,763 | $8 N 6,679$ $1.208,126$ | 4,427 4,650 |
| 1896 | 11, 496 | 13,0083 | 195, 298 | 21,903 | 357, 205 | 3! 9,004 | 10, 416 | 290,370 | 1404,345 | 168,775 061,098 | 1,228, 126 | 4,650 4,675 |
| 1897 | 14,64,6 | 18,367 | 3193,430 | 17,618 | 338,933 | 277,345 | 20,341 | 347,698 | 649,375 $-86,875$ | 661,028 683,489 | 1,310,403 | 4,675 4,964 |
| 1895 | 12,142 | 9,541 | 233,524 | 32,480 | 308,878 | 305,464 | 22,331 | 3204,004 | 786,875 | 683,889 | 1,270,764 | +,264 |
| 1895 | 17,217 | 18,044 | 172,897 | 30,0022 | 1,605, 887 | 1,156,503 | 51,902 | 231,3365 | 1, 246,848 | 1,438,885 | 3,285,733 | 6,101 |
| 1900 | 13,316 | 17,894 | 157,089 | 30,443 | 1,208,73, | 744,276 | 15,741 | 1964,971 | 1,425,471 | 983,514 | $\frac{2,408,9185}{9,409}$ | 5,502 |
| 1961 | 11,587 | 18,706 | 177,169 | 28,124 | 922, 414 | 1,044,706 | 51.805 | 294,622 | 1,166,115 | 1,316,159 | 2,482,274 | 5,684 |
| 1902 | 13,622 | 37,871 | 187, $\mathrm{N99}$ | 70,641 | 1,756,948 | 1, (65) 4,672 | 123,257 | 241,602 | $2,081,1653$ $8,191,810$ | 2,004,786 | $4,0 \times 6,489$ | 6,433 |
| 1903. | 14,014 | 24, 168 | 365,208 | (15, 317 | 1,736,187 | 1,689, 414 | 1056,401 | 336,8336 | 2,121,810 | 2,114, 6165 | 4,234,475 | 6,695 |
| 1904 | 10,122 | 16, 819 | 275,721 | 30, 9193 | 1,464,316 | $1,475,085$ | 168,081 | 370.199 | 1,818,240 | 1, 837,665 | 3, 15050906 | 6,253 |
| 1905 | 19,743 | 19,444 | 344,985 | 81.876 | $2,350,4!4$ | 1,761,704 | 101,536 | 4, 51,4512 | 2,836,754 | 2,259, 483 | 5,0936,241 | 7,085 |
| 1909 | 34,306 | 15,324 | 354,254 | 78,561 | 2,738,628 | 1,998,131 | 115,675 | 118,433 | $3,2+4,808$ $5,463,767$ | 2,440,462 | 5,685,315 | 7,319 |
| 1907 | 67,349 | 72,018 | 304,591 | 72, 018 | 4,739,053 | 5,370,060 | 208, 769 | (123,911 | $5,463,767$ | 6,141,067 | 11, 604,834 | 9,328 |
| 1908 | 54,587 | 39,705 109,408 | 442.773 | 124,120 | 2,975,62.1 | 4,142,392 | 218,836 | 536,108 | 3,685,819 | 4, 835,320 | 8,021,139 | 7,489 |
| 1909 | 263,502 | 103,407 | 442,176 | 200, 202 | 4,178,374 | 10,429, 314 | 213,750 | 621,108 | 5,098, 196 | 11,361,126 | 16,459,322 | 9,94M5 |

It will be observed that while 9,996 United States vessels carried $16,459,322$ tons through the canals of Canada in 1909, it required 22,507 Canadian vessels to carry $7,811,578$ tons. The explanation is found in the fact that the business of American vessels is confined almost wholly to the lakes, where large cargoes prevail, while many craft of small capacity pass through the canals east of the Welland. The record of trade for the past five years, however, would seem to warrant the conclusion that an increase is steadily taking place in the tonnage of Canadian vessels.

The statement following brings the capital expenditure on the Canals of the Dominion down to March 31, 1909. It must be understood, however, that the total shown is apart from the outlay by the Imperial Government on the Carillon and Grenville Canal, as to which the records were lost in the destruction by fire of the Ordnance Office, Montreal, in 1852. The details are as follow :-


Details of tonnage by canals and commodities will be found in the tables subjoined.

> I have the honour to be, Sir,
> Your obedient servant,

J. L. PAYNE, Comptroller of Statistics.

# CANAL STATISTICS FOR SEASON OF NAVIGATION, 1909. 

GRAIN PASSED DOWN WELLAND.

The quantity of barley, corn, oats, pease, rye and wheat passed down the Welland Canal, from ports west of Port Colborne for a period of twenty-eight years is as follows :-

| QuANTITY PASEED Down to I | Montreal. | To Ports in Ontario. | Quantity from U.S. Ports to U S. Ports. |
| :---: | :---: | :---: | :---: |
|  | Tons, | Tons, | Tons. |
| 1882. | 180,694 |  | 63,881 |
| 1883... . | 186,814 | 10,650 | 121,876 |
| 1884.... | 142,194 | 12,153 | 104,537 |
| 1885. | 96,569 | 11,909 | 117,346 |
| 1886 | 203,910 | 9,881 | 151,551 |
| 1887 | 185,034 | 11,838 | 134,868 |
| 1888 | 160,358 | 25,599 | 169,664 |
| 1889 | 267, 769 | 19,075 | 213,766 |
| 1890 | 288,513 | 16,899 | 245,939 |
| 1891 . . . . . | (295,509 | 6,805 | 202,710 |
| 1892 . | 261,954 | 8,942 | 201,540 |
| 1893 ... | 501,806 | 25,555 | 222,958 |
| 1894..... | 273,651 | 16,699 | 203,979 |
| 1895.... | 231,491 | 32,096 | 133,823 |
| 1896 - | 461,049 | 73,386 | 160,372 |
| 1897... . | - 2660,254 | 53,257 | 157,756 |
| 1898. | 519,532 | 31,279 | 144,612 |
| 1899. | 332,746 | 40, 197 | 68,011 |
| 1900 , . . . . . . . . . . . . . . . . | 244.661 | 17,525 | 84,589 |
| 1901... | 151,566 | 13,732 | 83,370 |
| 1902. | 208,215 | 22,78 | 81,164 |
| 1903. | 351,936 | 29,062 | 111,828 |
| 1904. | 198,246 | 23,711 | 102,523 |
| $1905 .$. | 341,431 | 42,061 | 129,270 |
| 1906. | 404,935 | 33,851 | 176,119 |
| 1907... | 635,573 | +2,032 | 163,295 |
| 1908... ... ... ... | 756,141 | 38,142 | 135,172 |
| 1909.... . . . . . . . | 652, 742 | 40,238 | 129,587 |

[^0]

The quantity of the same articles passed down the whole length of the St. Lawrence Canals to Montreal for the same period was:-


Comparative shipments of grain by the St. Lawrence route, and rail and water via the state of New York, are as follows :-

QUANHIT OF GRAIN TO SEA BOARD BY COMPETING ROUTES.
The quantity of grain and pease passed down the whole length of the St. Lawrence Canal to Montreal, is as follows :-

|  | Tons. |
| :---: | :---: |
| For 1908. | 756,141 |
| 1909 | 652,742 |
| Showing a decrease of. | 103,399 |

The quantity of grain and pease carried to Montreal via Canadian Pacific and Grand Trunk Railways is reported as follows :-


Showing a decrease of $\qquad$

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## TRANSHIPMENT OF f:KAIN.

The quantity of grain passed down the Welland Canal in Canadian and United States vessels to Kingston and Prescott for fifteen years is as follows:-

In Canadian vessels there were in-

## Tons.

|  | 123 cargoes, | with an aggregate | quantity | $\text { of } \ldots \ldots \ldots$ |
| :---: | :---: | :---: | :---: | :---: |
| 1896 | 196 | " | for | . . . . . . . 227,912 |
| 1897 | 180 | " | " | . . . . . . 229,265 |
| 1898 | 166 | " | , | ..... 224,021 |
| 1899 |  | " | " | . 221,306 |
| 1900 |  | , | " | ... 183,200 |
| 1901 | 112 | " | " | 132,558 |
| 1902 | 131 | " | " | 175,514 |
| 1903, | 170 | ${ }^{11}$ | " | ... 218,840 |
| 1904, |  | " | " | ... 174,121 |
| 1905, | 167 | " | " | ... 239,418 |
| 1906 | 205 | " | " | 344,605 |
| 1907, | 255 | " | " | . 427,813 |
| 1908 | 355 | " | " | 598,941 |
| 1909, |  | " | " | 550,276 |

In the United States vessels there were in-


One hundred and sixty-two Canadian and 49 American vessels took cargoes of 343,733 tons through to Montreal intact in 1908;87 Canadian and 9 American of 135,582 in 1907; 74 Canadian and 10 American of 108,734 tons in 1906; 96 Canadian and 18 American of 180,206 in 1905; 56 Canadian and 16 American of 116,095 tons in 1904; 56 Canadian and 18 American of 99,582 tons in 1903; 19 Canadian and 17 American of 34.801 tons in 1902; 23 Canadian and 2 American of 17,303 tons in 1901, 15 of 7,924 tons in 1900, 2 of 558 tons in 1899, 7 of 2,426 in 1898, 7 of 2,324 in 1897 . 3 of 1,176 in 1896, 4 of 1,344 tons in 1905, 2 cargoes of 810 tons in 1894, none in 1893, 2 in 1892 of 924 tons, and 3 in 1891 of 1,441 tons. Three vessels lightened a portion of their cargoes in 1901, 9 in 1900, 11 in 1899, 25 in 1898, 11 in 1897, 16 in 1896, 6 in 1895, 19 in 1894, 34 in 1893, 25 in 1892, and 44 in 1891; 222 vessels discharged the whole of their cargoes at Kingston in 1901, 540 in 1900, 316 in 1899, 473 in 1898, 359 in 1897, 335 in 1896, 169 in 1895, 188 in 1894, 369 in 1893, 220 in 1892, and 293 in 1891.

10-11 EDWARD VII., A. 1911
The quantity of grain transhipped at Port Colborne in 1909 and the four previous years was as follows :-


## welland canal.

The total quantity of freight passed on the Welland Canal during the season of 1909 was $2,025,951$ tons; of this quantity 49,911 tons was way or local freight.

There were $1,383,862$ tons of freight passed eastward, and 642,089 passed westward.

## East and West bound Through Freight.

The total quantity of through freight passed through the whole length of the Welland Canal during the season of 1909 was $1,976,040$.

Of this quantity $1,335,023$ tons were east bound and 641,017 west bound freight.
Of the east bound through freight, Canadian vessels carried 926,901 tons and United States vessels carried 408,122 tons ; and of the west bound through freight Canadian vessels carried 320,793 tons and United States vessels carried 320,224 tons, or a total of $1,247,694$ tons for Canadian and 728,346 tons for American vessels.

## ST. LAWREVCE CANALS

The total quantity of freight passed through these canals during 1909 was $2,410,629$ tons ; of this quantity $1,564,584$ tons passed eastward and 846,045 passed westward.

## East and West bound Through Freight.

The total quantity of through freight was $1,727,564$ tons; of this quantity $1,209,979$ tons were east bound and 517,585 tons were west bound.

Way Freight.
Of the total quantity of (way) or local freight 354,750 tons were east bound and 328,315 tons west bound freight.

## SESSIONAL PAPER No. 20a

THROUGH TRAFFIC BETWEEN MONTREAL AND PORTS OX LAKE KRIE, MICHIGAN, ETC.
The total quantity of through freights passed eastward from Lake Erie and westward from Montreal through the Welland and St. Lawrence canals, during fifteen years, was as follows :-

|  | Gastward, to Montreal. Tons. | $\begin{aligned} & \text { Westward, } \\ & \text { from Montreal. } \\ & \text { Tons. } \end{aligned}$ |
| :---: | :---: | :---: |
| 1895.. | 266,659 | 10,555 |
| 1896. | 480,077 | 10,050 |
| 1897. | 584,246 | 4,542 |
| 1898. | 538,108 | 4,436 |
| 1899.. | 354,933 | 5,991 |
| 1900. | 288,251 | 6,217 |
| 1901.. | 184,420 | 13,714 |
| 1902. | 250,475 | 25,289 |
| 1903. | 390,786 | 100,699 |
| 1904. | 278,328 | 71,512 |
| 1905. | 448,704 | 72,482 |
| 1906. | 554,231 | 96,791 |
| 1907 | 789,167 | 1,281 |
| 1908. | 864,926 | 3,472 |
| 1909. | $9: 5,005$ | 191,510 |

## THROUGH FREIGHT FROM UNITED STATES PORTS TO UNITED STATES PORTS.

The total quantity of through freight passed eastward and westward through the Welland Canal, from United States ports to United States ports, for a period of fifteen years, was as follows :-

|  | Eastward. Tons. | Westward. Tons. | $\begin{aligned} & \text { Total. } \\ & \text { Tons. } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| 1895 | 255, 259 | 214,520 | 469,779 |
| 1896 | 385,695 | 267,518 | 653,213 |
| 1897 | 353,863 | 210,831 | 564,694 |
| 1898 | 277,023 | 210,516 | 487,539 |
| 1899 | 225,491 | 135,038 | 360,529 |
| 1900 | 218,969 | 99,560 | 318,529 |
| 1901 | 190,476 | 83,543 | 274,019 |
| 1902. | 224,110 | 44,919 | 269,029 |
| 1903. | 221,074 | 149,151 | 370,225 |
| 1904. | 165,337 | 87,144 | 252,481 |
| 1905 | 190,547 | 112,549 | 303,096 |
| 1906 | 237,226 | 84,205 | 321,431 |
| 1907 | 218,997 | 177,660 | 396,657 |
| 1908 | 209,518 | 239,136 | 448,654 |
| 1909. | 196,83s | 248,581 | 445,419 |

The total quantity of freight pass through the Welland Canal from United States ports to United States ports shows a decrease of 3,235 tons as compared with the previous year ; and a decrease of 24,380 tons as campared with 1895 .

