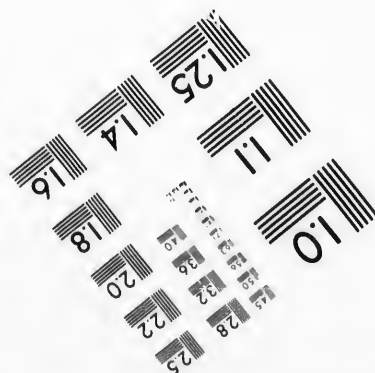
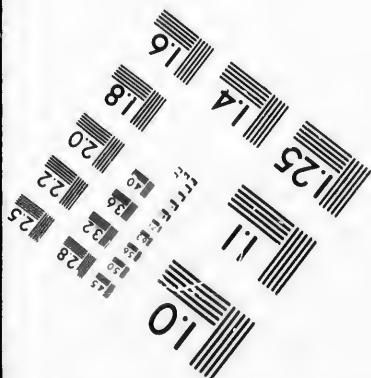
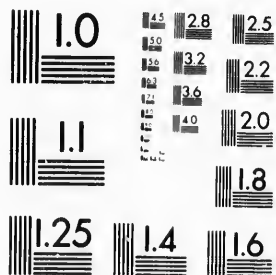


**IMAGE EVALUATION
TEST TARGET (MT-3)**



25
28
32
22
20

**CIHM/ICMH
Microfiche
Series.**

**CIHM/ICMH
Collection de
microfiches.**

01



Canadian Institute for Historical Microreproductions

Institut canadien de microreproductions historiques

1980

Technical Notes / Notes techniques

The Institute has attempted to obtain the best original copy available for filming. Physical features of this copy which may alter any of the images in the reproduction are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Certains défauts susceptibles de nuire à la qualité de la reproduction sont notés ci-dessous.

- | | |
|---|--|
| <input type="checkbox"/> Coloured covers/
Couvertures de couleur | <input type="checkbox"/> Coloured pages/
Pages de couleur |
| <input type="checkbox"/> Coloured maps/
Cartes géographiques en couleur | <input type="checkbox"/> Coloured plates/
Planches en couleur |
| <input type="checkbox"/> Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées | <input type="checkbox"/> Show through/
Transparence |
| <input type="checkbox"/> Tight binding (may cause shadows or
distortion along interior margin)/
Reliure serré (peut causer de l'ombre ou
de la distortion le long de la marge
intérieure) | <input type="checkbox"/> Pages damaged/
Pages endommagées |
| <input type="checkbox"/> Additional comments/
Commentaires supplémentaires | |
-

Bibliographic Notes / Notes bibliographiques

- | | |
|--|---|
| <input type="checkbox"/> Only edition available/
Seule édition disponible | <input type="checkbox"/> Pagination incorrect/
Erreurs de pagination |
| <input type="checkbox"/> Bound with other material/
Relié avec d'autres documents | <input type="checkbox"/> Pages missing/
Des pages manquent |
| <input type="checkbox"/> Cover title missing/
Le titre de couverture manque | <input type="checkbox"/> Maps missing/
Des cartes géographiques manquent |
| <input type="checkbox"/> Plates missing/
Des planches manquent | |
| <input type="checkbox"/> Additional comments/
Commentaires supplémentaires | |

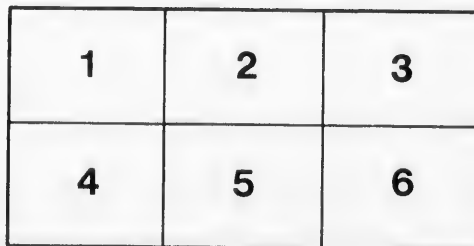
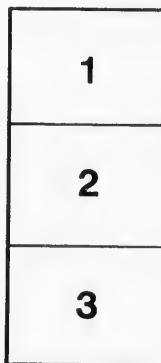
The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

The last recorded frame on each microfiche shall contain the symbol → (meaning "CONTINUED"), or the symbol ▼ (meaning "END"), whichever applies.

