1940

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Topographic

Field No. ..... Office No. 1940

LOCALITY

State Maine

General locality Saint Croix

Locality River

1889

~~194~~

CHIEF OF PARTY

Eugene Elliot

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U. S. COAST AND GEODETIC SURVEY.

F. H. Mendenhall, Superintendent.

State: Maine.

DESCRIPTIVE REPORT.

Topographic Sheet No. 1940.

LOCALITY:

St. Croix River.

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CHIEF OF PARTY:

Eugene Elliott.

1940

Write me at:

Telegraph me at:

My Express Office is:

U.S. Coast and Geodetic Survey,

Machias, Me.

Nov. 19th, 1889.

2—547

Prof. J. E. Hilgard,

Supt. Coast & Geo. Survey

Washington, D.C.

Sir:

In submitting the following descriptive report of the section of country over which my first season's work extended I must plead guilty of great redundancy.

The confines of section are forcibly reached upon, but it occurred to me that of all sections of the country over which our work is carried, that along its boundaries is deserving of greatest elaboration.

As briefly as possible the derivation of certain prominent geographical names will be given. That of the State of Maine, if mentioned in any of our reports can not be done with greater fitness than at the threshold.

European geographers of the Latter

part of the sixteenth century knew the coast which now forms the sea-face of Maine, as Norumbega, or Norumbegue. It is a remarkable coincidence that the ancient Norumbega should have the limits - so far as the coast line is concerned - so nearly identical with the existing boundaries of Maine. On the East they are the same - on the West Norumbega only reached the Penobscot, whereas the difference is in the small stretch of coast between the Penobscot and the Kennebec.

Norumbega is probably of Indian origin.

Maine: there is some doubt as to the origin or definition of the name.

Some writers contend that it was named by Verrazano, in 1602 - Others in 1603, or Demonts in 1604 in honor of the Queen (probably the first) of Henry IV, who possessed estates, or were in some manner interested in the Province of Maine, in France.

On the other hand there seems to be some evidence that the above supposition has no value - that the Province of Maine idea was subsequently injected as a proper to the

French influence in this section early in the seventeenth century.

Williamson, in his history of Maine, says: "By reason of the great number of islands in this quarter, this shores of the coast were frequently called 'the Maine.'"

Smith says while he was at the islands, in 1614, the Indians desired strongly one of his men should go to the Mayne"

Hubbard's N. E. p. 12 "Plymouth anchored first at an island, though it appeared to be some high land of the Mayne"

Plymouth Council in making a grant of land between the Kennebec and Kennebec Rivers say "+ + + they intend to call the Province of Maine". A. D. 1622

In 1635 the Patent to J. Mason refers to a tract of land upon the Mayne"

This expression "the Maine" namely by 3 feet is commonly used by the writers of the seventeenth century. The very plausible opinion is that the first mentioned definition is correct. The early French voyageurs lent no little in affixing definitely French names to all

Prominent objects: the country now as a whole New France. Beginning with the St. Lawrence, and following the shores of the continent, we find their names many times - till finally we reach the section under discussion, and here is found Norumbega - Acadia - St. John - St. Croix - Rocke, or Roque Islet Norman - Mt. Desert and so on to the northward. It is not at all likely that the mainland would have been shown on a map of special designation. New France was, or understood at the time, too mighty a country to have not been granted sub-divisions for purposes of geographical annunciation. Even though the French origin of Maine is but conjecture, it must be admitted that, when all the circumstances are considered it contains great probabilities. The French had but little respect for Indian nomenclature. To them Norumbega was an euphonious name, and meaningless, while Maine meant a great deal, and was a grateful sound.

St. Croix

The first settlement on the coast of Maine,

if not in deed on the coast north of Florida was that made by Pierre du Guast Sieur de Monts, who owned a patent of all the territory in America between the 40° & 46° parallels of latitude, N.

With an expedition of about 120 people, including the famous Champlain, and other gentlemen of her acquaintance, De Monts sailed from Havre-de-Grace, Apl. 7th 1604. From Cape Sable island, where land was made, De Monts skirted the shores of what is now Nova Scotia, around Cape Sable, and thence to the head of the Bay of Fundy; and again to the westward along the shore of the present New Brunswick, into Passamaquoddy Bay. De Monts, pleased with the St. Croix, as much he might have been, having cast eyes upon it at a season when its beauties are second to none in this part of the country, anchored, and ascended upon it the name of La Riviere des Etchemins. The Etchemins [illegible] of Indians lived about the mouth of the river.

The voyageurs and settlers - for they came hence in the dual capacity - landed, in July, same

place on an island which they named La Sainte Croix.