The following statement shows the aggregate number of vessels and the total quantity of freight passed through the Welland Cana, and the quantity passed between Cnited States ports during the years 1867 to 1909 inclusive.


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The total quantity of freight passed through the several divisions of the Canadian Canal system during the season of 1909 is as follows :


The total quantity of freight moved on the Welland Canal was $2,025,951$ tons, of which 920,737 tons were agricultural products.

On the St. Lawrence canals the total quantity of freight moved was $2,410,629$ tons, of which 773,730 were agricultural products, and 472,656 tons were manufactures.

On the Ottawa canals the total quantity of freight moved was 336,939 tons ; of this quantity 232,035 tons were the produce of the forest.

10-11 EDWARD VII., A. 1911
Comparative Statement of the Commerce through the United States, St. Mary's Falls Canals and Canadian Sault Ste. Marie Canal, for the Seasons of 1908 and 1909.

|  | Traffic for 1909. |  | Total tratfic for |  | Increase. | Decrease. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | United States canal. | Canadian canal. | $\begin{gathered} \text { Seasou } \\ 1909 . \end{gathered}$ | $\begin{aligned} & \text { Season } \\ & 1900 . \end{aligned}$ | Amount. | Amount. |
| Vensels...... ..........Number | 12,803 | 6,331 | 19,184 | 15,184 | 3,950 |  |
| Luckages | 8,525 | 5,046 | 13,571 | 10,685 | 2,886 |  |
| Tonnage registered .....Net Tons | 28,939,463 | 17,839,674 | 46,779,137 | 31,126,386 | 15,652,751 |  |
| ." freight. . | $30,132,374$ | 27,861,245 | 5i, 943,619 | 41,416,513 | 16,57\% 106 |  |
| Passengers ... ........ . Number | 27,736 | 32,810 | 60,546 | 53,306 | 7,240 |  |
| Coal (hard)............. Net Tons | 1,060,753 | $361,91 \mathrm{~s}$ | 1,422,671 | 1,362,435 | 60,236 |  |
| Fü (soft) ........... parrels | $6,150,540$ | $2,435,781$ | 8,586,321 | 8,545.923 | 40,398 |  |
| Flour. . . . . . . . . . . . . . Barrels | 4,580, 833 | 2,522,700 | 7,103,533 | 5,614,650) | 1,488, 883 |  |
| Wheat......... . ... Bushels | 38,438,716 | $74,401,000$ | 112,839,716 | 106,698,934 | 6,140,782 |  |
| Grain (excluding wheat) - " | 17,990,396 | 29,503,240 | 47,493,636 | $43,452,705$ | 4,040,931 | .... $\cdot$. |
| Manufactured\&pig iron. Net Tons | 363,459 | 209,433 | 572,892 | 308,179 | 264,713 | ... ..... |
| Salt.... ........... ..... Barrels | 419,97 | 201,114 | 651,091 | 549,254 | 101,837 |  |
| Copper............... Net Tons | 118,889 | 8,323 | 127,212 | 101,329 | 2i, 883 |  |
| Iron ore . . . . . . . . . . . . . . .ft. В В , M. | 18,866,499 | 21,156,915 | 40,023,414 | 24,637,001 | 15,386,413 |  |
| Lumber <br> ft. B. M. <br> Silver ore Net Tons | 517,694,000 | $34,309,300$ | $552,003,300$ | $457.165,355$ | 94,837,945 |  |
| Building stone . . . . . . . | 1,784 |  | 1,784 | 11,589 |  | 9,805 |
| Unclassified freight.... " | 599,564 | 532,022 | 1,131,586 | 823,597 | 307,989 |  |

## SESSIONAL PAPER No. 20a

The United States canal was open to navigation during the season of-

| 1889 | 234 | days | 1900 | 238 | days |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1890 | 228 | 4 | 1901 | 230 | - |
| 1891 | 225 | " | 1902 | 256 | " |
| 1892 | 233 | " | 1903 | 249 | " |
| 1893 | 219 | " | 1904 | 223 | " |
| 1894 | 234 | " | 1905 | 245 | " |
| 1895 | 231 | " | 1906 | 249 | ${ }^{6}$ |
| 1896 | 232 | " | 1907 | 233 | " |
| 1897 | 234 | " | 1908 | 231 | " |
| 1898 | 241 | " | 1909 | 236 | $\cdots$ |
| 1899 | 231 | " |  |  |  |

The Canadian canal was open to navigation during the season of -

| 1895 | 87 | days | 1903. | 256 | days |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1896. | 218 | " | 1904. | 241 | " |
| 1897. | 238 | " | 1905 | 255 | " |
| 1898. | 243 | " | 1906. | 253 | " |
| 1899. | 239 | " | 1907. | 238 | - 6 |
| 1900 | 238 | " | 1908. | 235 | 4 |
| 1901 | 246 | " | 1909. | 240 | " |
| 1902. | 264 | " |  |  |  |

The average number of vessels passing per day through the two canals for the season of 1909 was over eighty-one.

10-11 EDWARD VII., A. 1911
A-Table showing the total tonnage of the undermentioned articles moved Upand Down

| Year. | Vegetable Food. |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Flour. | Wheat. | Corn. | Barley. | Oats. | Rye. | Other Articles. $+$ |
| $1869{ }^{*}$. | Tons. $45,674$ | Tons. $313,825$ | Tons. 120,599 | Tuns, 20,951 | Tons. | Tons. 904 | Tons. $1,937$ |
| 1872. | 26,651 | 239,998 | 254,902 | 6,035 | 7.752 | 64 | 2,7+5 |
| 1873. | 30,665 | 355,847 | 180,169 | 8.225 | 1,194 | 3 | 3,7\%7 |
| 1874. | 24,019 | +13,212 | 181,151 | 18,871 | 5,954 | 513 | 8,677 |
| 1875. | 13,964 | 258,835 | 103,749 | 35,751 | 3,383 | 917 | 6,337 |
| 1876 | 15,778 | 201,906 | 144,501 | 18,455 | 24,496 | 1,454 | 3,198 |
| $187 \%$ | 13,558 | 253,953 | 169,196 | 19,870 | 2,810 | 2,439 | 2,355 |
| 1878. | 9,121 | 191,982 | 180,931 | 10,979 | 3,088 |  | 2,302 |
| 1879. | 10,710 | 274,570 | 144,506 | 4,655 | 1,239 | 40 | 2,444 |
| 1880. | 12,679 | 242,020 | 163,738 | 17,772 | 477 | 1,016 | 1,480 |
| 1881. | 9,959 | 127,832 | 101,075 | 24,509 |  | 1,844 | 2,086 |
| 1882. | 12,261 | 215,056 | 54,799 | 20,126 | 611 | 3,226 | 403 |
| 1883. | 13,471 | 152,794 | 182,269 | 10,436 | 731 | 1,642 | 10,983 |
| 1584. | 13,683 | 144,851 | 118,811 | 7,155 | 10,746 | 1,320 | 9,168 |
| 1885. | 13,334 | 124,296 | 117,536 | 15,801 | 1,116 |  | 1,912 |
| 1886. | 19,474 | 154,169 | 219,442 | 1,595 | +,911 | 564 | 14,657 |
| $1887 .$ | 23,949 | 221,927 | 114,938 | 9,574 | 12,050 |  | 12,533 |
| $1888 .$ | 16,983 | 160,963 | 194,886 | 5,906 | 26,629 | 811 | 13,608 |
| 1889. | 7,981 | 126,664 | 353,595 | 4,272 | 28,356 | 2,673 | 18,652 |
| 1890. | 14,461 | 118,002 | 327,394 | 10,830 | 27,728 | 1,549 | 20,876 |
| $1891 .$ | 13,517 | 198,658 | 185,180 | 8,113 | 52,959 | 65,888 | 28,042 |
| $1892 .$ | 17,046 | 232,019 | 192,548 | 6,433 | 37,173 | 9,392 | 32,815 |
| 1893. | 15,235 | 258,392 | 441,092 | 18,599 | 31,283 | 3,671 | 36,981 |
| 1894. | 33,628 | 270,993 | 169,233 | 28,353 | 27,962 | 567 | 60,673 |
| $1895 . .$ | 44,044 | 203,088 | 164,894 | 8,689 | 18,236 | 1,007 | 46,463 |
| $1896 .$ | 42,425 | 320,563 | 320,444 | 11,368 | 28,178 | 9,405 | 56,591 |
| 1897. | 9,065 | 324,743 | 390,615 | 14,173 | 25,161 | 8,483 | 44,674 |
| 1898. | 5,578 | 207,647 | 437,861 | 12,286 | 17,502 | 16,127 | 23,182 |
| $1899 \ldots .$ | 11,625 | 197,732 | 204,004 | 2,907 | 24,087 | 923 | 18,460 |
| 1900..... | 10,968 | 137,800 | 163,609 | 4,085 | 41,055 | 3,538 | 14,815 |
| 1901.. .. | 18,978 | 151,586 | 67,756 | 7,119 | 28,485 | 2,961 | 14,024 |
| 1902.... | 22,282 | 225,171 | 67,647 | 7,418 | 11,232 | 4,079 | 12,963 |
| 1903.... | 25,998 | 259,031 | 210,758 | 14,656 | 7,911 | 4,904 | 13,994 |
| 1904..... | 35,049 | 165,138 | 116,444 | 27,171 | 16,582 |  | 13,184 |
| 1905... . | 38,512 | 254,458 | 180,921 | 55,432 | 36,072 | 1,711 | 9,883 |
| 1906.... | 18,294 | 326,798 | 211,805 | 31,446 | 49,306 | 1,784 | 10,739 |
| $\pm 907 \ldots$ | 22,739 | 488,565 | 271,693 | 13,240 | 73,369 | 2,270 | 22,683 |
| 1908.... | 23,209 | 732,131 | 127,402 | 31,172 | 33,423 | 6,667 | 21,668 |
| 1909.... | 38,763 | 590,196 | 140,902 | 23,151 | 75,135 | 33 | 30,221 |

* Fiscal. + Apples, meal of all kinds, pease, potatoes.