The original copy was borrowed from, and filmed with, the kind consent of the following institution:

Library of the Public
Archives of Canada

Maps or plates too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole → signifie "A SUIVRE", le symbole ▼ signifie "FIN".

L'exemplaire filmé fut reproduit grâce à la générosité de l'établissement prêteur suivant :

La bibliothèque des Archives
publiques du Canada

Les cartes ou les planches trop grandes pour être reproduites en un seul cliché sont filmées à partir de l'angle supérieure gauche, de gauche à droite et de haut en bas, en prenant le nombre d'images nécessaire. Le diagramme suivant illustre la méthode :

2202168

THAT

A SUCC

St. P
ness of
speeches
ous secti
pared v
terse an
directly
strained
convent
the floor

Mr. Pre

That
of the A
and ther
light of
tions of
tem of w
less be v

north an
It is bou
Rocky M
region, t

This
America
divided
basins.
north in
the chan
these thr
and the

22021680

OPEN THEM UP.

THAT IS, ALL OF OUR WATERWAYS IN THE GREAT
NORTH-WEST.

A SUCCINCT STATEMENT OF WHAT MAY BE DONE FOR CHEAP TRANSIT,
BY THOMAS DOWSE.

St. Paul *Dispatch* :—Owing to the rapidity with which the business of the water convention was rushed through, several statistical speeches which had been prepared by different gentlemen from various sections were not submitted. Among them was a paper prepared with care by Thomas Dowse, Esq., of Duluth, which is so terse and yet so wide in scope and liberal in treatment, and bears so directly on the future of the North-West that the *Dispatch* is constrained to give it publicity. Mr. Dowse did not offer it to the convention because he thought Minnesota should let her guests have the floor. The paper is well worth reading and a wide circulation.

Mr. President and Gentlemen of the Convention :

That we may clearer understand the vast extent of these avenues of the Almighty—which the waterways of our country really are—and therefore the better comprehend them as a whole, and by the light of such comprehension be enabled to make the recommendations of this convention in relation to such parts of our natural system of waterways as may be actively considered by it, it will doubtless be wise to give place to these facts.

“ THAT A GREAT CONTINENTAL PLAIN STRETCHES

north and south between the Gulf of Mexico and the Arctic Ocean. It is bounded on its west side, throughout its whole extent, by the Rocky Mountain zone; on the eastern side in part by a less elevated region, the Appalachian zone.”

This great plain occupies the whole of the continent of North America between the western and eastern mountain ranges. It is divided by its river systems into three perfect and distinct drainage basins. One drains to the south into the Gulf of Mexico, another north into sub-Arctic waters, and the third east into the Atlantic by the channel of the great lakes and the River St. Lawrence. Of these three great basins that of the St. Lawrence is the smallest, and the northern is fully as large as the other two put together.

The St. Lawrence basin, the boundary between the United States and Canada, occupies part of both countries. The southern basin is almost wholly in the United States. The northern basin is almost wholly in Canada, and the line of contact between the two latter basins is in part coincident with the international boundary line. It will thus be seen that the great continental plain of North America is divided naturally as well as artificially east and west through the centre. It is divided naturally into three vast drainage basins, the smallest of which occupies a comparatively narrow strip along the eastern portion of the international boundary, while the other two discharge their waters in

DIAMETRICALLY OPPOSITE DIRECTIONS.

The prairie region of Canada lies in the northern drainage basin. It may be considered to extend from south to north more than a thousand miles, and nearly the same distance from east to west. It is not at all a treeless prairie; a considerable portion is thinly wooded; yet the whole is considered as partaking more or less of the prairie character. * * * This great region is estimated to measure 200,000,000 acres, 160,000,000 acres of which is fit for tillage and grazing, of which 80,000,000 may be considered fit for cultivation. The extent of this Canadian prairie section is ten times the area of England. The climate of most of it is as salubrious as Central Minnesota (caused by the trade winds of the Pacific), while the spring time of the Peace River valley in the north-west corner of this prairie section is fully one month earlier than in this city, from which it is distant at least 1,500 miles in

AN AIR LINE.