During the winter 1604-05 the colonist suffered indescribable hardships. Thirty four, or a little over half a third of their number perished. Intense cold - against which they had failed to fortify themselves - scurvy, etc, were the instruments of destruction. In the following August De Monts removed the diminished force to Port Royal, N.S. De Monts was subsequently deprived of his Patent. Thus began and ended the first attempt to found a colony on the northern coast. But for the important role De Monts little island of St. Croix was destined to play in future boundary disputes, the mere detail would be very much out of place. Though Champlain gave the name given the river, the name of the island, St. Croix, in the language of the local Indians of Calais, "slid into the river", and very effectually gave color to its waters. About the time of the first settlement of the river, the island became known as Neutral island, and Calais as Dochet. The latter is said

to be a corruption of Theodosia.
We have to thank De Monts for preserving to us the ancient Indian name of Peskadamikkanti, or as we spell and pronounce it, Passamaquoddy. This name like most Indian appellations is of doubtful meaning. Some historians say that it means "leads up to the open fields, or places", and that said "open fields or places" refers to the lacustrine surfaces. Other writers claim that it means "the waters of the pollock".
I believe that the first mentioned definition can be traced to the time of DeMonts - if so it should be accepted as approximately correct. It is evident that the Indians of 1604 were in all respects superior to their progeny. From the time the Jesuits came among the Indians in this section of New France, till their practical extermination, they steadily deteriorated. A definition, or statement made by one of them to DeMonts was apt to be correct. A hundred and fifty years later, or say about the time of founding of Halifax, N.S. the savage of this country had had his every bad trait intensified, and his every decent instinct eradicated.

The probabilities are that writers of the Indian names, mr St. Croix, applied above Calais, or the head of tide water, from which point to the Northward it was known as the Chipuctneticook. I found among my ancient works that the Indians - the elder ones particularly, and many of the elderly whites called it by the old Indian name. Upon a map of Maine, issued by the State, in 1829 the name appears as "Chipuctneticook, or St. Croix.

Among the early settlers of the St. Croix Valley there was marked preference for the Indian name Schoodic - a name which crept down the river - over the Indian name Chipuctneticook. Schoodic held away over the Lakes at head of the N. & E. Branch of the river, and unquestionably made the change, as indicated.

Scatack is the Indians for Schoodic. Definitions conflicting - various - and doubtful.

In 1789, in a deed to one Nathaniel Thomas, of Township No. 5 (upon which Calais, &c., now stand) the State, or Government reserved

refer to the river as "Schoodic, or St. Andrews Bay"
As late as 1835 that part of the river immediately below Calais was mentioned officially by the State and county authorities, and generally by the settlers.

I am inclined to believe that Schoodic was elected as the less unwieldy of the two Indian names (by the Presbyterian Scotch, on the N. B. side and the protestant Americans on the West side) with which to obliterate the catholic St. Croix - the Holy Cross. We can easily understand how distasteful the appellation was to the sturdy pioneers of the valley. At all events St. Croix has won the day. The various names by which the river has from time to time been known - till the Treaty and official stamp became fixed, are fast becoming mere terms of reminiscence.

Walter Wells, Esq., Supt. (late) Hydrographic Survey of Maine, whose report was published by the State in 1869 is authority for much that follows concerning the river as an economical value. P.S. it is evident that Mr. Wells depended on "Anson's Survey, 1839"

in compiling his report.

To quote: "+ + Length 70 miles; breadth 50 miles; area, 800 sq. miles in Maine, 375 sq. miles in the adjacent Province, total 1,175 sq. miles. All but about 20 sq. miles contribute to the main river above the lowest mill privilege."

I find upon examining Mr. Wells' report that 60 miles is the greatest length of basin, and 50 miles its greatest width. Area, as stated by Mr. Wells (1175) is substantially correct.

"Annual discharge (estimated) 44,800,000,000 cubic feet"

I copy the following heights of river

		Same points [illegible] by Ellicott, Eng. 1897
Upper Bridge, Milltown	ft. – 72	57
" " Baring	86	69.04
Foot of Sprague's Falls	93	85.44
Head " " "	118	104.01
Lewey's Lake (Princeton)	184	191.95

East, or St. Croix Branch

Chiputneticook lake	382.
Head "	426
Stream into Grand Lake	444
Monument Brook	444

"West Branch, or Kennebasis"

"Lewys Lake (Princeton)	184
Foot of Grand Lake Stream	188
Head " " " "	270
" " " "	270
River at Junction of two branches	166
Monument, at Head waters - Boundary	538

"Four fifths of the Basin are covered with forest"
"The tide at Calais flows 8 feet"

Wells says that the altitudes are measured from "about half tide".

It is very evident that the heights are not accurately determined, and should not be depended upon. They may, however, serve of interest.

The river is formed by two branches, the northern or eastern, called the upper St. Croix or Chiputneticook, along the channel of which runs the Boundary line, and the western or Kennebasis, which discharges the Kennebasis Lakes. "Both streams are in proportion to their length, wide and voluminous, being in fact in a manner artificially dilineated extensions of the lakes."

"There are 183 streams in the system, unnamed upon the State maps."

The Monument, which may be regarded as at the head of the St. Croix, lies N. 26° 30' W. of Calais, on tide water, distant 57 miles.

The Kennebasis river, or West Branch, as almost invariably called is 42 miles in length as the river runs; in a straight line 35 miles.

Head of said West Branch lies N. 75° W. from Calais, or head of tide water.

The basin of the river, not including the parts which drain into the tidal area are embraced within the following scope of latitude and longitude

Northernmost	45° 56
Southernmost	45. 07
Easternmost (in New Brunswick)	67. 06
Westernmost	68. 07

Almost its entire volume is derived from lakes, the land surrounding which is generally low, though not necessarily swampy, and would abundantly reward the labor involved in building dams to hold the water as in a reservoir.

A phenomenally heavy rain fall never
causes a disturbance, or even depression
over the area.