SESSIONAL PAPER No. 20a
through the Welland Canal, during a period of thirty-nine years, ended Dec. . .1, 1909.

|  |  |  |  | Heayy Goons. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total. | Railway Iros. | Other Iron. | .ialt. | Iron and Salt having paid full tolls on St. Lawrence Camals. | Coal. | Orwo | Total. |
| Fons. $5413,860$ | $\begin{aligned} & \text { Tons. } \\ & 46,806 \end{aligned}$ | $\begin{aligned} & \text { Tons, } \\ & 16,924 \end{aligned}$ | Tons. 91,575 | Tons. 37,153 | Tons. 103,126 | Tons. 58,781 | Tons. $275,623$ |
| 538,147 | 26,217 | 17,141 | 50,540 | 44,243 | 186,932 | 98,605 | 3,678 |
| 579,880 | 6,923 | 20,754 | 40,850 | 17,157 | 339,016 | 118,685 | 43,3E7 |
| 642,397 | 6,032 | 12,068 | 28,309 | 9,579 | 323,503 | 56,825 | 431,316 |
| 417,936 | 1,517 | 7,588 | 13,509 | 9,962 | 321,306 | 43,683 | 397,56.) |
| 409,788 | 51 | 7,997 | 30,300 | 20,327 | 288,211 | 81,654 | 378,540 |
| 464,181 | 9,630 | 9,696 | 9,173 | 3,983 | 323,869 | 42.758 | 349, 109 |
| 403,403 | 10 | 11,518 | 3,980 | 12,1586 | 295,318 | 15,229 | 338,741 |
| 438,564 | 2,782 | 5,797 | 7,174 | 17,796 | 192,957 | 19,164 | 245,670 |
| 442,182 | 5,360 | 4,812 | 413 | 22,273 | 109,986 | 34,139 | 176,983 |
| 269,395 | 4,585 | 7,013 | 10 | 30,682 | 128,113 | 18,785 | 189,188 |
| 304, 482 |  | 5,348 | 50 | 17,327 | 237,559 | 23,700 | 283,984 |
| 373,326 | 1,237 | 7,922 | 66 | 17,037 | 307,058 | 31,785 | 365, 105 |
| 305,734 | 698 | 652 | 461 | 3,242 | 274,471 | 53,205 | 332,729 |
| 273,905 | 78 | 2,055 | 597 | 14,243 | 248,272 | 26,728 | 291,973 |
| 414,812 | 166 | 6,123 | 48 | 12,324 | 271,356 | 27,447 | 317,464 |
| 394,971 | 1,351 | 5,636 |  | 6,715 | 145,193 | 13,866 | 172,761 |
| 419,786 | 93 | 3,220 | 316 | 13,617 | 223,871 | 16,872 | 257,989 |
| 542,043 | 47 | 2.479 | 1,254 | 20,269 | 268,305 | 2,435 | 294,789 |
| 519,291 |  | 753 | 1,027 | 28,047 | 202,384 | 8,138 | 240,349 |
| 367,177 | 127 | 1,610 | 2,567 | 7,953 | 224,644 | 3,415 | 240,316 |
| ธ27,426 | 163 | 1,567 | 878 | 3,666 | 211,616 | 355 | 218,245 |
| 805,253 | 6 | 2,075 | 374 | 8,139 | 233,096 |  | 243,690 |
| 591,409 |  | 3,072 | 159 | 977 | 203,608 |  | 207,816 |
| 486,421 | 185 | 6,245 | 54 | 2,819 | 158,866 | $1,140$ | 169,309 |
| 788,974 | 1,192 | 6,332 | 82 | 3,264 | 223,445 | 1,158 | 235,473 |
| 816,914 | 7,206 | 17,012 | 227 | 590 | 176,226 |  | 201,261 |
| 720,183 | 1,44 | 11,722 | 799 | 734 | 162,336 | 13,433 | 190,468 |
| $459,688$ | 567 | 6,361 | 1,282 | 1,318 | 97,732 | 26,125 | 133,385 |
| 375,720 |  | 8,190 | 533 | 4,800 | 47,392 | 58,400 | 119,315 |
| 290,909 | 83 | 6,094 | 327 | 8,773 | 49,480 | 99,487 | 164,244 |
| 350,792 | 64 | 7,488 | ... .. ... | 15,201 | 64,014 | 22,480 | 109,247 |
| 537,252 | 488 | 5,407 | 2,554 | 45,8.16 | 147,884 | 18,323 | 220,502 |
| 373.568 | 11,381 | 9,957 | 1,093 | 4,164 | 113,525 | 39,683 | 179.803 |
| 576,989 | 2,651 | 10,912 | 226 | 4,221 | 172,642 | 22,381 | 213,033 |
| 650.172 | 3,747 | 8,493 | 100 | 16,204 | 147,587 | 5,862 | 181,993 |
| 894,559 | 961 | 4,923 | 246 | 18,761 | 267.212 | 25,010 | 317,143 |
| 975,672 |  | 35,726 | 429 | . ... ....... | $316,921$ | 18,004 | 371,080 |
| 898,401 |  | 87,025 |  |  | 377,681 | 33,301 | 498,007 |

10-11 EDWARD VII,, A. 1911
B.-Table showing the Total Way and Through Tonnage of the undermentioned Articles cleared downward on the Welland Canal during a series of thirty-nine years, ended December 31, 1909.

VEGETABLE FOOD.

| Year. | Flour. | Whent. | Corn. | Barley, | Oats, | Rye. | Other Articles. $+$ | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Tons. | Tons. | Tons. |  | Tons. |  | Tons. |  |
| 1869. | 44,110 | 310,090 | 119,541 | 3,920 |  | 680 | 1,541 | 479,882 |
| 1872. | 26,648 | 231,054 | 254.534 | 693 | 7,594 | 64 | 2,800 | 524,889 |
| 1873. | 30,660 | 345,720 | 180,042 | 643 | 1,188 | 3 | 3,557 | 563,813 |
| 1874 | 24,017 | 406,157 | 181,128 | 3.7 | 5,953 |  | 3,301 | 620,933 |
| 1875. | 13,930 | 248,555 | 103, 577 | 813 | 3,383 | 500 | 4,304 | 374,962 |
| 1876. | 15,735 | 194,559 | 144,501 | 1,110 | 24,496 | 1,454 | 2,949 | 384,807 |
| 1877. | 13,588 | 248,894 | 169,185 | 10,216 | 2,810 | 2,405 | 1,833 | 448,931 |
| 1878. | 8,854 | 188,106 | 185,931 | 1,217 | 3,088 | . . . . | 2,100 | 389,296 |
| 1879 | 10,588 | 271,545 | 114,276 | 803 | 1,196 |  | 2,387 | 430,795 |
| 1880 | 12,467 | 240,601 | 162,891 |  | 477 |  | 1,418 | 417,853 |
| 1881 | 9,655 | 121,393 | 103,075 | 252 | - .... | 6 | 1,371 | 235,752 |
| 1882 | 12,205 | 205,876 | 54,797 | 537 |  | 1,954 | 225 | 275,594 |
| 1883 | 13,256 | 146.741 . | 182,143 | 975 | 731 | 518 | 10,971 | 355,335 |
| 1884 | 13,626 | 135,804 | 118,811 | 270 | 10,746 | 177 | 9,018 | 248,752 |
| 1885 | 13,322 | 114,090 | 117,536 | 618 | 1,116 |  | 1,628 | 248,310 |
| 18.50 | 19,418 | 146,151 | 218,897 |  | 4,891 |  | 14,581 | 403,928 |
| 1887 | 23,940 | 210,755 | 114,938 | 1.711 | 12,050 |  | 12,149 | 375,543 |
| 1888. | 16,973 | 150,833 | 194,886 | 355 | 26,629 | 811 | 13,358 | 404,045 |
| 1889. | 7,922 | 120,498 | 353,595 | 197 | 28,356 | 1,918 | 18,273 | 530,759 |
| 1890 | 14.461 | 114,924 | 327,394 | 6,519 | 27,728 | 1,121 | 20,836 | 512,983 |
| 1891 | 13,517 | 196,326 | 185, 177 | 8,113 | 52,959 | 65,071 | 27,895 | 549,058 |
| 1892 | 17,046 | 229,569 | 192,548 | 6,433 | 37,173 | 9,392 | 32.548 | 524,709 |
| 1893. | 15,232 | 257,203 | 441,092 | 18,461 | 31,283 | 3,671 | 36,981 | 808,423 |
| 1894 | 33,628 | 270,514 | 169,238 | 28,353 | 27,962 |  | $60,587$ | $590,277$ |
| 1895 | 43,895 | 202,636 | 161,894 | 8,689 | 18,236 |  | 46,435 | 484,785 |
| 1896 | 42,159 | 319,388 | 320,444 | 11,368 | 28,178 | 8,970 | 54,031 | 784,538 |
| 1897 | 9,025 | 322,993 | 390,615 | 14,173 | 25,127 | 8,483 | 44,651 | 815,067 |
| 1895 | 5,578 | 206,313 | 437,849 | 12,28i | 17,491 | 16,127 | 23,170 | 718,814 |
| 18451 | 11,635 | 197,732 | 204,004 | 2,424 | 23,541 | 923 | 18,440 | 458,689 |
| 1900 | 10,968 | 137,800 | 163,509 | 3,449 | 40,256 | 3,538 | 14,802 | 374,322 |
| 1901 | 18,937 | 151,325 | 67,756 | 7,119 | 28,281 | 2,961 | 14,021 | 290,400 |
| 1902 | 22,282 | 223,499 | 67,647 | 7,418 | 11,223 | 4,079 | 12,912 | 349,0 , $0^{4}$ |
| 1903. | 25,997 | 257,370 | 210,758 | 14,656 | 7,911 | 4,904 | 13,982 | 535,578 |
| 1904 | 35,046 | 164,515 | 116,444 | 27,171 | 16,582 |  | 13,157 | 372,915 |
| 1905. | 38,512 | 247,599 | 180,921 | 55,432 | 36,072 | 1,711 | 9,882 | 570,129 |
| 1906 | 18,227 | 326;,789 | 111,243 | 31,446 | 49,306 | 1,411 | 10,739 | 549,161 |
| 1907 | 22,689 | 488,565 | 271,698 | 13,240 | 73,369 | 2,270 | 22,683 | 894,509 |
| 1908. | 28,187 | 730,751 | 127,402 | 31,172 | 33,423 | 6,667 | 21,668 | 974,270 |
| 1909 | 38,763 | $590,0 \% 4$ | 140,902 | 23,151 | 75,135 | 33 | 31),206 | 898,264 |

[^1]
## SESSIONAL PAPER No. 20a




10-11 EDWARD VII., A. 1911
D.-Statemext showing the Quantity of Through Freight passed Down the Welland Canal in Canadian and United States Vessels entering the Canal at Port Colborne, during the season of Navigation in 1898, 1 $899,1900,1901,1902,1903,1904,1905$, $1906,1907,1908$ and 1909.


## SESSIONAL PAPER No. 20a

D.-Statement showing the Quantity of Through Freight passed Down the Welland Canal in Canadian and United States Vessels, de -Continued.


10-11 EDWARD VII., A. 1911
D.-Statevent showing the Quantity of Through Freight passed Dows the Welland Canal in Canadian and United States Vessels, ic.-Continued.


## SESSIONAL PAPER No. 20a

1.- NTatembnt showing the Quantity of Though Freight passed Down the Welland Canal in Canadian and United States Vessels, ive.-Concluded.


10-11 EDWARD VII., A. 1911

## WELLAND CANAL THROUGH FREIGHT-RECAPITULATION.

## Welland Canal-West Bound Freight.

The total quantity of Through Freight passed Up the Welland Canal in Canadien and
United States Vessels during the Season of Navigation in 1909 is as follows:-


Statement of the Quantity of Through Freight passed Upand Down the Welland Canal during the Season of Navigation in 1909.


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SESSIONAL PAPER No. 20a


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| Articles. | 1897. | 1898. | 1899. | 1900. | 1901. | 1902. | $1: 938$. | 1904. | 1905. | 1906. | 1907. | 1908. | 1906 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Tons. | Tons. | Tons. | Tons. | Tons. | Tons. | Tons. | Tons. | Tons. | Tons. | Tons. | Tome. | Tons. |
| Marble Class 4-Con. |  |  |  |  | 4 |  |  |  |  |  |  |  |  |
| Molanses. |  |  |  | 57 |  |  |  |  |  |  |  |  |  |
| Nails.. |  |  | 11 |  |  |  |  |  |  |  |  |  |  |
| Oil, in barrels. Paint...... | 198 | 119 3 | 367 2 | 17 36 | 22 | 1,594 | 2,000 | 17 | 42 | 1 | $\stackrel{8}{1}$ | 1 |  |
| Rags Sodrasi..... |  |  |  |  |  |  | 4 |  |  |  |  |  |  |
| Soda ash..... |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Stone, wrought | 31 |  |  | 154 | 448 | 280 |  | 53 |  | 810 | 26,076 |  | 1,14\% |
| White lead |  |  |  |  |  |  |  |  | 7 |  | 4 |  |  |
| Whiting |  |  |  |  |  |  |  |  |  |  | 21 |  |  |
| Whinky, beer and all other spirits Merchandise | 3,591 | $\begin{array}{r} 34 \\ 3,828 \end{array}$ | $\begin{gathered} 168 \\ 6,219 \end{gathered}$ | $7,889$ | 3,327 | 1,928 | $2,010$ | 1,554 | 2,008 | 2,324 | +1,621 | 1,857 | 5, M, ini $^{\text {a }}$ |
| Total, cluns + | 3,820 | 3,986 | 6,783 | 8,164 | 3,405 | 4,214 | 4,017 | 3,031 | 2,666 | 3,660 | 67,768 | 1,875 | 7,316 |
| Vmpty bate Class 5. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Empty barrels <br> Firewood, in vessels. |  |  |  | 5 | 282 |  |  |  |  |  |  |  |  |
| Lumber, | 68,280 | 62,844 | 57,605 | 55,128 | 38, ¢\% | 72,806 | 48,387 | 30, 19.4 | 15,726 | 27,701 | 14,314 | 21,571 | 24,307 |
| Masts and spars, in vesbels Hup poles | 403 |  |  |  |  |  |  | 15.4 |  |  |  |  |  |
| Railway ties, in vessels |  |  |  |  |  |  |  | (6) 2 | 2,248 |  | 2,151 | 17 N |  |
| Shingles |  |  |  |  |  |  |  |  | ${ }_{12}^{62}$ | 68 |  |  |  |
| Split porta Staves, salt barrels |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Staves, salt barrels ... Timber, square, in versels |  |  |  |  |  |  |  |  |  | 1,500 |  |  |  |
| Timber, square, in versels Woodenware, dc | $\begin{gathered} 1,0+0 \\ 1 \end{gathered}$ |  |  |  |  |  |  |  |  |  |  |  | 2, 1238 |
| Total, clasa i . | 65,724 | 62,844 | 57,695 | 55,133 | 38,367 | 72,810 | 48,337 | 31,717 | 20,751 | 32,865 | 18,516 | 25,558 | 27,384 |
| Coal....... Sppoial olass. |  | 759 | 2,293 | 992 | 357 | 501 |  | 1,100 | 3,346 | 4,400 | 110,347 |  | 109 |
| Stone, not suitable for cutting |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Kryolite Iron ore |  |  |  |  |  |  |  |  |  |  | 1,316 |  |  |
| Total, special clans |  | 759 | 2,293 | 992 | 85 | 501 |  | 1,160 | 3,346 | 4.400 | 114,347 |  | (191) |
| Grand total | 353,863 | 277,023 | 225,491 | 218,969 | 190, 476 | 224,110 | 221.074 | 165,937 | 190,547 | 237,226 | 344,743 | 209,518 | 196,838 |

SESSIONAL PAPER No. 20a
L-Statement of the quantity of (irain Transhipped to the following Ports for the season of 1909 .