It is in a spirit of harmonious action that the representatives here from the so-called smallest or eastern of these continental basins, viz., that of the great lakes and the St. Lawrence, would ask your attention to a brief review of its present usefulness in transporting from the producer to the consumer the marketable products of our people's labors, and to still further show how its connection by water can be made possible, not only with our great interior north and south basin, but also add to this combined volume of business that from over 4,000 miles of navigation in the great northern or Canadian basins, most of which is through their great and rapidly developing 1,000 miles square of prairie section heretofore alluded to.

THE OCEAN OUTLET

of this great north-western lake (Lake Superior) is through the St. Mary's River (some 60 miles long) with Lake Huron and its connecting rivers and lakes to Lake Erie, thence by the Welland Canal to Lake Ontario, and by the River St. Lawrence and its canals to

ocean navigation at Montreal, or by the Erie Canal and Hudson River to New York.

ST. MARY'S CANAL

A few miles down the St. Mary's River from Lake Superior there are rapids of eighteen feet fall. From 1856 to 1884 these rapids were overcome by a canal some two miles long, with two narrow locks containing twelve feet of water. This, of course, was the limit of draft for vessels running from the lower lake ports in the Lake Superior trade. Since the construction of these locks the size of lake vessels have increased nearly four-fold and their depth of draft from six to eight feet to seventeen and eighteen feet; hence a very large and the better part of the lake marine was unable to enter the Lake Superior trade.

In September, 1884, a new lock 500 x 80 feet, with eighteen feet of fall in a single lift, instead of two in the old locks, was completed. Its capacity was also increased from admitting a single or two small vessels at a time to a fleet of five or six of our largest craft at a single passage, thus not only saving more than half the time, but increasing its capacity four to six-fold, and by the deepening of the St. Mary's River, where needed, to an increased depth of sixteen feet, to correspond with the new lock, has Lake Superior navigation been put quite on a level with Lake Michigan, by admitting the largest lake vessels to profitably enter its trade.

THE EFFECT OF THESE IMPROVEMENTS

has been marvellous, notwithstanding the general dullness, especially of iron, one of the greatest of Lake Superior exports. Not only have freight rates fallen even more than half, but the tonnage passing these locks shows a tremendous increase over any previous year in this the first year of these completed improvements. To illustrate: if the same ratio of increase is continued through the balance of this season—and our fall shipments are always the heaviest—as has prevailed so far, there will pass through the canal, going eastward alone, over 2,700,000 tons of freight, or as much

AS THE EIGHT TEUNK LINES

of railroads took east from Chicago last year, the same being the products of our forests, fields and mines. Do we need a more practical showing to give our General Government (and it is not a single one by any means) of the great benefit of improving our waterways?

The labors of every man, of all classes, from Lake Superior westward to eastern Oregon, and south-west to Colorado, will receive increased remuneration, not only for this, but the years to come, from this single improvement.

So rapidly is the commerce of this lake increasing that within two years from now this present lock will be continually blocked, unless another of at least twenty feet draft is begun at once in place of the old ones, and the necessary deepening of the river, where required, to correspond; for from the practical fact that the larger the single cargo the cheaper it can be moved the same distance, therefore our lake vessel builders are constantly increasing their draft, and even now there are some that can be loaded to that depth; and as such works cannot be done in a day, three years would be a reasonable time (if begun at once) in which to construct it. Such an increased depth would, of course, require a corresponding deepening of the waterway between Lakes Huron and Erie, where such depth is not already being made.

