



Section I — (2)
Report for 1888/12.

Hydrog.
St. Croix R
and Cobcook Bay

U. S. COAST AND GEODETIC SURVEY.

F. M. Thorn, Superintendent.

State: *Maine.*

DESCRIPTIVE REPORT.

Hydrographic Sheets Nos. *1793,*
1794, 1795 & 1796.

LOCALITY:

St. Croix River.

1887.

CHIEF OF PARTY:

Lieut. F. H. Crosby, U. S. N.

Gedney Report A

Sheet # 1

1887 113



Croix River Maine

scale 10000

Begun June 29th
 Ended August 15th

Lieut F. H. Crosby U.S.N.
 In charge of Party

Date	Boat	Letter	Book		Miles	Soundings	Angles	Officer in Charge	Remarks
			Sag	Tide					
June 30	"Sagadahoc"	A	1	1	6.0	168	138	Lieut F. H. Crosby	
July 1	"	B	2	1	9.0	279	209	"	
" 2	"	C	1	1	8.30	221	162	"	
" 5	"	D	2	1	3.25	262	46	Ensign A. W. Dodd	
" 7	Slim Cutter	a	1	1	5.0	353	167	Lieut F. H. Crosby	
" 8	"	b	2	1	6.2	440	227	Lieut F. H. Crosby	
" 9	"	c	1	1	6.3	505	251	"	
" 12	"	d	2	1	3.25	275	62	Ensign A. W. Dodd	
" 14	"	e	1	1	4.0	403	72	"	
" "	"Sagadahoc"	E	1	1	13.30	292	285	Lieut F. H. Crosby	
" 15	"	F	2	1	16.00	378	314	"	
" "	Slim Cutter	f	2	1	4.5	457	80	Ensign A. W. Dodd	
" 16	"Sagadahoc"	G	1	1	10.70	267	214	Lieut F. H. Crosby	
" 18	Slim Cutter	g	3	1	9.65	801	193	Ensign A. W. Dodd	
" 19	"	h	2	1+2	4.25	334	91	" "	
" "	"Sagadahoc"	H	2	1	9.30	163	134	" W. B. Fletcher	
					119.0	5595	2645		

Sheet # 1 Continued

St. Croix River Maine

Date	Boat	Letter	Book		Miles	Soundings	Angles	Officer in Charge	Remarks
			Stgy	Tide					
July 20	"Sagadahoc"	I	3	1	119.00 14.50	5595 198	2645 240	Comd. W.B. Fletcher	
"	"Shin Cutter"	i	3	1	8.20	576	158	" A.W. Dodd	
" 22	"	j	4	1	7.00	526	132	" "	
"	"Sagadahoc"	J	4	1	7.00	129	158	" W.B. Fletcher	
" 28	"	K	3	2	2.50	49	84	" "	
"	"Shin Cutter"	k	3-5	2	7.90	677	133	" R.O. Biller	
" 29	"Whaleboat"	Q	1	2	2.60	240	46	" W.B. Fletcher	
Aug 1	"Shin Cutter"	L	4	2	3.60	346	84	" R.O. Biller	
" 2	"	m	5	2	4.50	431	87	" "	
" 3	"	n	4	2	3.30	300	66	" "	
" 4	"	o	5	2	6.25	340	170	" "	
"	"Gedney"	A	1	2	—	20	40	Squad Pitt Crosby	Bottom specimens
" 8	"Shin Cutter"	p	4	2	2.70	112	37	Comd. R.O. Biller	
" 15	"	q	5	2	1.75	102	40	"	
					190.80	9645	4120		

St Croix River Maind

miles =	Soundings =	Angles =	Sigs built =	Sigs located	Tide gauges Erected
190.80	9641	4120	20	40	3

8 1/2 □ Miles

2 Current Stations

19 Bottom Specimens

Lieut F. H. Crosby
 Ensigns A. W. Dodd
 " N. S. S. J. Halpine
 " R. O. Biler
 " W. B. Fletcher
 " M. Johnston
 " Jos Strauss