M. -The quantity of Coul pissed though the Welland Canal during a series of years from 1885 to 1909 inclusive, as follows:-

| Years. | From Canadian Ports to Canadian Ports. | From Canadian Ports to Canadian Ports. | Erom United States Ports to United States Ports. |  | $\begin{aligned} & \text { From } \\ & \text { United States Ports } \\ & \text { to } \\ & \text { Canadian Ports. } \end{aligned}$ |  | futal. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | U'p. | Down. | Up. | Down. | Up. | Duwn. |  |
|  | T ons. | Tons. | Tons. | Tons. | Tons. | Tons. | Tons. |
| 1885 |  |  | 193,442 | 4,974 | 10,321 | 31,350 | 240,087 |
| 1886 |  |  | 184,564 | 5,400 | 22,187 | 49,724 | 261,875 |
| 1887. |  | $\cdots$ | 81,617 | 1,163 | 26,775 | 25,968 | 135,523 |
| $18 \times 8$. |  |  | 172,381 | 878 | 17,365 | 27,183 | 217,807 |
| 1889. |  |  | 226,352 | 1.124 | 12,036 | 25,931 | 2650,43 |
| 1890 | 80 |  | 116,616 | 615 | 17,280 | 22,781 | 202,372 |
| 1891 |  |  | 185,190 | 1,382 | 17,374 | 20,698 | 224,644 |
| 1892. |  |  | 183,244 | 651 | 12,391 | 15,330 | 211,616 |
| 1893. |  |  | 204,704 | 2,12.3 | 8,325 | 17,944 | 233,096 |
| 1894 |  |  | 187,794 | 727 | 1,269 | 13,947 | 203,737 |
| 1895 | 4 |  | 148,887 | 603 | 1,565 | 7,807 | 158,866 |
| 1896. | 20 | 210 | 206,093 | 1,255 | 4,127 | 11,740 | 223,445 |
| 1897. | . . ... | 4 | 165,143 |  | 1,277 | 9,799 | 176,223 |
| 1898. |  |  | 156,055 | 759 | 986 | +,536 | 162,336 |
| 1899 |  |  | 86,638 | 2,293 | 225 | 8,276 | 97,732 |
| 1960 1901 | 8 |  | 45,032 | 992 |  | 1,360 | 47,392 $+9+80$ |
| 1901 |  |  | 46,345 | 357 | 456 | 2,322 | 49,480 |
| 1902 |  |  | 12,410 | 501 | 65 | 51,037 | 64,013 |
| 19403 | 3 |  | 113,076 |  | 4,796 | 30,009 | 147,884 |
| 15 Na | 2,919 |  | 62,782 | 1,100 | 3,711 | 32,813 | 103,325 |
| 1405.... |  |  | 70,118 | 3,346 | 11,436 | 37,742 | 172,642 |
| 1906.... | 60 |  | 29,123 | 4,400 | 7,161 | 106,843 | 147,587 |
| 1907 | 2, 257 |  | 110,347 |  | 10,453 | 143,555 | $26 ., 212$ 316,921 |
| 1908. | 4, 401 |  | 158,351 |  | 5,988 | $148,1 \times 1$ | $316,921$ |
| 1909. . . . . |  |  | 130,731 | 410 | 11,067 | 235,483 | 377,681 |

10-11 EDWARD VII., A. 1911
N.-Statement showing the quantity of Coal passed though the whole length of the St. Lawrence Canal during the seasons of 1885 to 1909 inclusive.

|  | Years. | Quantity passed up. | $\begin{gathered} \text { Quantity } \\ \text { passed down } \\ \text { to } \\ \text { Montreal. } \end{gathered}$ | Total Quantity passed up and down. |
| :---: | :---: | :---: | :---: | :---: |
| 1885. |  | Tons. | Tons. | Tons. |
|  |  | 5,035 3,301 | 122,899 118,802 | 127,864 <br> 122,103 |
| 1887. |  | 7,579 | 121,618 | 129,197 |
| 1888. |  | 8,341 | 123,050 | 131,391 |
| 1889. | + | 5,369 | 124,290 | 129,650 |
| 1890. |  | 6,538 | 135,168 | 141,706 |
| 1891. |  | 7,951 | 141,701 | 149,652 |
| 1892. |  | 7,543 | 15, 134 | $16+, 677$ |
| 1893. | 1 | 2,285 | 147,139 | 149,424 |
| 1894. |  | 16,213 | 169,552 | 185,765 |
| 1895. |  |  | 165,151 | 165,151 |
| 1896. |  | 689 | 161,551 | 162,240 |
| 1897. |  | 40 | 164,963 | 165, 003 |
| 1898. |  | 410 | 175,609 | 176,009 |
| 1899. |  | 448 | 201,546 | 201,994 |
| 1900. |  | 10 | 280,169 | 250,179 |
| 1901. |  | 2,765 | 299,245 | 301,010 |
| 1902. |  | 9,231 | 95,702 | 104,933 |
| 1903. |  | 30 | 230,548 | 290,578 |
| 1904. | ..1.in | 9,670 | 320,973 | 330,643 |
| 1905. |  | 8,518 | 345,589 | 354,107 |
| 1906. |  | 6,989 | 313,080 | 220,0099 |
| 1907. |  | 1,381 | 106,975 | 408,254 |
| 1908. |  | 23,939 | 48, 140 | 472,079 |
| 1909. |  | 13,543 | 469,685 | 483,288 |

SESSIONAL PAPER No. 20a
O.-Statement showing the Quantity of Through Freight passed down the Welland Canal, \&c.

## RECAPITULATION

| Articles. | (Juantity passed down to Montreal. | Quantity passed down to <br> Canadian Porta between <br> Port Dalhousie and <br> Cornwall. | Quantity passed down to United States Ports on Lake Ontario |
| :---: | :---: | :---: | :---: |
| 1898. | Tons, | Tons. | Tons. |
| Barley. | 3,960 | 1,417 | 6,909 |
| Corn ... | 310,498 | 13,338 | 116,317 |
| Qata.... | 3.975 | 625 | 12,729 |
| Pease. | 260 |  | 45 |
| Rye... | 16,133 | 39 |  |
| Wheat | 184,706 | 15,860 | 8,612 |
| Other articles..... ${ }^{\text {Total }}$ grail | $\begin{array}{r} +519 ; 532 \\ 19,773 \end{array}$ | $\begin{aligned} & 31,279 \\ & 79,614 \end{aligned}$ | $\begin{aligned} & 144,612 \\ & 114,259 \end{aligned}$ |
| Total. | 539,305 | 110,893 | 258,871 |
| 1899. |  |  |  |
| Barley . . . . . . . | 568 |  | 1,828 |
| Corn... . . . . . . . | 150,999 | 16,594 | 43,854 |
| Oats. | 10,250 | 1 | 13,139 |
| Pease..... |  |  |  |
| Rye .... ... .... | 923 |  |  |
| Wheat. | 169,978 | 24,602 | 9,190 |
| Other articles... Total grain | $\begin{array}{r} \ddagger 332,736 \\ 21,739 \end{array}$ | $\begin{aligned} & 40,197 \\ & 68,671 \end{aligned}$ | $\begin{array}{r} 68,011 \\ 104,727 \end{array}$ |
| Total... | 354,485 | 108,958 | 172,732 |
| Barley. | 1,288 | 563 | 1,598 |
| Corn. | 109,358 | 9,844 | 44,406 |
| Oats. | 8,925 | 348 | 30,840 |
| Pease | 115 |  | 4 |
| Rye | 3,078 | 160 | 300 |
| Wheat. | 121,896 | 6,610 | 7,541 |
| Total grain | **244,661 | 17,525 | 84,589 |
| Other articles. | 43,670 | 95,680 | 93,287 |
| Total | 288,231 | 113,205 | 177,876 |
| Barley..... . . . . . |  |  |  |
| Corn . | 14,319 | 4,528 | 49,609 |
| Oats.... | 1,584 | 853 | 25,704 |
| Pease... | 2,961 |  |  |
| Wheat | 132,702 | 8,051 | 9,0\%7 |
| Other Total grain | +151,566 | 13,732 | 83,370 |
| Other articles.... | 32,854 | 128,614 | 91,799 |
| Total.. .. ... | 184,420 | 142,346 | 175,169 |

10-11 EDWARD VII., A. 1911
O.-Statemeny showing the Quantity of Through Freight passed down the Welland Canal, de.-Continued.

RECAPITULATION-Continued.


## SESSIONAL PAPER No. 20a

O.-Sratement showing the Quantity of Through Freight passed down the Welland Canal, \&e.-Concluded.

RECAPITULATION - coneluded.

| Articlos. | Quantity passed down to Montreal. | Quantity passed down to Canadian Ports between Por: Dalhousie and Cornwall. | Quantity passed down to United Staten Porta on Lake Ontario. |
| :---: | :---: | :---: | :---: |
| 1946. | Tons, | Tons. | Tonis. |
| Barley ..... | 21,1!6 | 984 | 9,266 |
| Corn | 50,559 3 3,164 | 15,688 819 | 140,558 11,323 |
| Oats Prase. | 3, 164 | 819 11 | 11,323 |
| Rye... | 1,405 | 6 |  |
| Wheat. | * $\cdot 289,611$ | 15,843 | 14,172 |
| Other articles......... ${ }^{\text {Total }}$ | $\begin{aligned} & 404,985 \\ & 118,224 \end{aligned}$ | $\begin{array}{r} 33,351 \\ 176,277 \end{array}$ | $\begin{array}{r} 176,119 \\ 59,884 \end{array}$ |
| Total. | 523,159 | 209,628 | 236,003 |
| Barley | 54,936 | 492 | 2,812 |
| Corn. | 106,299 | 31,901 | 138,493 |
| Oats | 167,06i3 | 1,565 | 4,711 |
| Pease |  |  | 25 |
| Rye. | 2,2titi | 2 | 9 |
| Wheat. | * 4500,5095 | 8,072 | 23,222 |
| Other articlex Total grain... | 633, 573 | 42,032 | 163,295 |
| Other articles | 153,594 | 126,423 | 93,127 |
| Total | 789, 167 | 168, 455 | 256,422 |
| Barley. | 24,318 | 3,546 | 3,348 |
| Corn. | 10,451 | 11,489 | 105,454 |
| Oats. | 28,081 | 3.272 | 2, 1170 |
| Pease Rye. . | 6,662 |  | 46 <br> 4 |
| Wheat | +686,626 | 19,832 | 24,293 |
| Tutal grain | 756, 441 | 38,142 | 135,172 |
| Other articles | 108,785 | 162,378 | 91,875 |
| Total | 864,426 | 200,520 | 227,04: |
| Barley | 19,143 |  | 4, 913 |
| Corn | 17,137 | 22,798 | 100,967 |
| Olats | 65.624 | 2,872 | 6,639 |
| Pease. | 30 |  | 33 |
| Rye.. | 33 |  |  |
| Wheat. | 530,775 | 14,568 | 17,910 |
| Total grain. .. | 632,742 | 40,238 | 129,507 |
| Other articles, | 272,263 | 113,970 | 126,223 |
| Total .... | 925,005 | 154,208 | 255,810 |

10-11 EDWARD VII., A. 1911
Table: 1.-Comparative Statement of Grand Total Freight passed through the undermentioned Canals during the Seasons of Navigation in 1908 and 1909.


SESSIONAL PAPER No. 20a

Tables 2.-Statement showing the Number, Tonnage and Nationality of Vessels passed through the several Canals during the Season of Navigation in 1909.

From Canadian From Canadian From United States From United States From Canadian
to
Canadian Porta, Down.