"As regards the range from lowest to highest
water, Anson, in his survey, which took place
in an extraordinary drought in 1838, noted
the summer level at numerous points 7 ft. 9 in.
below the very highest freshet marks: this is
the greatest range ever occurring, and is
comparatively small". I am well satisfied
that the influence of summer low, and spring
high water at about the mills - where the
fall is most pronounced - between Mid town
and Calais village, never reaches a difference
as great as that stated by Anson. Six feet
will probably cover the space.

"The lacustrine system of the St. Croix is
of rather remarkable development, even for this
State, and as contrasted with average lake
districts of equal extent elsewhere in the country,
or in other countries, may justly be regarded
as quite exceptional"

The northern, or main branch of the river

is for nearly one half of its length, a lake, or chain of lakes. Three-fourths of the Autumn branch is to borrow a loan from the medical profession, a succession of aneurisms

Then are "61 Lakes in the system"

Area of lake surface, according to Rolle.

West branch - sq. miles	75.90
East " " "	58.25
Unenumerated lakes & ponds	15.85
Total, sq. miles	150.00

From the circumscribed information I have been able to gather, it would appear that about 2/3 of the lake surface is susceptible of being raised, for storage purposes, on an average of five (5) feet, which would give, not counting the gain in area by over flowage of shores about 14.000.000 cubic feet of storage, a volume sufficient to run double the amount of machinery at present in use, during the "dry months," even though the normal flow were entirely eliminated from the proposition. I doubt if there is a river in the U. S. or in the Provinces which can

so easily be made to subserve the needs of home powers, and at the same time be so readily and inexpensively controlled by man's hand. This discussion is very premature, but the time is not distant when the water powers of the country, and especially those of New England will become valuable, and more more so, valuum for valuum, than the St. Croix.

On the 22d of Oct, at which time the river was about at low summer level, I found the St. Croix Cotton Mill (N. B. side of river) using 940 horse power to drive its machinery, and, estimating as carefully as possible, I concluded that 700 horse power was going to waste

Total - indicated horse power - 940

estimated 700

1640

This represents about minimum amount of water.

From the time of the signing of the Treaty of Utrecht, 1713 until the final adjudication, Oct. 25: 1798, there existed grave doubts as to the identity of the St. Croix, or Ekhemmin River. Disputes between the English and French were of frequent occurrence, and of the latter more or less, if not bloody in act.

In 1784 (the year New Brunswick came into existence as a separate Colony - segregated from Nova Scotia) Gov. Hancock, of Massachusetts, appointed a Commission of three gentlemen, to repair to the spot, and determine, if possible which was the true St. Croix, or Ekhemmin, of De Monts. The Treaty of Paris, signed Sept. 3: 1783, and yet the matter was not settled.

The upshot of Gov. Hancock's Commission met with no success, and indeed came to an ignoble end. The uncertainty continued till 1796. Williamson says:

"To determine and settle by Commission, according to the 5th article of Mr. Jay's treaty, what river was the St. Croix, as mentioned in the Treaty of 1783, there were, 1796

appointed to that board by the British Court, Thomas Barclay, and by the American Executive, David Howell and Egbert Benson. Accompanied by agents on both sides, and by the skilful surveyors, Samuel Titcomb and John Harris, they met at Halifax in Sept. 1796, and thence proceeded to Passamaquoddy, for the purpose of obtaining facts, both by inquiry and actual observation. In this river Schoodic, opposite to the N.E. corner of what is now Robbinston, they visited an island, whose situation and aspect bore strong resemblance to the description given of the island St. Croix, by L'Escarbot, Champlain, and other French writers, when De Monts' party passed the winter, A.D. 1604. Near the upper end of it were the remains of a very ancient fortification, open towards high trees, where old bricks were found, and where the foundation stones were traced to a considerable extent.

The surveyors, in 1797, made a survey of the place and river, and presented to the Commissioners a plan well delineated. Other places were examined, and the British agents raised an argument upon this supposition, that the true source of the

" river St. Croix, was West of the Chipsuticook:
but the American Agent urged that the Magaguadavick (Magaguadavic) further east was the
river intended.

" At Providence, Oct. 25, 1798, the Commissioners
made a report under their hands and seals

" By this, after pronouncing that they had sworn
impartially to examine, and decide the question
according to the evidence laid and before them,
to which, with the arguments of the Agents,
they had attentively listened, they decided, that,
the mouth of the river St. Croix is in Passama-
quoddy Bay, at a projection of land called
'Joes Point', about 1 mile northward from
the northern part of St. Andrews island, and
in the latitude of 45° 05' 05" N., and in the longi-
tude of 67° 12' 30" W. from London, and 3° 54' 15"
east from Harvard College: - and that the
course of said river, up from its mouth,
is northerly to a point of land called the Devils
Head: then turning the point, runs westerly
to where it divides into two streams the one coming
from the northward, and the other coming from

the northward, leaving the Indian name of Chipsuntecook - and thence up the same, coming from the northward to its source, which is at a stake, near a yellow birch tree, hooped with iron, and marked S ✕ T and I ✕ H. 1797, the initials of the Surveyors names, and called the "monument."

This report being ratified by the high Disputants, established the easterly line of Maine, to that point, and greatly served to encourage settlement in this vicinity.