Observers

E. Meyer BM
 J. Christiansen QM

Saddlesman

Sdg Books 11
 Angle 1
 Tide 5

originals

Pay Sec W. S. Crosby
 W. B. Griffith (Sea)

Recorders

7 Fair Journals
 1 Angle Book
 5 Tide "

copies

W B Griffith (Sea) } copyist

Gilbert Anderson (Sea)
 John Eckmann (Sea)

Tide observers

Plotted by
 Lieut F. H. Crosby
 Ensign A. W. Dodd
 " W. B. Fletcher

"Gedney"

Sheet # 2.

1887 116.

St. Croix River Maine scale $\frac{1}{10000}$

Begun August 5th
Ended October 14th

Lieut J. M. Crosby U.S.N
In charge of Party

Date	Boat	Letter	Book		Miles	Soundings	Angles	Officer in Charge	Remarks
			Sig	Fiber					
Aug 5	"Gedney"	A	1	1	20.50	335	214	Lieut J. M. Crosby	
" 8	"	B	2	1	18.50	198	148	"	
" "	Shm Cutter	a	1	1	2.70	213	76	Ensign R. O. Biler	
" 9	"	b	2	1	10.80	757	254	"	
" "	"Gedney"	C	1	1	39.50	381	278	Lieut J. M. Crosby	
" 10	"	D	2	1	39.50	440	270	"	
" "	Shm Cutter	c	1	1	15.30	1179	290	Ensign R. O. Biler	
" 11	"	d	2	1	1.70	199	32	"	
" "	"Gedney"	E	1	1	4.00	67	56	Lieut J. M. Crosby	
" 15	"	F	2	1	40.00	466	274	"	
" "	Shm Cutter	e	1	1	9.80	443	208	Ensign R. O. Biler	
" 16	"	f	2	2	6.00	450	117	"	
" "	"Gedney"	G	1	2	23.50	220	179	Lieut J. M. Crosby	
" 17	"	H	2	2	32.60	409	220	"	
" "	Shm Cutter	g	3	2	6.50	521	152	Ensign R. O. Biler	
" 18	"	H	2-4	2	10.60	701	154	"	
					281.50	6279	2922		

Sheet # 2 Continued
St. Croix River Maine

Date	Boat	Letter	Book		Miles	Soundings	Angles	Officer in Charge	Remarks
			Sdg	Tide					
Aug 18	"Gedney"	I	1	2	281.50 14.80	6279 163	2922 90	Lieut F. M. Crosby	
" 19	"	J	4	2	36.30	391	250	"	
" "	Skim Cutter	i	3	2	17.50	926	274	Ensign R. G. Biller	
" 20	"	j	4	2	6.00	400	124	"	
" "	"Gedney"	K	1	2	21.00	189	129	Lieut F. M. Crosby	
" 22	"	L	4	2	28.50	268	192	"	
" "	Skim Cutter	k	3	2	7.10	311	114	Ensign R. G. Biller	
" 23	"	l	4	2	11.40	550	188	"	
" "	"Gedney"	M	3	2	29.30	268	196	Lieut F. M. Crosby	
" 24	"	N	4	2	3.50	199	52	"	
" "	Skim Cutter	m	5	2	3.50	182	46	Ensign R. G. Biller	
" "	"Sagadahoc"	A	1	2	4.50	123	60	" W B Fletcher	
" 25	"	B	1	2	3.90	124	66	" "	
" "	Skim Cutter	n	4	2	8.00	449	120	" R. G. Biller	
" 29	"	o	5	2	4.20	269	82	" "	
Oct 14	"	p	5	2	2.30	109	40	" "	
					483.88	11200	4945		