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$3,976,043 \quad 3,835,535 \quad 7,811,578$



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$=$
$=$

10-11 EDWARD VII., A. 1911
Table 3.-Statement showing the Number, Tonnage and Nationality of Vessels

| Vessels. | Total Number of trips. | From Canadian to Canadian Ports. |  | From Canadian United Statps Ports. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Up. | Down. | Up. | Down. |
| Salet Ste. Marie Canal. |  |  |  |  |  |
| Canadian Vessels, steam. | 2,531 | $1,082,810$ 13,510 | $\begin{array}{r} 9133,102 \\ 19,772 \end{array}$ | 98, $4 \times 4$ | 204,156 3,966 |
| Total Canadian. | 2,54: | 1,096,320 | 1,012,874 | 98, 486 | 213,062 |
| [inited States Vessels, steam | 3,679 | 136,221 | 83,127 | 55,615 | 176,566 |
| sill | 53 | 7.897 | 380 | . . . . . | 4,007 |
| Total United States. | 3,734 | 144,118 | 83,507 | 55,615 | 180,573 |
| frand total, Sault Ste. Marip Canal. | 6,331 | 1,240,438 | 1,096,381 | 154,101 | 393,6835 |
| Wrlland Casal. |  |  |  |  |  |
| Canadian Vessels, steam. " ${ }^{\prime}$ sail. | $\begin{array}{r} 1,150 \\ 574 \end{array}$ | 375,866 59,5016 | $\begin{array}{r} 325,428 \\ 54,943 \end{array}$ | $\begin{array}{r} 114,631 \\ 37,723 \end{array}$ | 1,452 |
| Total Canadian. | 1,724 | 435, 367 | 380,371 | 152,354 | 1,452 |
| United States Vessels, steau. " " sail. | $\begin{array}{r} 652 \\ 57 \end{array}$ | 859 | $\begin{array}{r} 1,079 \\ 60 \end{array}$ | $\begin{aligned} & 48,401 \\ & 13,056 \end{aligned}$ | $\begin{aligned} & 4,658 \\ & 2,249 \end{aligned}$ |
| Total United States. | 709 | 859 | 1,139 | 61,457 | 6,902 |
| Grand total, Welland Canal. | 2,4:33 | 436, 226 | 3 $\times 1,510$ | 213,811 | 8.334 |
| Sr. Lawhexce Canals. |  |  |  |  |  |
| Canadian Vessels, steam | 4,046 | 723,100 | 603,171 | 14,281 |  |
| " ${ }^{\text {a }}$ sail | 4,089 | 507,0968 | 469,245 | 7,615 |  |
| Tutal Canadian. . | 6,135 | 1,230,168 | 1,072,416 | 21,896 |  |
| United states Viessels, steam. sail. . | $\begin{aligned} & 634 \\ & 502 \end{aligned}$ | $\begin{aligned} & 75,339 \\ & 40,117 \end{aligned}$ | $\begin{array}{r} 2,422 \\ 18,034 \end{array}$ | $\begin{aligned} & 87,618 \\ & 33,226 \end{aligned}$ | 40 |
| Total United Statex | 1,136 | 115,486 | 20,956 | 120,844 | 40 |
| Crand total, St. Lawrence Canals | 9,271 | 1.345, 654 | 1,093,372 | 142,740 | 40 |
| Chambly Canal. |  |  |  |  |  |
| Canadian Veascls, steam. <br> 1 " sail ... | $\begin{aligned} & 278 \\ & 392 \end{aligned}$ | $\begin{array}{r} 28,511 \\ 4,210 \end{array}$ | $\begin{array}{r} 28,533 \\ 5,65 \times \end{array}$ | $\begin{array}{r} 135 \\ 15,940 \end{array}$ |  |
| Total Canadian.. | 676 | 32,721 | 34,194 | 16,075 | $\ldots$. |
| United States Vensels, steam " ." *nil | 4,055 | .. | 1,876 | 203,865 |  |
| Total U'nited States.. | 4,055 | - $\quad$. | 1,876 | 203,865 |  |
| (irand total, Chambly Canal. | 4,725 | 32,721 | 36,070 | 219,940 |  |
| Ottani Canala |  |  |  |  |  |
| Canadian veswels, stean sail | $\begin{array}{r} 9.91 \\ 1,034 \end{array}$ | $\begin{aligned} & 83,684 \\ & 97,542 \end{aligned}$ | $\begin{array}{r} 86,759 \\ 93,175 \end{array}$ | 137 | $\begin{aligned} & 1,007 \\ & 2,392 \end{aligned}$ |
| Tutal fanadian | 1,935 | 181,226 | 179,934 | 157 | 3,399 |

## SESSIONAL PAPER No. 20a

passed through the several Canals during the Season of Navigation in 1909.


10-11 EDWARD VII., A. 1911
Table No. -Stateyent showing the Number, Tonnage and Nationality of vessels 1909-

|  | Total Number of Trips. | From Canadian Canadian Ports. |  | From Canadian to United States Ports. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Up. | Down. | I'p. | Down. |
| Oitawa ravils |  |  |  |  |  |
| United States veskels, steam sail. | 3 243 | $\begin{array}{r} 233 \\ 2.416 \end{array}$ |  |  | 12.581 |
| Tutal Enited States | 246 | 2,649 |  |  | 12.581 |
| firand total. Ottawa Canals | 2,101 | 1 $\times 3,8 \%$ | 179,934 | $15 \%$ | 15,980 |
| Rtheat Cakal. |  |  |  |  |  |
| Cinadian vessels, steam. <br> sail | 1.775 4.7 | $\begin{aligned} & 57,2,22 \\ & 16,699 \end{aligned}$ | $\begin{aligned} & 37,419 \\ & 15,45 \% \end{aligned}$ | 3,067 | 76 |
| Tutal Canadiau | 2.202 | 73,319 | 72,876 | 3,067 | 76 |
| United States vessels, steam. sail. | 2 32 | 198 | $\begin{array}{r} 10 \\ 1,012 \end{array}$ | 10 | 90 |
| Total United States. | 34 | 198 | 1,022 | 10 | 99 |
| Grand total. Ridean Canal | 2,236 | 74,117 | 73,898 | 3,077 | 175 |
| St. Peter's Casaf. |  |  |  |  |  |
| Canadian veasels, steam sail. . | $\begin{array}{r} 276 \\ 1,152 \end{array}$ | $\begin{array}{r} 16,292 \\ 34,412 \end{array}$ | $\begin{aligned} & 15,118 \\ & 36,611 \end{aligned}$ | .. .. . |  |
| Total Canadian. | 1,428 | 50,694 | 51,729 | ....... | ............ |
| ['uthd States vescels, steam sail. | 8 | $\begin{array}{r} 215 \\ 78 \end{array}$ | $\begin{aligned} & 502 \\ & 12: \end{aligned}$ | . | +........... |
| Total United Statrs .... | 11 | 298 | 628 | . . . . . . | ...t......... |
| Grand total, St. Peter's Canal | 1,439 | [20,487 | 52,304 | ...... . . | ... ......... |
| Trent Vallat Canalas. |  |  |  |  |  |
| Canadian vessels, steam. . 1 sail . | $\begin{array}{r} 2,947 \\ 783 \end{array}$ | $\begin{aligned} & 68,858 \\ & 16,869 \end{aligned}$ | $\begin{aligned} & 70,838 \\ & 17,373 \end{aligned}$ |  | ........... |
| Total Canadian . . | 3,730 | 85,720 | 88,206 | .... . | , |
| United States vessels, nteam " ${ }^{\text {" sail.. }}$ |  | . |  |  | . |
| Total Lnited States.... |  | ...... | ... | +.... | -1........... |
| Grand total, Trent Vallay Canal- | 2,680 | 85,722 | 88,206 | , | ... . . . . . |
| Merrat Canal. |  |  |  |  |  |
| Canadian vessels, steam " . sail... | $\begin{aligned} & 659 \\ & 234 \\ & \end{aligned}$ | $\begin{array}{r} 187,796 \\ 11,254 \end{array}$ | $\begin{aligned} & 88,847 \\ & 10,956 \end{aligned}$ | $\begin{aligned} & 3,347 \\ & 4,538 \end{aligned}$ |  |
| Total Canadian | 886 | 149,050 | 99,803 | 8,285 | $\ldots$... $\ldots$ |
| United Stater vesspls, steam tail. | $\begin{aligned} & 47 \\ & 24 \end{aligned}$ | $\begin{aligned} & 175 \\ & 114 \end{aligned}$ | $\begin{aligned} & 162 \\ & 117 \end{aligned}$ | 36 $34!$ | 7 |
| Total U fritel States | 71 | $28:$ | 279 | 38 | 7 |
| Grand tetal, Murray Cansd | 957 | 149,3: | $100,0 \div$ | $8.67{ }^{\circ}$ | 7 |

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passed through the several Canals during the Scason of Navigation in Continued.


10-11 EDWARD VII., A. 1911
Tarle 4.-Comparative Statement of the Tiaffic of all the Canals for the Years ending December 31, 1908 and 1909.


## SESSIONAL PAPER No. 20a

Table 4.-Comparative Statement of the Traftic of all the Canals for the Years ending December 31, 190 ${ }^{\circ}$ and 1909-Concluded.


Net Increase, 16,217,928 trons.

10-11 EDWARD VII., A. 1911
Table 5. Statement of Traffic on the Undermentioned Canals during the Season of Navigation in 1909


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10-11 EDWARD VII., A. 1911
Table, 6.-Summary Statement of Traffic on the undermentioned Canals during the Season of Navigation ended December 31, 1909 , showing the total quantity of each description of property passed through.


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10-11 EDWARD VII., A. 1911
Table 7 (No. 1)-General Statement showing the Quantity of each Article Transported on the Sault Ste. Marie Canal during the


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Table 7 (No. 2) - General Statement showing the Quantity of each Article transported on the Welland Canal during the Season of


## SESSIONAL PAPER No．20a



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|  | $1{ }_{1}^{\infty}$ |



10-11 EDWARD VII., A. 1911
Table 7 (No. 3).-General Statement showing the Quantity of each through Article transported on the Welland Canal during the


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10-11 EDWARD VII., A. 1911
IPPENDIX A-C'ontinued
Table 7 (No. 4)—General Statement showing the Quantity of each way article transpurted on the Welland Canal during thr Season of Navigation in 1909

| Articles. | From Canadian to Canadian Ports. |  |  |  | $\begin{gathered} \mathrm{F}_{1} \\ \text { Unite } \\ \text { Uniter } \\ \mathrm{P}_{0} \end{gathered}$ | Statos <br> States <br> ts. | $\begin{aligned} & \text { From } \\ & \text { United } \text { to } \\ & \text { to } \\ & \text { Canadian } \\ & \text { Ports. } \end{aligned}$ |  | Fion. |  | Total Tonn. | Whgan uf C'aryot |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Up | Down. | Up. | Down | Up. | Down. | Up. | Down. | If. | Down. |  | Canadian. | Unitocl Stater. |
| Agricultural implements |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All other aninal ..... |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Barley |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Buck wheat, Cement, bricks, $\& 0$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Dressed meats.. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Flax ......... |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Frour... ${ }^{\text {Frat }}$ - veretables |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruits and vegetablesHay............ |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hider and leather |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Household goods. |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | .... ... |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Other packing house products . . . . . . . . . ............... ..... |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Other woods |  | 140 |  |  |  |  |  | 1,341 |  | 1,481 | 1.565 | 224 | 1,341 |
| Ore, all other............copper |  |  |  |  |  |  |  |  |  |  |  |  |  |
| " copper |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Peas. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Petrolenm. |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Potatoer . . . . . . . |  |  |  |  |  |  |  |  |  | $8 \quad \ldots$ |  |  | ... .... |
| Puipwood |  |  |  |  |  |  |  |  |  |  |  |  |  |

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Table 7 (No. 5).-General Statement showing the Quantity of each Article transported on the St. Lawrence Canals during the Season


## SESSIONAL PAPER No. 20a


10-11 EDWARD VII., A. 1911
showing the Quantity of each through Article transported on the St. Lawrence Canals, during


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Table 7 (No. 7).-General Statement showing the Quantity of each Way Article transported on the St. Lawrence Canals during the



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| $+8$ |  |
| :---: | :---: |
|  | ( $\begin{aligned} & \text { - } \\ & \text { \% } \\ & \text { \% }\end{aligned}$ |
|  | $\begin{aligned} & \stackrel{1}{=} \\ & 08 \\ & 08 \end{aligned}$ |
| $\underset{\sim}{2}$ | E |
|  | $15$ |
| $\underset{\sim}{8}$ |  |
|  | $\vdots$ |
|  |  |
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|  | $1$ |
| $+:-\quad=$ | $\begin{aligned} & 18 \\ & = \\ & = \end{aligned}$ |
| 瓦: | $\frac{8}{75}$ |

Table $7($ No. 9).-General. Statement showing the Quantity of each Article transported on the St. Peter's Canal during


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Table 7 (No. 10)-General. Statmafnt showing the Quantity of each Article transported on the Murray Canal during the