Worthy of note are the following quotations:

Treaty of Paris, 1783:	Webster-Ashburton Treaty, (so called)
" + + and, east by a line	1842
to be drawn along the	" + + the middle of the channel + +
middle of the river,	
from its mouth in the Bay	
of Fundy, to its source + + "	
Of course the stipulations contained	
in the Treaty of 1842	supersede those of Treaty of 1783.

The first settlement made in the St. Croix region was probably that at Pleasant Point, by A. Hodges, James Pastores, and a Mr. Pabble, in 1763. Later in same year James Boyd and James Chaffney settled on Indian island.
In 1769 two or three persons settled at St. Andrews, N.B.
In 1771 William Vicker settled on Moore island, where Eastport now stands.
Tradition credits William Swain, of Mass., and David Farrell of Ireland, with the pioneer honors of Calais. It is usually believed that these men came here sometime between 1775 and 1780. The first settler of whom there is authentic knowledge was Daniel Hill 1779.
The first saw mill was erected in 1781, at Cotton's dam, N.B. side of river.
St. Stephen was first settled in 1784 by a lot of men, last mentioned part of the British Army. George III, anxious to erect a living barrier to the encroachments of the Americans, provided settlers with land, farming implements, tools, and an army

Calais for a period of three years, from date of settlement, or landing.
In 1790 there were only twenty four souls in the entire Calais; in St Stephen there were four hundred.
In 1800 Calais boasted of two hundred inhabitants
In 1803 Jarvis Keene, from Duxbury, Mass, built the first vessel — the Sch. "Liberty"
In 1802 or 1803 Peter Chute and Abner Hill & Co built the first saw mill at Milltown
Several other mills were built soon after that at Milltown, and Calais became a place of some little importance as a lumber mart.
Calais seems to have been a name for the place — unless the township, No 5, in which it stood served to localize it. In 1806 by Act of Legislature, Calais was duly baptized.
The name was selected by the people no doubt as vis-a-vis to Dover, or Dover Hill, the part of St. Stephen which stands, or stood, as Dover, opposite Calais.
The good people of Calais church

the delusion - both admirable and patriotic, that the name was given the place, by their progenitors, as a manifestation of respect and love for Lafayette.
This is far fetched - scarcely worthy of any consideration.
Calais received a town Charter, June 15, 1809.
About this time the building of wagon roads received some attention. To trace the slow movement of settlement inland, it might be mentioned that in 1804 a colony of Scotch Highlanders settled on the ridge where C.P.S.S. signal "Middlemiss" now stands - N.B. side.
Up to 1810 St. Stephen was far in advance of its neighbor across the river. The cause is too apparent and manifest to call for remark. The existent road from Calais to Eastport was built, or completed from the first named place to Robbinston, in 1811.
The war of 1812-1814 caused great suffering and privation among the struggling little settlement. The people substantially manifested their support of the republican or war party as shown

by the election returns, of the little town, jealously guarded by the people to this day.

In 1820 Calais contained but 418 people.

From about the last mentioned date can be traced a peaceful, calm sort of prosperity, which continues to be a noticeable feature of the place.

A City Charter was granted the town, Aug. 24, 1852.

Population in 1880 - 6173. Valuation $1,732,056

From Milltown is a mere suburb of Calais, with perhaps a fourth of the population. The municipal government of the latter place comprehends the former.

Opposite Calais, at St. Stephen, the R. R. system of the country can be reached by traversing thirty miles of Road (R) in the Province of New Brunswick, to Vanceboro, Me. There is another R. R. from St. Stephen to St. John N.B., and thence on to Halifax, etc.

The St. C. & Woodstock R. R., originally designed to run from Calais to Bangor got as far as Princeton, 20 miles from Calais, and there for the past 30 or 40 years has had its terminus.

Baring - is situated on the west bank, 4 miles N.W. from Calais. The St. & C. R. R. passes through it. Population, 1880. 303. Valuation $76,316. Prior to the destruction, by fire, of the two saw mills at this place, the people enjoyed a fair share of prosperity, but since the fire - which occured 3 years ago - several families have moved away, and those who remain have a hard struggle of it. At present there are two shingle mills, and a grist-mill, whose total amount just amounts to but little.

William Bingham, of Phila. Pa. became possessed, in 1788, of nearly a million acres of land, scattered through that part of the State lying East of the Penobscot, but principally in the E. part of Washington County. The town was incorporated January, 1825, and in place of a number were given the name of Baring, by aforesaid Bingham, in compliment to his friend Alexander Baring, of the London banking house of that name. The town lying W. of Baring was at about the same time christened Alexander.

This digression is made because of the vast influence the Bingham lands have exercised in this section.

Upper Falls is the name of the little village on the New Brunswick side of the river, opposite Baring. The cause which led to the decay of Baring bleached "Upper Falls." There is a great deal of poverty in the place. The water power at Baring is excellent - about 12 feet fall of water.

Baileyville is the town next north of Baring, beginning at a point just far down Baring village, and extending, with a width of about three miles along the river to the confluence of the E. and W. branches. There is no village in the town. Along the roads there are scattered farms. The people are much better off than the villagers of Baring, though but little evidence of prosperity is to be seen. Settled in 1797, by one Nathaniel Bayley. There is a P.O. in the town.