The recent enlarged

WELLAND CANAL

(also partially completed last year), connecting Lakes Erie and Ontario, which in its twenty-seven miles of distance overcomes 330 feet of fall with twenty-seven locks, and will give fourteen feet of water from the head of Lake Superior to Kingston at the foot of Lake Ontario, where, by means of floating elevators and large 16,000 to 20,000 bushel barges, grain is to-day put alongside the ocean steamer in Montreal at a cost of about two cents per bushel, which charge will be materially reduced upon the completion of the St. Lawrence River Canals (now in process of construction), with a depth of water corresponding with the Welland. The combined length of these river canals is forty-three miles, with twenty-nine locks 27 by 45 feet, same as the Welland, large enough for 1,500 ton boats. These are at six different places.

Our other outlet is

THE ERIE CANAL.

This canal has eight feet of water, with locks large enough to pass a 200 ton boat. This canal being in the hands of the State Government, it is but natural to believe that by the immense combination of railroads, not only in New York but other connecting States, must impair greatly its full beneficial capacity, even at its present size; it is natural to suppose much greater benefit would follow if it were in the hands of the General Government and were to be enlarged by them. As at present the State of New York maintains it at her own expense, charging no tolls for its use and as its present benefits are almost wholly enjoyed by the entire country as far as the Rocky Mountains, at least, if not further, it is but reasonable that the people of the single State of New York, after having built and made it what it is, and given freely of its benefits without any limit, should now be relieved of any further direct tax to maintain it.

RED RIVER AND LAKE SUPERIOR CANAL.

I have said that we wished to show how the great lakes and the waters of the other two great continental basins could be brought into harmonious connections.

As is known to most of us the Red River that forms the boundary between this State and Dakota, runs north into Lake Winnipeg, and so on into Hudson's Bay. We also know that it is practically navigable from Breckenridge, and constantly so from Moorhead and Fargo.

By a topographical survey made some years since it is found in going west from Lake Superior by the St. Louis River and crossing to the Mississippi, following that stream some 150 miles, and by intermediate lakes and streams to the Red Lake River, and so down to the Red River at Grand Forks, Dak., a waterway requiring, with dams and slack water, less than fifty miles of artificial canal will be required. To make this a complete waterway with six feet of water, it is estimated will cost \$4,000,000—this might be reduced considerably, as the reservoir system already being carried out in the upper Mississippi by the General Government would come into exact play—but to avoid question, double it and say \$8,000,000; its length will be about the same as the Erie, which the State of New York built herself, when her population was less than that of our State now, with her people then poorer than ours now, and we have west of this State now a far larger population than New York then had west of her.

AT A GLANCE

one can see how this canal would not only connect the Mississippi with the lake system, but would also connect these two systems with over 4,000 miles of continuous navigation running north and west to the Rocky Mountains and within less than 400 miles of navigable waters to the Pacific—on this 4,000 miles more than forty steamers are running to-day—clear to its extreme western limit, save some 300 miles along Lake Winnipeg—it is all through a finer wheat country than this State generally—already have thousands of bushels of wheat been brought to this State from the Saskatchewan valley (which has 2,500 miles of this navigation) and sold at fabulous prices for seed. To illustrate the prolificness of the "Scotch Fife" wheat (our "No. 1 hard") in the Canadian section, I would say that it produces on each stem in this latitude two kernels of unequal size and one false one. In our Red River valley, 3, and 5 in the Peace River Valley (the extreme north-west of their prairie section). That a possible transportation avenue, that will double the present profits of wheat cultivation over such a large area will long remain unimproved, is not natural to believe possible, especially after the people interested become informed of its possibility. Constant agitation and extended information on this subject will sooner or later make it an accomplished fact. To say that

THE USEFULNESS OF CANALS

has passed away, especially when three such large systems can be thereby connected and made a complete whole, is idle talk; for, according to the New York *Produce Exchange*, the Erie Canal, in 1884, running as it does alongside the four-track New York Central and double-track West Shore Railways, its entire length, took 9,452,404 more bushels of grain to that city than all of the railways running to that port.