St. Croix River Maine

Miles - Soundings - Angles - Sigs built - Sigs located

483.88. 11200 4945 10 -

Tide gauges
Erected

1

30³/₄ □ Miles

2 Current Stations

38 Bottom Specimens

Lieut. F. M. Crosby
Ensigns R. O. Biler
" W. B. Fletcher
" M. Johnston
" Jos Strauss

Observers

John Nelson - M at A
E Meyer - BM
F Christiansen - QM

Saddsmen

Pay Yeo W. S. Crosby
W. B. Griffith (Sea)

Recorders

W. B. Griffith (Sea)

copyist

10 Sdg Books
1 Angle
2 Tide

Originals

7 Fair Journals
1 Angle Books
2 Tide

copies

Gilbert Anderson (Sea)
John Eckmann (Sea)

Tide observers

Plotted by
Ensigns A. W. Dodd
" W. B. Fletcher

Gedney

Sheet # 3

1882 119

St. Croix River Maine

Scale $\frac{1}{10000}$

Begun August 24th
Ended October 14th

Lieut. F. M. Crosby U.S.N.

In charge of Party

Date	Boat	Letter	Book		Miles	Soundings	Angles	Officer in Charge	Remarks
			Sag	Tide					
Aug 25	Shim Cutter	a	1	1	2.10	137	36	Ensign R. O. B. Allen	
" "	" Sagadahoc"	A	1	1	1.50	47	26	" M. B. Fletcher	
" 26	" "	B	2	1	14.50	353	194	" "	
" 27	" "	C	1	1	8.75	220	116	" "	
" "	Shim Cutter	b	2	1	7.50	353	124	" R. O. B. Allen	
" 29	" "	c	1	1	2.20	136	48	" "	
" "	" Gedney"	A	1	1	15.20	416	124	Lieut. F. M. Crosby	
" "	" Sagadahoc"	D	2	1	10.20	397	126	Ensign M. B. Fletcher	
Sept 1	Mhalibroat	'	1	1	2.70	226	64	" "	
" "	" Sagadahoc"	E	1	1	10.80	352	115	" "	
" "	Shim Cutter	d	2	1	9.70	629	154	" R. O. B. Allen	
" 2	" "	e	1	1	10.00	854	218	" "	
" "	" Sagadahoc"	F	2	1	14.90	597	220	" M. B. Fletcher	
" 5	" "	G	1	1	3.80	205	74	" "	
" "	Shim Cutter	f	2	1	6.10	544	166	" R. O. B. Allen	
					119.95	5266	1705		

Sheet # 3 Continued

St. Croix River Maine

Date	Boat	Letter	Bark		Miles	Soundings	Angles	Officer in Charge	Remarks
			Sdg	Tide					
Sept 6	Stim Cutter	g	1-3	1	119.95 8.00	5466 1076	1705 210	Ensign R. O'Brien	
" 8	"	h	3	1	4.80	387	119	"	
" 9	"	i	3	1	4.60	358	102	"	
" 15	"	j	3	1	2.50	221	72	"	
Oct 14	"	k	3	1	2.90	146	64	"	
					142.75	7654	2372		

St Croix River Maine

Miles = Soundings = Angles = Sigs built = Sigs located

142.75 - 7654 = 2372 = 10 = -

Tide gauges
Erected

1

6/4 □ Miles

0 Current Stations

6 Bottom Specimens

Lieut. F. M. Crosby	} Observers
Ensigns R. O. Bitter	
" W. B. Fletcher	
" M. Johnston	
" Jos Strauss	

John Skelson = M. A. A	} Sashmen
E. Meyer = Bm	
F. Christensen = Qm	

Pay Yea W. S. Crosby	} Recorders
W. B. Griffith (Sea)	

Sig Books	7	} Originals
Angle	1	
Tide	1	

W. B. Griffith (Sea)	} Copyist
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Fair Journals	4	} Copies
Angle Books	1	
Tide "	1	