Sprague's Falls - The American side of which lies in Baileyville was "taken up" by Capt. Eli Sprague in about 1825. Sprague's farm began at the upper part of Falls and extended down stream for a half mile, or so. The water power at this place is in volume the

same as at Baring (but of course, by small amount of local drainage between two places) the fall in about 100 metres is 19 feet.
The power has never been utilized.
From Baring to this place - a distance of four or five miles, the St. C. & C. R.R. runs along the New Brunswick shore.

I am told that the navigation of the St. Croix is closed for a period of 2 months and 25 days, on an average, each winter.

Efforts to secure reliable information concerning the amount of lumber shipped, at Calais, was not well rewarded. The Custom House makes no record of domestic shipment. The mill men had but meagre sort of memoranda, and I thought it best not to undertake a report which would necessarily be unreliable.

The logging and driving Co's people told me that during the spring there was 70.000.000 feet of lumber in logs floated down the river to the mills, and that only about 50.000.000 ft. of lumber would be produced during 1889.

There is really nothing shipped at Calais, worthy of mention, save lumber.

The preceding part of this report is not strictly in response to requirements set forth in "Instructions and Memoranda for Descriptive Reports." From The general character of geological features are almost identical with those submitted in my report for 1888 of Penobscot work. The only exception lies in the appearance of granite, a limited extent, in Bucksport, and the New Brunswick stone appearing there. The outcroppings are rare: the color gray. At Robbinston, 10 miles below Calais there is a quarry, actively worked, from which is gotten red granite. The greatest altitude of country lying on my sheet is The Ridge, near the summit of which stand a U. S. T. signal "Middlemore." Its height is about 500 ft. The point in question was not marked by the detail topographer. There is quite an extensive meadow just north of Millbrook reduced valleyward by the overflow, or backwater from the mill pond, dam, etc. at Mill town. There are a few other bits of meadow, or fresh water marsh lying on the sheet, but not

of sufficient extent to justify special mention.

The vegetation of that part of the St. Croix valley covered by this sheet under discussion would fairly well demonstrate the capabilities of all of the valley as a whole, but a more intelligible conception of this can be had by extending observations as inland as Princeton.

Of the trees of commercial value the St. Croix valley produces nearly all of the varieties ascribed as indigenous to Maine.

In a collection of woods made by a man in Baring, I have seen specimens of all herein enumerated.

Ash - white. Grows well in certain soils, not infrequently attaining a thickness of 2½ feet

Black. Not so abundant - nor does the tree flourish as does the white.

Beech - red, white and black. A hard, close-grained wood, excellent for fuel, and certain manufacturing purposes

Birch, of which there are four varieties. The white is an exceedingly fine-

grain wood - generally useful, but
especially valuable for cabin stools
of which many millions are annually
made. It is the part of the white birch
which the Indians use in canoe making.
Birch (Can.) Black. A valuable wood. Used in
the manufacture of furniture
because of its fine grain, toughness
and susceptibility to polish.
" Yellow. Next to rock maple, regarded
as the best fire wood.
" alder. A troublesome shrub, placed
by the Linnaean principle of classification
among the birch. For a short distance back
from the ocean coast, the alder reaches
a height of 15 or 20 feet, with a thickness of
four inches, and is used as fuel, while
inland is seldom attains a height exceeding
6 ft. - is a pest to the farmer because of its
tendency to spread.
Bullwood, or plane tree: is occasionally met
with. Highly valued as suitable for
work where toughness is needed.

This wood is more abundant east of the St. Croix.

Cedar, white and red. This wood does not usually well flourish. seldom attains a greater thickness than 15 inches. Any size above 12 inches is apt to be hollow. There is enough of such as it is to enable the mill people to manufacture a vast number of shingles.

Cherry. To be found in limited quantities. The tree does not attain normal proportions

Elm. This tree is esteemed as a shade, or ornamental tree. is also found on the hardwood ridges - inland so called through out the valley. The elm of this country would scarcely be acknowledged as a brother, by the stately elm of Hudson or Middle New England.

Hornbeam, or iron wood. Small - shrub like. Especially hard. Used in making hand spikes, etc. Scarcely worthy of place among trees.

Juniper - Hackmatack. Abundant. Usually
or specifically used for knees of vessels.
Maple - Various. I think all the varieties
are to be found, but the tree is not nearly
so large, or rich in foliage as in the
northern part of the state.
Sugar - Some little sugar is obtained from
the sugar maple, but not enough to make
any thing like the profusions of an interest.
Oak - This tree is to be found, but is by no means
common. In no case does it reach any
thing at all like the oaks of the middle states
Pine - Of this species is the hemlock - beech - spruce
I think it safe to say that the pine is the
only tree that vends in the various forms
of the climate of this country. Every
variety does well, and I think a
representative of every species can be
found.
Poplar - to be found, but not particularly
abundant. Makes a favorite root
of shade tree. Seldom exceed 10 inches in
diameter.