These remarks would be incomplete without a few facts showing the development and beneficial effects of the great

LAKE SUPERIOR SYSTEM

of cheap water transportation upon the immense empire in area to the west of it.

The receipts of coal at the head of the lake have increased from 60,000 tons in 1880 to 600,000 tons in 1885. The receipts of wheat there have increased from 1,500,000 bushels in 1880 to 14,000,000 in 1884. The elevator and storage capacity increased from 540,000 bushels in the spring of 1880 to 9,400,000 bushels this year, and 3,000,000 more to be immediately built. As a wheat market it has grown from daily sales of a few car loads no longer than 1884 to a wheat market second only in the amount of its daily sales to Chicago, with everything tending to show its daily wheat transactions will equal even that "modern marvel" in the coming year. That has built up there a busy population of some 20,000 from about 4,000 in 1880.

RECEIPTS OF MONTANA SHIPMENTS

in 1884, at the head of Lake Superior, for cheap water transportation east, took marine insurance of about \$4,000,000, and so far this year shows a large increase over last year. Additional to this amount, last year also saw the beginning of Montana cattle shipments to the improved waterway of Lake Superior, that in the near future will exceed the value of the shipments of wheat there, be that value what it may. This improved waterway has made possible the opening of the iron deposits of this State. Those of the Minnesota Iron Company, opened last year, will ship from their port of Two Harbors, twenty-eight miles east of the head of the lake, some 250,000 tons, equal to

18,000,000 BUSHELS OF WHEAT.

This waterway has given to the hard working producers of the North-West, by means of its

CHEAP WATER TRANSPORTATION

freight rates, from Duluth alongside the ocean steamers or into elevators at New York, at an average rate this season of a fraction

less than 6 cents per bushel, and as low as $2\frac{1}{2}$ cents to alongside ocean steamers at Montreal. A good proportion of grain that has left there this season has been carried to Buffalo, 1,030 miles, for $1\frac{1}{2}$ cents per bushel, or less than the usual elevator charges from cars to elevators.

As giving a clearer idea of the benefits of cheap water transportation as afforded by

IMPROVED WATERWAYS,

and the present shipping facilities at the head of Lake Superior, that prince of "Bonanza Farmers," O. Dalrymple, Esq., shipped from his 20,000 acre wheat fields along the line of the Northern Pacific Railway last year as their products some 320,000 bushels of "No. 1 hard" wheat, not equal to some single day's lake shipments from Duluth. The celebrated "Grandin Farm," also under Mr. Dalrymple's charge, shipped last year from its 12,000 acre wheat field, about 192,000 bushels of the same kind of wheat, or about the amount taken by a single tow through that little harbor entrance 800 feet long by 250 feet wide. As a still further illustration of the benefits of

CHEAP WATER TRANSPORTATION

afforded by "improved water-ways" and the increased carrying capacity thereby, it might be well to say that the cost of transporting freight per ton per mile over the New York Central Railway from Buffalo to New York, as per their last annual report—and this is the cheapest operated railway in the United States by a good deal, is sixty-two-one hundredths of a cent per ton, or \$6.20 cents per 1,000 miles. By the present system of large steam barges towing a sailing consort, now made possible by the enlarged St. Mary locks and that is now in general use on the lakes, if they can get sixty-five cents from the head of Lake Superior to Buffalo, 1,030 miles, it will clear the vessel, barring extra wrecks, and if they can get one dollar per ton 'tis satisfactorily remunerative. By the last annual report of the railway commissioners, of the thirty-two railways of over 7,000 miles, upon the cheaply constructed railways of Iowa, averaging a cost of only \$13,000 per mile, the cost of moving the same per ton was 80-100 per mile, or at the rate of \$8 per 1,000 miles.

QUERY.

Are railways or improved waterways the real avenues of transportation for our agricultural people? Have all of our people a right to ask and not only expect, but receive, liberal and regular appropriations for their continued improvement until these avenues of the Almighty are made complete and harmonious over our entire country?