## SESSIONAL PAPER No. 20a



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Table 7 (No. 11).-Genral Statement showing the quantity of each Article transported on the Ottawa Canals during the

| Articles. | $\begin{aligned} & \text { From } \\ & \text { Canadian } \\ & \text { to } \\ & \text { Canadian } \\ & \text { Ports. } \end{aligned}$ |  | FromCanadiantoUnited Stat $\because 8$Ports. |  | FromUnited StatestoUnited StatesPorts. |  | FromUnited StateatoCanadianPorts. |  | Tons. |  | Total Tons. | Origin of Cargo. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Up. | Down. | Up. | Down. | Up. | Down. | Up. | Down. | Up. | Down. |  | Canadian | United Statek. |
| Agricultural implements. | 194 | 39 |  |  |  |  |  |  | 194 | 39 | 233 | 233 |  |
| All other animal. ........ | 113 | 2,720 |  |  |  |  |  |  | 113 | 2.720 | 2,833 | 2,833 |  |
| Barley. | 59 |  |  |  |  |  |  | ..... | 59 |  | 10 | 59 |  |
| Buckwheat | 10 |  |  |  |  |  |  |  | 10 |  | 10 | 10 |  |
| Cement, brioks, de | 1,829 | 10,241 |  |  |  |  |  |  | 1,829 | 40.241 | 42,070 | 42,070 | - 1 - ${ }^{\text {a }}$ |
| Coal, hard........ | \% 784 |  |  |  |  |  | 3,922 |  | 4,706 |  | 4,706 26.605 | 124 | 4,082 |
| Cole soft. | 25,995 | 10 |  |  |  |  |  |  | 25,995 |  | 26,005 | 26,005 | ... |
| Corn |  |  |  |  |  |  |  |  | 47 |  | 47 | 47 |  |
| Dressed meats. | 7 |  |  |  |  |  |  |  | 7 | 6 | 13 | 13 |  |
| Flax. | 14 |  |  |  |  |  |  |  | 14 |  | 14 | 14 |  |
| Flour. . | 1,017 | 94 |  |  |  |  |  |  | 1,017 | 94 | 1,111 | 1,111 | . |
| Fruits and vegetables | 307 106 | 500 |  |  |  |  |  |  | $30{ }^{\circ}$ | 500 | 807 | 807 |  |
| Hay.............. | 106 | 1,246 |  | . |  |  |  |  | 106 | 1,246 | 1,352 | 1,352 | . . |
| Hides and leather |  | 2 |  |  |  | . |  |  |  |  | ${ }^{2}$ |  |  |
| Household goods. | 106 | 54 |  |  |  |  |  |  | 106 | 54 | 160 663 | 160 , 163 | . .... |
| Iron-pig and bloom .... | 662 1,189 | 11 |  |  |  |  |  |  | 662 1,209 | 1 41 | 668 1,250 | ${ }_{1}^{2}, 250$ |  |
| Iron and steel, all other Live stock | 1,189 29 | 41 497 | 2 |  |  |  |  |  | 1,209 29 | 41 497 | 1,250 | 1,250 |  |
| Merchandise. | 9,120 | 3,782 |  |  |  |  | 69 |  | 6, 837 | 3,782 | 13,619 | 12,922 | 697 |
| Oath. . | 135 | 245 |  |  |  |  |  |  | 135 | 245 | 380 | $3 \times 0$ | .. .... |
| Other mill productm | 51 | 593 |  |  |  |  |  |  | 51 | 598 | 644 | 644 |  |
| Other packing house products. | 207 | 22 | 1 |  |  |  |  |  | 217 | 22 | 239 | 238 |  |
| Other woods .... ... . .. |  | 33,313 |  | 230 |  |  |  |  |  | 33,543 | 33,543 | 33,643 |  |
| Ore, all other " copper. |  | 36 |  |  |  |  | 55 |  | 056 | 36 | 542 | 36 | 60 |
| Pease........ |  |  |  |  |  |  |  |  |  |  | 3 | 3 | ..... |
| Petroleum | 698 | 170 |  |  |  |  |  |  | 708 | 170 | 878 | 488 |  |
| Poultry, game and fish.. |  | 112 |  |  |  |  |  |  |  | 112 | 112 | 112 | ........ |

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：：



 $49,131240,150$

Wines，liquors and beers．

## Total freight

Table 7 (No. 12).-Genkral Statement showing the quantity of each Article transported on the Rideau Canal during the Season

| Articles. | FromCanadiantoCanadianPorts |  |  | $\begin{aligned} & \text { In } \\ & \text { tian } \\ & \text { status } \\ & \text { is. } \end{aligned}$ | Firon <br> United States to United States Ports. |  |  | States <br> tian <br> t. | Tomm. |  | Total Tons. | Origin of Cargo. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Up. | Down. | Up. | Down. | U10 | Down. | Up. | Down | Up. | Down. |  | Canadian | Unitud Stated |
| Agricultural implements. | 18 | 97 |  |  |  |  |  |  | 188 | 9 | 285 | 285 |  |
| All other anmal........ | 51 | 588 |  |  |  |  |  |  | 51.4 | 888 | 1,402 | 1,402 |  |
| Barley ........ |  | 30 | - | . |  |  |  |  |  | 30 | 3 in | 30 |  |
| Buckwheat |  |  |  |  |  |  |  |  |  |  | 7 | 7 |  |
| Cement, bricks, 80 | 5,76 | 11,892 |  |  |  |  |  |  | 15,767 | 11,895 | 27,662 | 27,662 |  |
| Coal, hard.. | 18 | $15^{4}$ |  |  |  |  | 1,78 | 7,314 | 1,976 | 7,471 | 9,447 | 205 | 9,242 |
| Coke. noft | 1,37 | 26 |  |  |  |  |  | 4,789 | 1,371 | 4,816 | 6,186 | 1,377 | 4,809 |
| Corn. |  | 60 | . |  |  |  |  | 40 | 12 | 100 | 102 | 62 |  |
| Dressed meats. |  | b |  |  |  |  |  |  | 13 | 5 | 18 | 18 | 40 |
| Flax........ |  |  | ..... |  | ., |  |  |  |  |  |  |  |  |
| Flour. |  | 243 |  |  |  |  |  |  | 67 | 248 | 310 | 310 |  |
| Frutt and vegetables | 15 | 45 |  |  |  |  |  |  | 199 | 45 | 244 | 204 | 40 |
| Hay............... | 1,32 | 152 |  |  |  |  |  |  | 1,322 | 152 | 1.474 | 1,474 |  |
| Hides and leather. |  | 2 |  |  |  |  |  |  | 2 | 2 | 4 | 4 | - .... |
| Household goods. |  | 82 |  |  |  |  |  |  | 64 | 82 | 146 | 146 |  |
| Iron-pig and bloom. | 31 | 116 |  |  |  |  |  |  | 394 | 116 | 510 | 510 |  |
| Iron and steel, all other. | 1,08 | \$1 |  |  |  |  |  |  | 1,081 | 91 | 1,172 | 1,172 |  |
| Live stock.. ... ...... |  | 6 |  |  |  |  |  |  | ${ }^{6}$ | 6 | 12 | 12 |  |
| Merchandix | 5,07 | 2,771 |  |  |  |  |  | 1 | 3,078 | 2,772 | 7,850 | 7,850 | $\ldots$ |
| Oats |  | $27 \%$ |  |  |  |  |  |  | 34 | 277 | 307 | 307 |  |
| Other mill products. |  | 108 |  |  |  |  |  |  | 30 | 108 | 138 | 188 |  |
| Other packing house prod | 20 | 66 |  |  |  |  |  |  | 248 | 66 | 269 | 269 |  |
| Other woods. .. ...... | 4,84. | 987 |  |  |  |  |  | 1 | 4,844 | 988 | 8,832 | 5,832 |  |
| Ore, all other copper | 36 | 950 | 7 |  |  |  |  |  | 439 | 950 | 1.388 | 1,389 |  |
| " iron... |  | 2 |  |  |  |  |  |  |  | 2 | 2 | 9 |  |
| Pease... |  | 1 |  |  |  |  |  |  | . . | 1 | 1 |  | . |

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Table 7 (No. 13).-General Statement showing the Quantity of each Article transported on the Trent Valley Canals during the


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Table 8.-Statement showing the Classified Tonnage of all kinds of Vessels passed
SAULT STE.

| Cavadian. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Class. | Steam Vessels. | No. | Tonnage. | Class. | Sailing Vessels. | No. | Tonnage. |
| 1 | 5,000 to 5, 142 tons. | 1 | 5,142 | 1 | 5,000 to --.- tons. |  |  |
| 2 | 4,060 .i $\overline{0}, 000$." | , | 4,361 | 2 | 4,000 -. 5,000 |  |  |
| 3 | 3,000 $\sim 4,000 \quad$ - | 2 | 6,775 | 3 | $3,000 \sim 4,000$ - |  |  |
| 4 | $2,000 \sim 3,000 \quad$ " | 6 | 17,333 | 4 | 2,000 - 3,060 - |  |  |
| 5 | $1,000 \sim 2,000 \quad{ }^{\prime}$ | 57 | 75.254 | 5 | $1,000 \sim 2,000 \quad$ " |  |  |
| 6 | Under 1,000 " | 61 | 20,278 | 6 | Under 1, 140 | 4 | 3,244 |
|  | Total. | 128 | 129,143 |  | Total | 4 | 3,244 |

WELLAND

| 1 | 250 to 1,579 tons | 66 | 61,058 | 1 | 250 to 989 tons | 14 | 7,585 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 200 " 249 " | 2 | 430 | 2 | 200 "219 " | 3 | 675 |
| 3 | 150 " 199 " | 4 | 675 | 3 | 150 .. 199 " | 4 | 670 |
| 4 | 100 \|. 149 - | 4 | 450 | 4 | 100 " 149 " | 6 | 600 |
| 5 | 50." 99 " | 6. | 460 | 5 | 50 " 99 " | 1 | 50 |
| 6 | Under 50 " | 15 | 625 | 6 | Under 50 " | 1 | 15 |
|  | Total | 97 | 63,698 |  | Total | 29 | 9,595 |

ST. LAWRENCE

| 1 | 250 to 1,597 tons. | 46 | 48,242 | 1 | 250 to 1,184 tons | 79 | 33,141 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 200 " 249 " | 7 | 1,520 | 2 | 200 - 249 " | 7 | 1,475 |
| 3 | 150 \#199 - | 7 | 1,145 | 3 | 150 " 199 . | 59 | 9,605 |
| 4 | 100 п 149 | 10 | 1,185 | 4 | 100 " 149 | 87 | 10,525 |
| 5 | 50 " 99 | 22 | 1,625 | 5 | 50.199 | 64 | 6,065 |
| 6 | Under 50 | 36 | 706 | 6 | Under 50 | 6 | 255 |
|  | Total |  | 54,423 |  | Total | 302 | 60,056 |

RIDEAU, OTTAWA AND


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through the following Canals during the Season of Navigation in 1909.
MARIE CANAL.

Unitho States.


CANAI.


CANALS.


## CHAMBLY CANALR.



## APPENDIX

## DOMINION CANALS

The canal systems of the Dominion, under government control in connection with lakes and navigable rivers, are as follows:-

First-The through route between Montreal and the head of Lake Superior (14 feet minimum depth of water.)

1. Lachine canal ..... $8 \frac{1}{2}$
Lake St. Louis and River St. Lawrence. ..... 16
2. Soulanges canal ..... 14
Lake St. Francis and River St. Lawrence ..... 33
3. Cornwall canal ..... 11
River St. Lawrence ..... 5
4. Farran's Point canal. ..... $1 \frac{1}{2}$
River St. Lawrence ..... 10
5. Rapide Plat canal. ..... 33
River St. Lawrence ..... 4
6. Galops canal ..... 73
River St. Lawrence and Lake Ontario ..... 236
7. Welland canal ..... $26{ }_{3}^{3}$
Lake Erie, Detroit river, Lake St. Clair, Lake Huron, de. ..... 580
8. Sault Ste. Marie canal. ..... 1)
Lake Superior to Port Arthur. ..... 266
Total. ..... $1,223 \frac{1}{7}^{7}$
To Duluth ..... 1,357
Chicago ..... 1,286
Second.-Ottawa to Lake Champlain.
9. Grenville. 2. Carillon. 3. St. Anne's. 4. Chambly. 5. St. Ours eanals.
Third.-Ottawa to Kingston and Perth.
10. Rideau canal.

Fourth.-Lake Ontario at Trenton to Lake Huron at mouth of River Severn.

1. Trent canal (not completed).
Fifth.-Ocean to Bras dOr lakes.
2. St. Peter's canal.
$20 a-6 \frac{1}{2}$

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## RIVER ST. LAWRENCE AND LAKES.

The River St. Lawrence with the system of canals established on its course above Montreal, and the Lakes Ontario, Erie, St. Clair, Huron and Superior, with connecting canals, afford a course of water communication extending from the Straits of Belle Isle to Port Arthur, at the head of Lake Superior, a distance of 2,200 statute miles. The distance to Duluth is 2,343 statute miles. The distance to Chicago, 2,272 miles.