Nelson - to be found all over the State: in this
Section is reaches a goodly size, but
has none of the grace and beauty of
the nelson of the western States.
The forests of to day are generally of second
growth. The woods are still nigh impenetrable,
because of dense undergrowth.
Of fruit trees there are not many. The apple is
indeed the only tree fruit that does at all well.
Along the coast the apple blossoms gloriously,
but seldom fulfilles its promise.
When we are removed from the influence of
salt air as Colusa the apple is of fair quality
and sometimes yield. In going up the valley
a constant improvement is noticeable.
The fruits and vegetables of Princeton were a
revelation to me. The apples are equal to any
I have ever seen, though not carried on a large
scale, as it is only within a few years that
the people have discovered suitable markets.
The strawberries are exceedingly fine. The
tomatoes grown are luxuriantly as in Hawaii
land

I have had occasion to refer to the Business of the Bank of this County, before. I have seen Wheat, at the rate of 30 bushels to the acre: Oats yielding 80 bushels to the acre, and Hay - timothy (called English Hay) yielding three (3) tons to the acre. I am credibly informed that one Mr. Swan of Calais seldom cuts less than 4 tons to the acre off his farm.

The Farmer and Farmer is as busy as a man can well be. In the winter he goes "into the woods" - in the Spring he has work of some sort every from home - at odd times he works in the mills, goes to sea - does anything to increase the work of the farm.

Proportion of arable land, to the wooded - about as one to ten. The grass lands are cultivated in part the arable.

Settlements are maintained by the saw-mill and Cotton mill industries of Calais and St. Stephen. Means of communication: I have alluded to the C.P.R. System.

From Calais to Eastport there is a daily Steamer, commodious, comfortable and able.

The roads leading out of Calais are generally good. The road to East port, through Tolly, is extremely good (28 miles).

The Houlton - (Aroostook Co.) road is also well kept, of easy grades. It is this road upon which Danforth is located.

The road from Calais to Machias, 43 miles is, considering the poor country it runs through fairly good. There are several ugly grades on it. Bridges are chiefly of wood.

The weather during the season was quite favorable. During August the heat was severely felt. Mercury frequently reached 92° - of Sept, the season to work on Mountain road, there was but little

Work executed

Area, sq. miles	13.5
Length of river stems, and creeks. miles	39.
Roads, and R. Rs. "	35.5
River examined - measured along axis.	12.75
Landings	8110
Miles run	20
Area, miles	1
Lines of level - Calais to Princeton. miles	20.
	ate.
Cost of work: actual yearly expenses	$ 1518.75

From

The plane table worked surprisingly well as little
and from manipulation as possible.

Asst. Boyd most unfortunately reported
that the country was not sufficiently covered
with triangulation points: Lieut. Mr. Dunn, who
was ordered to go over the country, and report
on the best way of proceeding with the work
could satisfactorily the same thing.

Every difficulty was encountered.
The work between Calais and Bridgton
should have been done on a scale of 2500
if not larger. I trust that the Supt.
will direct a survey of the shores of rivers
in question, on large scale, to be executed
next season.

Perhaps this is as good a place as any other
to suggest that the Dept. of State be consulted
in reference to the location of the Boundary,
and indeed I see no reason why the State
Dept. should not defray the expenses
attending a survey made with great deliberation
and care, for Boundary purposes, almost
exclusively.

The question of dividing the Islands between the two Countries - Calais and St. Stephen, has been an open one from the time the first Mill were built in that town, something over a hundred years ago. Constant inconvenience is felt by the people both sides of the river. It would be extremely difficult to convey an adequate idea - in a paper of this sort - of the situation. Lawsuit has followed upon lawsuit - Surveys in interest of the Plaintiff - others in interest of the defendant - so called expert testimony to suit the views from place - so the thing has gone for many years. The Surveying Dept. officials have had infinite trouble with the question, as bearing on Customs House regulations. The Survey has an opportunity of doing a great service to the people along the St. Croix. I would recommend to start the Attorney Gen. of action in the premises: that the State Dept. be interested in the affair: that a large scale Survey be made, and that the Canadian Government be requested to appoint some one to follow up the Survey, as it

Instances, and that a line be fixed by the representation of the two governments, and the affair be brought to a close as speedily as practicable. This should be made, along the line, as located among the monuments between Calais and Fuldstone, distinct and substantial marks. The survey made during the past summer would leave no possible value as a factor in boundary line. For the line as surveyed by one side. The affair is too one sided - expensive, in its character. It would be difficult to conceive of anything more preposterous than the location of the boundary line in question, by the methods then employed. I have no doubt that both the Canadian Govt, would upon the matter - if they are consulted - by the municipal authorities of St. Stephen. This would simplify matters, and make a satisfactory and speedy settlement easily reached. I can not too strongly emphasize my recommendation in the above matter.

To

Record

of gauge at Baring, St. Croix river, Maine.