John Eckmann (Sea)	} Tide Observer
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Plotted by
Lieut. F. M. Crosby
Ensign W. D. Dodd

St Croix River Maine scale $\frac{1}{10000}$

Begun Sept 8th
 Ended Sept 15th

Jessie M. Crosby U.S.N.
 In charge of Party

Date	Boat	Letter	Book		Miles	Sundings	Angles	Officer in Charge	Remarks
			Sig	Tide					
Sept 8	"Sagadahoc"	A	1	1	14.60	778	171	Com. W.B. Fletcher	
" 9	"	B	2	1	15.00	820	158	" "	
" "	Shm Cutter	a	1	1	1.80	138	22	" R. O. Biller	
" 12	"	b	2	1	8.00	841	167	" "	
" 13	"Sagadahoc"	C	1	1	5.30	390	61	" W.B. Fletcher	
" "	Shm Cutter	c	1	1	13.80	1088	220	" R. O. Biller	
" 14	"	d	2	1	7.40	818	151	" "	
" "	"Sagadahoc"	D	2	1	1.25	104	24	" W.B. Fletcher	
" "	Whalboat	a	2	1	2.50	271	48	" "	
" 15	"	b	2	1	5.40	662	94	" "	
" "	Shm Cutter	e	1	1	9.20	835	168	" R. O. Biller	
" "	"Sagadahoc"	E	1	1	1.10	87	14	" W.B. Fletcher	
					85.35	6832	1298		

St Croix River Maine

Miles =	Soundings =	Angles =	Sigs built =	Sigs located =	Tide gauges Erected
85.35:	6832.	1298	11	9	1

3 3/4 □ Miles

0 Current Stations

16 Bottom Specimens

Ensigns - A.M. Dodd }
 " R.O. Biller }
 " W.B. Fletcher }
 " M. Johnston }
 " J.G. Strauss }

E. Meyer = BM }
 H. Christiansen = GM }

Sdg Books 4 }
 Angle " / }
 Tide " / }

Pay See W.S. Crosby }
 W.B. Griffith (lea) }

Fair Journals 3 }
 Angle Books / }
 Tide " / }

Gilbert Anderson (lea) }

Plotted by
 Ensigns A.M. Dodd
 " M. Johnston

Recapitulation

St. Croix River Main (series)

Total No. Miles:	902.78
" " Soundings	35327
" " Angles	12735
" " □ Miles	49 $\frac{1}{4}$
" " Current Stations	4
" " Bottom Specimens	79

Begun June 20th } 1887
 Ended Oct 14th }

General Recapitulation For the Season

125,

Total	No. Miles	1311.37
"	" Soundings	60415
"	" Angles	18195
"	" □ Miles	58 ³ / ₄
"	" Signals erected	69
"	" " Located	117
"	" Tide gauges erected	17
"	" Bottom Specimens	81
"	" Current Stations	6
"	" Days Hydrography done	102
"	" " Bad Weather &c	68
"	" " Erecting Signals	11
"	" " Work done by "Gedney"	23
"	" " " " " Slim Cutter	69
"	" " " " " Whaleboat	18
"	" " " " " Dinghy	2
"	" " " " " "Sagadahoc"	33

The months of April, May and part of June were spent in running additional lines of soundings in Long Is. Sound, Lower St. Y Bay and Penobscot River Maine

Give here full address to which reply should be sent:

U. S. Coast and Geodetic Survey,

Shm "Gedney" New York

Dec. 28th, 1887.

Mr. J. M. Thorne,
Supt. U.S. Coast & G.S.
Washington D.C.

Report A St Croix River Maine =

Sheets 4 = No I beginning at Eastport Me.
and No IV ending at Calais Me, the head
of navigation on the St Croix.

No reference is made to anything not
covered by the sheets.

The channel from Eastport
Me to Devils Head is so deep (ranging from 65
fathoms down to from 10 to 15 fms) that no remarks
seem necessary. From Devils Head up to Calais
the channel becomes narrow and gradually shoals
to seven feet at low water in the upper portion.