From the Straits of Belle Isle, at the mouth of the St. Lawrence, to Montreal, the distance is 986 miles. From Quebec to Montreal, the distance is 160 miles. Owing to the shallowness of the waters on a portion of the river between these two places, particularly through Lake St. Peter, vessels drawing more than from ten to twelve feet were formerly barred from passage for the greater part of the season of navigation. In 1826, the question of deepening the channel was first definitely mooted, but it was not until 1844 that any dredging operations were begun. In that year, the deepening of a new straight channel was commenced, but the scheme was abandoned in 1847. In 1851 the deepening of the present channel was begun. At that time the depth of the channel at low water was 10 feet 6 inches. By the year 1869, this depth had been increased to 20 feet, by 1882 to 25 feet, and by the close of 1888 the depth of $27 \frac{1}{2}$ feet, at low water, was attained for a distance of 108 miles from Montreal to a point within tidal influence. This work is now being continued by the government of Canada, which in 1888, under the provisions of the Act 51 Vic., ch. 5, of that year, assumed the indebtedness. The channel has a minimmm width of 300 feet, extending to 550 feet at points of curvature. The channel is lighted and buoyed.

Navigation, which is closed by ice during the winter months, opens about the end of April.

Montreal has by this work been placed at the head of ocean navigation, and here the canal systems of the River St. Lawrence begin, overcoming the various rapids by which the river channel upwards is obstructed, and giving access through the St. Lawrence canals, the Welland canal, the great lakes and the Sault Ste. Marie canal, to the head of Lake Superior.

The difference in level between the point on the St. Lawrence, near Three Rivers, where tidal influence ceases, and Lake Superior is about 600 feet.

The Dominion canals, constructed between Montreal and Lake Superior, are the Lachine, Soulanges, Cornwall, Farran's Point, Rapide Plat, Galops, Murray, Welland and Sault Ste. Marie. Their aggregate length is 73 miles; total lockage (or height directly overcome by locks), 551 feet. The number of locks through which a vessel would pass in its passage from Montreal, at the head of ocean navigation, to the head of Lake Superior is 48 . The Soulanges canal takes the place of the Beauharnois canal; the latter may be abandoned for navigation purposes.

Communication between Lakes Huron and Superior is obtained by means of the Canadian Sault Ste. Marie canal, and also by the St. Mary's Falls canal, situated on the United States side of the River St. Mary. Both these canals are free of toll.

It is important to note that the enlargement of the canals on the main route between Montreal and Lake Erie comprises locks of the following minimum dimensions: Length, 270 feet; width, 45 feet; depth of water on sills, 14 feet. The length of the vessels to be accommodated is limited to 255 feet. At Farran's, in the canal of that name, the lock is 800 feet long. A similar lock is built at Iroquois on the Galops canal, the object being to pass a full tow at one lockage.

## LACIIINE CANAL.

| First construction commenced " completed. | 1821 |
| :---: | :---: |
|  | 1525 |
| First enlargement | 1843 |
|  | 1848 |
| Second enlargement commence " completed | 1873 |
|  | 1901 |
| Length of canal. | \$12 statute milcs. |
| Number of locks. | 5 |
| Dimensions of locks | 270 feet by 45 feet. |
| Total rise of lockage. | 45 feet. |
| Depth of water lat two locks. |  |
| on sills. Jat three locks. | 14 |
| Average width of new canal. . | 150 |

The old lift locks, 200 feet by 45 feet, are still available, with 9 feet of water on mitre sills.

The canal consists of one channel, with two distinct systems of locks, the old and the enlarged. There are two lock entrances at each end.

The canal extends from the city of Montreal to the town of Lachine, orercoming the St. Louis rapids, the first of the series of rapids which bars the ascent of the River St. Lawrence. They are 986 miles distant from the Straits of Belle Isle.

## SOULANGES CANAL.

Construction commenecd....................... 1892
Open for traffic. ................................. . . . . 1899
Length of canal.............................. 14 statute miles.
Number of locks $\left\{\begin{array}{l}\text { lift......................... } 4\end{array}\right.$
Dimensions of locks. ........................ 280 feet by 45 feet.
Total rise of lockage. ....................... 84 feet
Depth of water on sills....................... . 15 "
Breadth of eanal at bottom................... 100 "
Breadth of eanal at water surface............ 164 "
Number of arc lights....................... 219 of 2,000 c. p. each.
The canal extends from Cascade point to Coteau Landing, overcoming the Cascade Rapids, Cedar rapids and Coteau rapids.

From the head of the Lachine to the foot of the Soulanges, the distance is sixteen miles.

## CORNWALL CANAL.

First commenced, 9 feet...................... . 1844
" opened.................................... 1847
Enlargement commenced. ...................... 1897
completed. . . . . . . . . . . . . . . . . . . . 1900
Length of canal............................... 11 statute miles.
Number of locks. . . . . . . . . . . . . . . . . . . . . . . . 6
Dimensions of locks........................ 270 feet by 75 feet.
Total rise of lockage. . . . . . . . . . . . . . . . . . . . . . . 48 feet.
Depth of water on sills........................ 14 "
Breadth of canal at bottom................... 100 "
Breadth of canal at water surface............ 164 "

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The old lift locks, 200 feet by 45 feet, are also available, with nine feet of water on mitre sills.

From the head of the Soulanges to the foot of the Cornwall canal there is a stretch through Lake St. Francis, of 323 m miles, which is being made navigable for vessels drawing fourteen feet.

The Cornwall canal extends past the Long Sault rapids from the town of Cornwall to Dickinson's landing.

## WLLLIAMSBURG CANALS.

The Farran's Point, Rapide Plat and Galops canals are collectively known as the Williamsburg Canals.

## FARRAN'S POLNT CANAL.



From the head of the Cornwall canal to the foot of Farran's Point canal, the distance on the River St. Lawrence is five miles. The latter canal enables vessels ascending the river to avoid Farran's Point rapid, passing the full torr at one lockagc. Descending ressels run the rapids with ease and safety.

## RAPIDE PLAT CANAL.



The old lift lock, 200 feet by 45 , is also availalle, with nine feet of water on mitre sills,

From the head of Farran's Point canal to the foot of Rapide Plat canal, there is a navigable stretch of 102 miles. This canal was formed to enable vessels ascending the river to pass the rapids at that place. Descending vessels run the rapids safely.

## GALOPS CANAL.



From the head of Rapide Plat canal to Iroquois, at the foot of the Galops canal, the St. Lawrence is-navigable $4 \frac{1}{2}$ miles. The canal enables vessels to overcome the rapids at Pointe aux Iroquois, Point Cardinal and the Galops.

## MURRAY CANAL.



This canal extends through the Isthmus of Murray, giving connéction westward between the head waters of the Bay of Quinte and Lake Ontario, and thus enabling vcssels to avoid the open lake navigation.

## WELLAND CANAL.

Main line from Purt Dalhousie, Lake Ontario, to Port Colborne, Lake Erie.


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## WELLAND RIVER BRANCHES.

Length of canal -
Port Robinson cut to River Welland . . . . .. 2, 622 feet.
From the canal at Welland to the river, via
lock at Aqueduct . . . . . . . . . . . . . . . 300
Chippewa cut to River Niagara.. .. .. .. 1,020 "
Number of locks-one at Aqueduct and one at Port Robinson.

2
Dimensions of locks.. .. . . . . ............. 150 by $26 \frac{1}{2}$ feet.
Total lockage from the canal at Welland down to River Welland

10 feet.
Depth of water on sills.
9 feet 10 inches.

## GRAND RIVER FEEDER.

| Length of canal | 21 miles. |
| :---: | :---: |
| Number of locks. . | 2 . |
| Dimensions of locks. | 1 of 150 by $26 \frac{1}{2}$ feet 1 of 200 by 45 feet. |
| Total rise or lockage | 7 to 8 feet. |
| Depth of water on sills. . | 9 feet. |

PORT WELLAND BRANCH.
Length of canal . . . . . . . . . . . . . . . . . . . . .. 18 miles.
Number of locks. . . . . . . . . . . . . . . . .. . . .. 1
Dimensions of locks . . . . . . . . . . . . . . . . . . 185 feet by 45 feet.
Total rise or lockage .. . . . . . . . . . . . . . . . $7 \frac{1}{2}$ feet.
Depth of water on sills. . . . . . . . . . . . . .. .. 11 "
The Welland canal has two entrances from Lake Ontario, at Port Dalhousie, one for the old, the other for the new canal.

From Port Dalhousie to Allanburg, $11 \frac{3}{4}$ miles, there are two distinct lines of canal in operation, the old line and the enlarged or new line.

From Allanburg to Port Colborne, a distance of 15 miles, there is only one channel, the old canal having been enlarged.

From the head of the Welland canal there is a deep water navigation through Lake Erie, the Detroit river, Lake St. Clair, the St. Clair river, Lake Huron and River St. Mary to the Sault canal, a distance of about 580 miles. From the Sault the distance through Lake Superior to Port Arthur is 266 miles, and to Duluth 400 miles

## SAULT STE. MARIE CANAL.

Construction commenced. ..... 1888
Opened for traffic ..... 1895
Length of canal, between the extreme ends of the entrance -piers ..... 5,967 feet.
Number of locks. ..... 1
Dimensions of locks. ..... 900 feet by 60 feet.
Depth of water on sills (at lowest known waterlevel)

20 feet 3 inches.
Total rise or lockage. 18 feet.
Breadth of canal at bottom
141 feet 8 inches.
Breadth at surface of water 150 feet.

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This canal has been constructed through St. Mary's island, on the north side of the rapids of the River St. Mary, and, with that river, gives communication on Canadian territory between Lakes Huron and Superior. The masonry pier of the bridge carrying the Canadian Pacific Railway over the canal, which stood in the channel of the canal, forming an obstruction to navigation, has been removed; the swing now spanning the full width of the channel or prism of the canal.

## MONTREAL, OTTAWA AND KINGSTON.

This route extends from the harbour of Montreal to the port of Kingston, passing through the Lachine canal, the navigation scetion of the lower River Ottawa, and the Ottawa canals, to the city of Ottawa; thence by the River Rideau and the Rideau canal to Kingston, on Lake Ontario-a total distance of $245 \frac{5}{8}$ miles.

After leaving the Lachine canal the works constructed to overcome difficulties of navigation are:-

## Ottawa River Canals.

The Ste. Anne's lock.
Carillon canal.

The total lockage (not including that of the Lachine canal) is 509 feet ( 345 rise, 164 fall)-and the number of locks is 55 .

The following table exhibits the intermediate distances from Montreal harbour:-

| Sections of Nasigation. | Intermediate Distance. | Total <br> Distancer, from Montreal. |
| :---: | :---: | :---: |
|  | Miles. | Miles. |
| The Lachine canal. . . . . |  |  |
| From Lachine to Ste, Anne's lock |  | 23 23 |
| Ste, Anne's lock to Carillon canal | 27 | 50 |
| The Carillon caual. |  | 51 |
| The Carillon to Grenville canal .. | 6 f | 57 |
| The Grenville canal. | 54 | 63 |
| From the Grenville canal to entrance of Rideau navi | 56 | 119 |
| Rideau navigation ending at Kingston...... | 1264 | 245 |

STE. ANNE'S LOCK.


This work, with guide piers above and below, surmounts the Ste. Anne's rapids between Mle Perrot and the head of the Island of Montreal, at the outlet of that portion of the River Ottawa which forms the Lake of Two Mountains, 231 miles from Montreal harbour.

## THE CARILLON CANAL.



This canal overcomes the Garillon rapids.
From Ste. Anne's lock to the foot of the Carillon canal there is navigable stretch of 27 miles, through the Lake of Two Mountains and the River Ottawa.

By the construction of the Carillon dam across the River Ottawa the water at that point is raised 9 feet, enabling the river above to be used for navigation.

## GRENVILLE CANAL.

Construction commenced. . . . . . . . . . . . . .. .. 1819
" completed. . . . . . . . . . . . . . . .. 1833
Enlargement commenced. . . . . . . . . . . . . . . . .. 1871
a completed. . . . . . . . . . . . . . . . .. 1887
Length of canal. . . . . . . . . .. .. .. .. .. .. 5 䍚 miles.
Number of locks. . .. .. .. .. .. .. .. .. .. .. 5
Dimensions of locks. . . . . . . . . . . . . . . . . . . $200 \times 45$ feet.
Total rise or lockage. . . . . . . . . . . . . . . . . . . 43 永 feet.
Depth of water on sills. . . . . .. .. .. .. . . .. 9 "
Breadth of canal at bottom. . . . . . . . . . . . . . . . 40 to 50 feet.
Breadth of canal at surface of water. . . . . .. .. 50 to 80 "
This canal, by which the Long Sault rapids are avoided, is about 56 miles below the city of Ottawa, up to which point the River Ottawa affords unimpeded navigation.