Water level, above B.M. at Mill Ledge, Calais,

60.04 Ft. August 26th 1889

Aug.	7 A.M. Feet	6 P.M. Feet	Mean Feet		Sept.	7 A.M. Feet	6 P.M. Feet	Mean Feet	
1	3.40	3.20	3.30	Clear	S.1	2.30	1.90	2.10	Cloudy
2	3.10	2.70	2.90	Clear	2	2.30	1.50	1.90	Fine
3	3.10	2.80	2.95	Hot	3	2.50	1.45	1.97.5	"
S.4	3 20	3.00	3.10	"	4	2.05	1 10	1.575	"
5	2 90	2.60	2.75	Lt. rain	5	2.10	1.00	1.55	Hot
6	3.10	3.00	3.05	Clear	6	2.05	1.05	1.55	"
7	2.85	2.85	2.85	Lt. rain	7	2.00	1.60	1.80	Cloudy
8	2.90	2.55	2.72.5	Showery	S.8	2.20	2.10	2.15	Hot
9	2.85	2.60	2.72.5	Clear	9	1.55	0.55	1.05	"
10	2.45	2.35	2.40	Rain	10	1.65	0.85	1.25	Fog
S.11	3.35	3.15	3.25	Clear	11	1.65	0.90	1.27.5	Fine
12	2.60	2.70	2.65	"	12	1.50	1.20	1.35	Fog
13	2.70	2.60	2.65	"	13	1.30	0.85	1.07.5	Pleasant
14	2.40	2.30	2.35	Rain	14	1.80	1.25	1.52.5	"
15	2.60	2.20	2.40	"	S.15	1.85	1.65	1.75	"
16	2.95	2.80	2.87.5	"	16	1.35	0.85	1.10	"
17	3.25	3.10	3.17.5	Showers	17	1.15	0.45	0.80	Lt. rain
S.18	3.00	2.70	2.85	Clear	18	1.05	0.70	0.87.5	Rain
19	2.30	2.20	2.25	"	19	1.35	0.95	1.15	"
20	2.70	2.20	2.45	Showers	20	1.75	0.75	1.25	"
21	2.80	1.90	2.35	Clear	21	1.00	0.60	0.80	Pleasant
22	2.45	1.90	2.17.5	Lt. rain	S.22	1.50	1.40	1.45	"
23	2.80	2.40	2.60	Clear	23	0.75	0.45	0.60	"
24	2.70	2.30	2.50	Cloudy	24	1.05	0.65	0.82.5	"
S.25	2.95	2.70	2.82.5	Lt. rain	25	0.95	0.80	0.87.5	"
26	2.20	1.55	1.87.5	Fine	26	1.10	0.30	0.70	Showers
27	1.95	1.45	1.70	"	27	1.30	0.80	1.05	Lt. rain
28	2.10	1.45	1.77.5	"	28	1.60	0.90	1.25	"
29	2.20	2.10	2.15	"	S.29	1.60	1.50	1.55	Fine
30	1.90	1.60	1.75	"	30	0.90	0.50	0.70	Cloudy
31	2.20	1.95	2.07.5	"		1.573	1.018	1.295	

2.708 2.416 ÷ 532

Gage referred to B. M. at Ramsey.
Observations cover period during which the fluctuations are the least pronounced.

Oct.	7 A.M. Feet	6 P.M. Feet	Mean Feet	
1	0.90	0.50	0.70	Heavy rain
2	1.40	0.90	1.15	Pleasant
3	1.60	1.30	1.45	Fine
4	2.00	1.50	1.75	Showers
5	1.80	1.50	1.65	Pleasant
S. 6	2.30	2.00	2.15	"
7	1.70	1.40	1.55	Heavy rain
8	2.80	2.80	2.80	Pleasant
9	3.40	3.00	3.20	"
10	3.40	2.90	3.15	Lt. rain
11	2.70	2.30	2.50	Cold
12	2.70	2.50	2.60	"
S. 13	2.90	2.60	2.75	Chilly
14	2.10	1.60	1.85	Cloudy
15	2.10	1.50	1.80	Fine
16	2.00	1.40	1.70	"
17	1.60	1.10	1.35	"
18	1.70	1.00	1.35	"
19	1.30	0.90	1.10	"
S. 20	2.00	2.10	2.05	Damp
21	2.10	1.40	1.75	"
22	1.40	0.70	1.05	Fine
23	1.30	0.90	0.60	"
24				
25				
26				
S. 27				
28				
29				
30				
31				

Notes.

Observations begun Aug. 1st
" stopped Oct. 31st
Ft.
Mean of A. M. Aug. readings 2.708
" " P. M. " " 2.416
" " A. M. Sept. " 1.573
" " P. M. " " 1.018
" " A. M. Oct. "
" " P. M. "
Mean of Aug. readings 2.562
" " Sept. " 1.295
" " Oct. "
River highest Aug. 1 3.40
" lowest
Greatest range

Obs. from 24 to 31 were made and forwarded, but Department Mail Messenger lost in the mail. Unable to recover them finally.

Altitudes.	Feet
Outer edge top or floor-level granite step, of Engine house, Water works, Milltown	63.70
B. M. (first) Baring	80.32
R. R. track, 2 telegraph poles N. of "water tank" about 1 1/2 miles S. of Spragues Falls bridge.	93.74
R. R. track 10 feet N. & W. of upper end of R. R. bridge, at Spragues Falls	120.60
Dilapidated wooding place, on R. R.	172.90
Big culvert - drain, on R. R.	185.49
Switch, at North Baileysville	210.90
Track N. Baileyville R. R. Sta.	210.61
Water level, under bridge at Tannery, Princeton	182.65
Level of Lewey's Lake, Princeton, in still water S. & E. of centre of stream	191.95
At crossing of Hamilton wagon road, and the R. R., in Princeton village	196.44
N. corner of frame work around hay scales in front of Charles A. Rolfe's store, Princeton	200.15

Princeton is distant 20 miles from Calais. Distances - back and forth - as nearly as practicable, were made equidistant, in carrying the work up river.