The largest class of merchant vessels go to Calais,
but ground out at low water while handling

their cargoes. They may lie afloat as far up as The Ledge. Pilots are needed only in the upper portions of the river.

The channels are permanent except above Devils Head where for several years the river has been filling up with sawdust from the lumber mills above, leaving only a narrow stream at low water. I think no harbor improvements are contemplated.

Best Anchorages

Vessels may anchor with safety almost anywhere except where the channels are narrow and the currents too strong. Trading vessels working with the tide between St. Andrews Bay and Eastport anchor in Gleasons Cove or Johnsons Cove, both of which are good anchorages.

Dangers.

Frosts Ledge on sheet No 1 and the Middle Ground on sheet No 3 are the principal dangers to navigation.

Tidal Currents set in the direction of the channels and strong eddy or reverse currents are found wherever the contour of the shore line is

favorable for it. The greatest velocity is abreast of Dog Island where it reaches 6 to 7 knots at the spring tides and whirlpools dangerous to small craft are formed in the eastern half of the channel. The flood current sets to the S^W running for one half to three quarters of an hour after high water and strong eddy currents are formed in shore on both sides (strongest on the East side) setting to S^E.

The ebb current sets to the S^E without dangerous whirlpools, the inshore reverse currents less marked and runs three quarters to one hour after low water.

Pilots run by the best currents and ranges are not much used owing to the boldness of the shores.

Local Names. On sheet No 1 as sent from the Land & S. Office Gleasons Cove named Perry Bay, Frost's ledge and Frost's Island were named Floss.

I could find no one who ever heard those names and every body knows Frost's ledge and Island, Gleasons Point and Gleasons Cove, Clam Cove is also called Fair Haven latterly = I would name it "Clam Cove or Fair Haven" =

On sheet No 2 what is named on the description of signals &c. as Mary Island is known

universally as St Andrews Island although some are found who have heard the name Stavy Island and suppose it was so called by Admiral Owen -

The following names of points, coves etc, were furnished by Mr. J. W. Cox of Robbinston Maine formerly an extensive ship builder at that place and a life long resident. Many of these names were confirmed by inquiries of other residents along the river. They have been written on the projections in their proper places.

West Side - Sheet #2 - Beginning to Sid of Robbinston and going north. Ferris Cove, Pulpit Point, Mill Cove, Liberty Point - Sheet #3 - Brooks Point, Brooks Cove, James Point, Phelps Cove, Mr. Curdys Point, Fords Cove - Little Docket's Island - Middle Ground - Half Tide Sedge, Red Beach Cove, Nelson's Point, Cook's Cove - Sheet #4 - Todd's Point - Back side and going down the river. Crocker's Island, Mills Point - Sheet #3 - Sandy Point, Johnson's Cove, Greenlaw's Cove - Kibell's ^{Cove} Sheet #2 - East of St. Andrew - Kitty Cove.

Very respectfully
 J. A. Crosby

Lieut. U.S.N. Asst. C. & G. S.

130
U. S. COAST AND GEODETIC SURVEY
DEC 29 1887
H.C. INSPECTION OFFICE

Harry Land, N.Y.

U. S. Coast and Geodetic Survey,

Stm. "Gedney"

December 28th 1887

Mr. J. M. Thom
Superintendent C and G Survey
Washington D.C.

Sir:

I have the honor to submit the following
Report B. St. Croix River Maine. in conformity
with the General Instructions for Detailed Reports 1887.

The numbers at the beginning of paragraphs
refer to the corresponding paragraphs in the
instructions.

The hydrography of these sheets was com-
pleted in accordance with your instructions of
May 16th 1887 and the detailed instructions from the
Hydrographic Inspector and the records have been
forwarded to the C and G S Office

Very respectfully

A. A. Orin, Lieut. U.S.N.
U.S. Coast and G. S. Office

"Gedney"

Sheet # 1.