## RIDEAU NAVIGATION.

$$
\begin{gathered}
\text { Construction commenced. . .. .. .. .. ... .. .. .. .. .. .. } 1826 \\
\text {-. } \\
\text { completed. . .. .. .. .. .. .. .. .. .. .. . } 1832
\end{gathered}
$$

The Rideau system connects the River Ottawa, at the city of Ottawa, with the eastern end of Lake Ontario, at Kingston.

| Length of navigation waters.. .. .. .. .. . <br> Number of locks going from Ottawa to Kingst | $126 \pm$ miles. 35 ascending. <br> 14 descending. |
| :---: | :---: |
| Total lockage. .......... $446 \frac{1}{2}$ feet $\left\{\begin{array}{l}2824 \text { rise and } \\ 164 \text { fall }\end{array}\right\}$ | at high water. |
| Dimensions of locks | $134 \times 33$ feet. |
| Depth of water on sills. | 5 feet. |
| Navigation depth through the several reaches. |  |
|  | 60 feet in earth. |
| readth of canal reaches | 54 feet in rock, |
| Breadth of canal at surface of water.. | 80 feet in earth. |

## PERTII BRANCH.



The Perth branch of the Rideau canal affords communication between Beveridge's bay, on Lake Rideau and the town of Perth.

The summit level of the Rideau system is at upper Lake Rideau, but several of the descending reaches are also supplied by waters which have been made tributary to them. The following description gives the sources of supply:-

From the summit, the route towards Ottawa follows the Ridcau river, and that towards Kingston follows the River Cataraqui. The supply of water for the canal is derived from the reserves given in detail below.

These may be divided into three systems, viz. :-

1. The summit level, supplied by the Wolfe lake system.
2. The eastern descending level to Ottawa, supplied by the River Tay system, discharging into Lake Rideau.
3. The southwest descending level to Kingston, supplied by the Mud lake system formerly known as the Devil lake system, discharging into Lake Openicon.

Lake Openicon receives the waters of Buck lake and Rock lake.
All these waters on the descending level, supplemented by those of Lake Loughboro', flow into Cranberry lake, which, discharging through Round Tail outlet, forms the River Cataraqui. The river, rendered navigable by dams at various points, affords a line of navigation to Kingston.

## RICHELIEU AND LAKE CHAMPLAIN.

This system, commencing at Sorel, at the confluence of the Rivers St. Lawrence and Richelieu, 46 miles below Montreal, extends along the River Richelieu, through the St. Ours lock to the basin of Chambly; thence, by the Chambly canal, to St. Johns, and up the River Richelieu to Lake Champlain. The distance from Sorel to the boundary line is 81 miles.

At Whitehall, the southern end of Lake Champlain is entered, and connection is obtained with the River Hudson, by which the city of New York is directly reached. From the boundary line to New York the distance is 330 miles.

The following table shows the distances between Sorel and New York:-

| Section of Navigation. |  | Intertue: diate Diatance: | Total Distances. |
| :---: | :---: | :---: | :---: |
|  |  | Miles, | Miles. |
| Sorel to St. Ours lock |  | 14 | 14 |
| St. Ours luck to Chambly eamal. | $\ldots$, | 32 | 46 |
| Chambly canal. . . . . . | . ... . $\quad . .$. | 12 | \% |
| Chambly canal to boundary line. |  | 23 | 81 |
| Boundary line to Champlain canal. | . | 111 | 193 |
| Champlain canal to junction with Erie canal |  | 66 | 258 |
| Erie canal, from junction to Albany . |  | ${ }_{14}^{7}$ | 4611 |
| Allany to Nuw York.... ......... |  | 146 | 411 |

ST. OURS LOCK DAM.


At St. Ours, 14 miles from Sorel, the River Richelieu is divided by a small island into two channels. The St. Ours lock is in the eastern channel.

There is a navigable depth in the Richelien of 7 feet between St. Ours lock and Chambly basin, a distance of 32 miles.

## CHAMBLY CANAL.

$$
\begin{aligned}
& \text { Construction commenced. . . . . . . . . . . . } 1831 \\
& \text { " completed. . . . . . . . . . . . . . . } 1843 \\
& \text { Length of canal. . . . . . . . . . . . . . . . . .. } 12 \text { miles. } \\
& \text { Number of locks. . . . . . . . . . . . . . . . . . . } 9 \\
& \text { Dimensions of locks:- }
\end{aligned}
$$

This canal succeeds the 32 miles of navigable water between St. Ours lock and Chambly basin. The canal overcomes the rapids between Chambly and St. Johns.

## TRENT CANAL.

The term 'Trent canal' is applied to a series of water stretches, which do not, however, form a connected system of navigation, and which, in their present condition, are efficient only for local use. By various works this local use has been extended, and by others, now in progress and contemplation, this will become a through route between Lake Ontario and Lake Huron.

The series is composed of a chain of lakes and rivers, extending from Trenton, at the mouth of the River Trent, on the Bay of Quinté, Lake Ontario, to Lake Huron.

Many years ago the utilizing of these waters for the purpose of through water communication between Lake Huron and Lake Ontario was projected.

The course, as originally contemplated and modified, is as follows :-
Through the River Trent, Rice lake, the River Otonabee and Lakes Clear, Stony, Lovesick, Deer, Buckhorn, Chemong, Pigeon, Sturgeon and Cameron to Lake Balsam, the summit water, about 165 miles from Trenton; from Lake Balsam by a canal and the River Talbot to Lake Simeoe; thence by the River Severn to Georgian bay, Lake Huron; the total distance beiug about 200 miles, of which only about 15 or 20 miles will be actual canal.

The full execution of the scheme, commenced by the Imperial Government in 1837, was deferred. By certain works, however, below specified, sections of these

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waters have been made practicable for navigation, and the whole scheme is now being carried out. A branch of the main route, extending from Sturgeon lake south, affords communication with the town of Lindsay, and, through Lake Scugog to Port Perry, a distance of 190 miles from Trenton.

The following table gives the distance of navigable and unnavigable reaches:-
From Trenton, Bay of Quinté to Nine Mile rapids .. - 9
Nine Mile rapids to Percy landing.. . . .. .. 1912
Percy landing to Heeley's Falls dam. . . . .. .. - 141
Heeley's Falls dam to Peterborough. . .. .. .. $51 \frac{7}{4}$
Peterborough to Lakefield. . . . . . . .. .. .. - 91
Lakefield to a point across Balsam lake. . .. .. 61
$132 \frac{1}{2} \quad 33$
Total distance, Bay of Quinté to a point across Balsam lake.. 1657
From Sturgeon point on Sturgeon lake, 48 miles from Lake-
field, the branch through the town of Lindsay to Port
Perry at the head of Lake Scugog. . . . . . . . . . . . . . . 27
The works by which the Trent navigation has been improved comprise canals, with locks and bridges, at Young's point, Burleigh rapids, Lovesick, Buckhorn rapids, Bobcaygeon, Fenelon falls and Rosedale; also dams at Lakefield, Young's point, Burleigh falls, Lovesick, Buckhorn, Bobcaygeon and Fenelon falls. By these works there is afforded communication between Lakefield, $9 \frac{1}{2}$ miles from Peterborough, and Balsam lake, the headwaters of the system; opening up a total of about 160 miles of direct and lateral navigation.

At Lakefield, $9 \frac{1}{2}$ miles from Peterborough, the dam at the head of the Nine Mile rapids of the River Otonabee maintains navigation on Lake Katchewannoe up to Young's point.

At Young's point, 5 miles from Lakefield, the dam between Lake Katchemannoe and Clear lake controls the water level through Clear and Stony lakes up to the foot of the Burleigh canal.

At Burleigh rapids, 10 miles from Young's point, a canal, about $2 \frac{1}{2}$ miles in length, passes the Burleigh and Lovesick rapids, and gives communication between Stony lake and Deer bay.

At Buckhorn rapids, 7 miles from Burleigh rapids, there is a canal about onefourth of a mile long.

At Bobcaygeon, $15{ }_{4}^{3}$ miles from Buckhorn rapids, a dam, 553 feet long, controls the water level to Fenelon falls.

At Fenelon falls, 15 miles from Bobcaygeon, a canal about one-third of a mile in length connects Sturgeon lake with Cameron lake.

The following is a list of the locks, with their dimensions:-
1 Lock at Rosedale (maintained by the Ontario government), $100^{\prime} \times 30^{\prime} \times$ $4^{\prime} 6^{\prime}$ to $6^{\prime} 6^{\prime \prime}$ depth water on mitre sill.
2 Locks at Fenelon ...... $134^{\prime} \times 33^{\prime} \times 5^{\prime} 0^{\prime \prime \prime}$ to $7^{\prime} 6^{\prime \prime}$ depth water on mitre sill.
1 " Lindsay .. .. $134^{\prime} \times 33^{\prime} \times 5^{\prime} 0^{\prime \prime}$ to $7^{\prime} 6^{\prime \prime}$ " "
1 " Bobcaygeon .. $134^{\prime} \times 33^{\prime} \times 5^{\prime} 8^{\prime \prime}$ to $7^{\prime} 0^{\prime \prime}$ " "
1 . Buckhorn . . . $13 f^{\prime} \times 33^{\prime} \times 5^{\prime} 0^{\prime \prime}$ to $9^{\prime} 0^{\prime \prime}$ " "
1 .. Lovesick .. . . $134^{\prime} \times 33^{\prime} \times 5^{\prime} 0^{\prime \prime}$ to $9^{\prime} 4^{\prime \prime}$ " "
2 .. Burleigh .. . . $134^{\prime} \times 33^{\prime} \times 6^{\prime} 0^{\prime \prime}$ to $8^{\prime} 0^{\prime \prime}$ ". "
1 .. Young's point. $134^{\prime} \times 33^{\prime} \times 5^{\prime} 0^{\prime \prime}$ to $14^{\prime} 0^{\prime \prime}$ " "
1 ." Peterborough . $134^{\prime} \times 33^{\prime} \times 5^{\prime} 0^{\prime \prime}$ to $10^{\prime} 0^{\prime \prime}$ " "
1 " Hastings . . . $134^{\prime} \times 33^{\prime} \times 7^{\prime} 0^{\prime \prime}+010^{\prime} 6^{\prime \prime}$.. "
1 " Chisholms . .. $134^{\prime} \times 33^{\prime} \times 5^{\prime} 0^{\prime \prime}$ to $8^{\prime} 6^{\prime \prime}$.

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## ST. PETER'S CANAL, CAPE BRETON.

Construction commenced ..... 1854
" completed ..... 1869
Enlargement begun ..... 1875
completed. ..... 1881
Length of canal About 2,400 feet.
Breadth at water line. ..... 50 feet.
Lock One tidal lock, 4 pairs of gates.
Dimensions ..... 200 feet by 48 fect.
Depth of water on sills. ..... 18 feet at lowest water.
Depth through canal ..... 19 "
Extreme rise and fall of tide in St. Peter's bay ..... 4 "

This canal connects St. Peter's bay on the northern side of Cape Breton, Nova Scotia, with the Bras d'Or lakes. It crosses an isthmus half a mile in width, and gives access from the Atlantic.

## BEAUHARNOIS CANAL.



As the new Soulanges canal is now opened for navigation, the Beauharnois canal is abandoned for navigation purposes.

## EARLIER CANALS.

A system of three canals preceded the Bearharnois. These were:-
COTEAU DU LAC CANAL.
Construction commenced ..... 1779
" completed
" completed ..... 1780 ..... 1780
spi.t rock canal.
Construction commenced ..... 1779
" completed ..... 1780
CASCADE POINT CANAL.
Construction commenced ..... 1782
" completed ..... 1783

The locks were $20 \times 6$ feet, and provided for a draft of 2 feet. In 1814 the work of widening them to 12 feet was begun, and finished in 1817.

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Two canals were also constructed off Burlington Bay, Ontario. They were:BURLINGTON BAY CANAL.

Construction commenced. . . . . . . .. .. .. .. .. .. .. .. 1825
" completed. . . . . . . . . . . . . . . . . . . . . . .. .. 1832

DESJARDINS CANAL.
Construction commenced. . . . . . . . . .. .. .. .. .. .. .. 1826
" completed. . . . . . . . . . . . . . . . . . . . . . . . 1837
Neither of these canals required locks. They have for many years been abandoned. The depth of water provided in the first instance was $7 \frac{1}{2}$ feet.


[^0]:    * Of the quantity of grain passed down to Montreal there were transhipped at Ogdensburg, in 1891, 17,817 tons ; in 1892, 4,341 tons ; in 1893, 71,445 tons; in 1894, 23,030 tons; in 1895, 18,987 tons; in 1896, 77,355 tons ; in 1897, 89,659 tons ; in 1898, 40, 257 tons; in 1899, 48,828 tons ; in 1900, 38, 403 tons ; in 1901, 17,357 tons ; in 1902, 34,060 tons ; in 1903, 40,641 tons; none in 1904, 1905, 1906, 1907 nor 1908.

    During the last decade the quantity of agricultural products as above, passed down the Welland and St. Lawrence Canals to Montreal, has increased from 244,661 tons in 1900 to 652,742 tons in 1909, and the quantity passed down the Welland Canal from United States ports to United States, has increased from 84,589 to 129,587 tons the same years.

    The quantity of barley, buckwhcat, corn, oats, pease, rye and wheat, arrived at Montreal via Grand Trunk and Canadian Pacific Railways for a period of 13 years, is reported as follows :-

[^1]:    - Fiscal. + Apples, meal nll kinds, peasp, potatoes.