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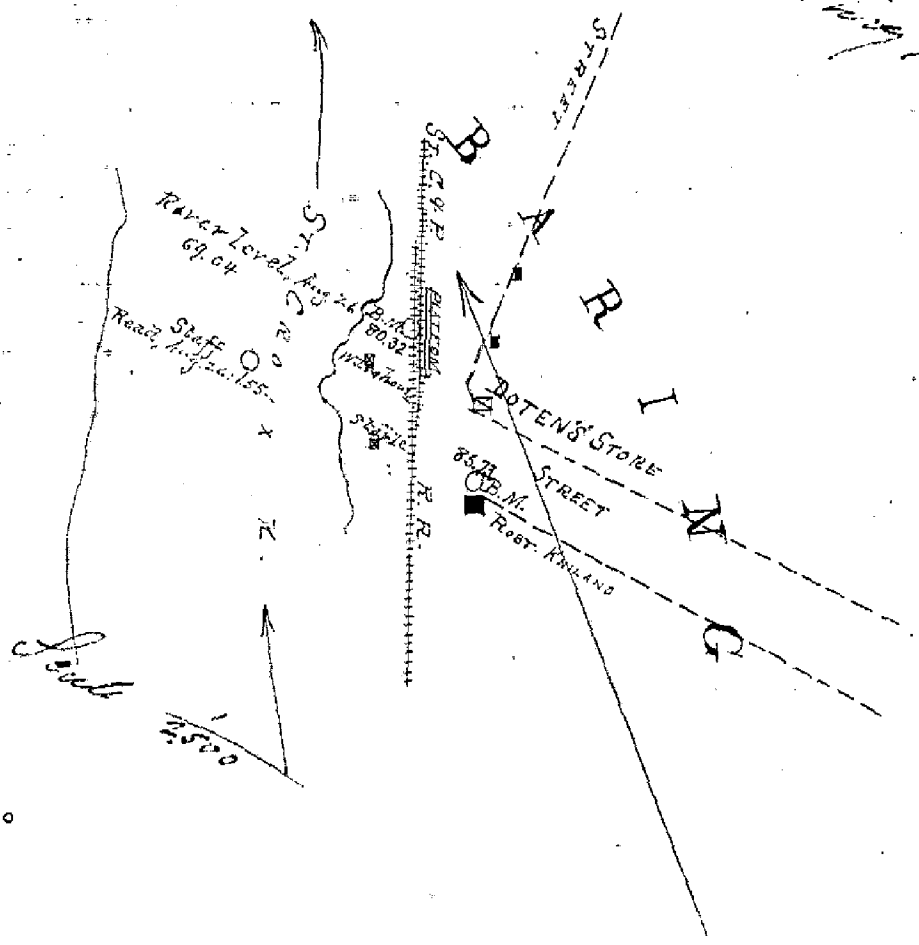
BARING
STREET
ROTEN'S STORE
STREET
B.M.
ROBT. KINLAND
R. R.
Field
N.

Bench-marks.

Three marks were made in duplicate.

The first is a 3 inch hole drilled in rather smooth ledge surface, distant 4½ feet from mean set of the several rails in between said mark, and the R. R. platform. The holes in both cases were left unfilled with lead or sulphur.

Height above h. w. m. at Calais 80.32 ft.

The "sulphur" mark was made on smooth ledge surface in front of house of Ralph Kinicard. The side of house generally parallel with R. R., if continued S. N. would run a little W. of hole, or S. W. Height above h. w. m. at Calais 85.72 ft.

The determinations were made on the 26th of August, 1889.

Same date - mean level 69.04

" " reading on gauge 1.55 ft.

The gauge was fastened against a spar, in case No difficulty should be experienced in finding either of the places. C. S. The water level is brought from the at the Ledge, St. Croix, C. & S. S. Bench mark.

Owing, perhaps more than anything, to my desire to keep this report within narrow limits it has become erratic.

It may not be out of place to suggest that in lieu of the "descriptive report" at present required of chiefs of party, in which said report one is required to confine his observations to the superficial - imaginary valueless - meaningless sides of a topographical sheet, be it one of a large scale covering but little country, or one of small scale covering a great deal; that a section of country - a town - a city - a township or county be made the meets and bounds of a report. I beg you to glance at a progress sketch - such as, for instance, as the one kept in the Drawing Division, and witness the extraordinary overlapping - the disregard (natural enough) of azimuth - of every consideration indeed, save that of laying off a sheet to embrace certain triangulation points, and to overlap its predecessor by anywhere from one to fifty per cent. of its extent

The description report is an excellent thing, and possibly from an aggregation of them a useful and intelligible report could be deduced, but to regard such reports as of any value outside of the Drawing division would be "childish and sublime".

I take the liberty of recommending, and at same indulging the hope of your acting favorably in this matter, that every river or navigable part thereof, every port and city and town on the coast be made the subject of special study, and that a report be made. This report as an appendix or supplement to the Coast Pilot would be of great value. At present the case stands as follows: If a person, or corporation want information concerning a given part of the U.S. they turn first to the Coast Pilot then through a weary search of State publications to inform themselves as to water power: then through other fields for geographical and geological research: then through the Census reports for population,

accomplishments, etc.

I will be pardoned for suggesting that it is within the province of the Engineer, to undertake and carry out a search, and investigation of this count in its many phases, and, further, that the technically so-called descriptive report is of questionable value.

Very respectfully

Your obedient servant

Eugene Ellicott

Asst. C.E.