1887

St Croix River Maine

Scale $\frac{1}{10000}$

Began June 20th
 Ended August 15th

Lieut F. H. Crosby, U.S.N
 In charge of Party

Date	Boat	Letter	Book		Miles	Soundings	Angles	Officer in Charge	Remarks
			Sdg	Tide					
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" 2	"	C	1	1	8.30	221	162	"	
" 5	"	D	2	1	3.25	262	46	Ensign A W Dodd	
" 7	Stim Cutter	a	1	1	5.00	353	167	Lieut F H Crosby	
" 8	"	b	2	1	6.20	440	227	"	
" 9	"	c	1	1	6.30	505	251	"	
" 12	"	d	2	1	3.25	275	62	Ensign A W Dodd	
" 14	"	e	1	1	4.00	403	72	"	
" "	" Sagadahoc	E	1	1	13.30	292	285	Lieut F H Crosby	
" 15	"	F	2	1	16.00	378	314	"	
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" 16	" Sagadahoc	G	1	1	10.70	267	214	Lieut F H Crosby	
" 18	Stim Cutter	g	3	1	9.65	801	193	Ensign A W Dodd	
" 19	"	h	2	1+2	4.25	334	91	" "	
" "	" Sagadahoc	H	2	1	9.30	163	134	" W B Fletcher	
					119.00	5595	2645		

Sheet #1. continued
St. Croix River Maine

132.

Date	Boat	Letter	Books		Miles	Soundings	Angles	Officer in Charge	Remarks
			Sdg	Tide					
July 20	"Sagadahoc"	I	3	1	119.00 14.50	5595 198	2645 240	Ensign W B Fletcher	
" "	Shm Cutter	i	3	1	8.20	576	158	" A W Doan	
" 22	"	j	4	1	7.00	526	132	" "	
" "	Sagadahoc	J	4	1	7.00	129	158	" W B Fletcher	
" 28	"	K	3	2	2.50	49	84	" "	
" "	Shm Cutter	K	3-5	2	7.90	677	133	" R O Bitter	
" 29	Whaleboat	L	1	2	2.60	240	46	" W B Fletcher	
Aug 1 st	Shm Cutter	L	4	1	3.60	346	84	" R O Bitter	
" 2	"	M	5	2	4.50	431	87	" "	
" 3	"	N	4	2	3.30	300	66	" "	
" 4	"	O	5	2	6.25	340	170	" "	
" "	"Gedney"	A	1	2	—	20	40	Sicut F H Crosby	Bottom specimens
" 8	Shm Cutter	P	4	2	2.70	112	37	Ensign R O Bitter	
" 15	"	q	5	2	1.75	162	40	"	
Total					190.80	9641	41204		

St. Croix River Maine

Miles	Soundings	Angles	Sigs built	Sigs located	Tide gauges erected
190.80	9641	4120	20	40	3

8 1/2 □ Miles

2 Current Stations

19 Bottom Specimens

Lieut F.H. Grosby
 Ensigns A.W. Dodd
 " N.J. L. Halpine
 " R.O. Bitler
 " W.B. Fletcher
 " M. Johnson
 " Jos Strauss

} Observers

E. Meyer B.M.
 F. Christiansen Q.M.

} Sealsmen

Sdg Books //
 Angle " /
 Tide " ✓

} Originals

Pay Vee W.S. Grosby
 W.B. Griffith (sea)

} Recorders

7 Fair Journals
 ✓ Angle Books
 ✓ Tide "

} Copies

W.B. Griffith (sea) } Copist

Gilbert Anderson (sea)
 John Eckmann (sea)

} Tide Observers

Plotted by
 Lieut F.H. Grosby
 Ensign A.W. Dodd
 " W.B. Fletcher

Gedney

Sheet # 2

1887¹³⁴

St Croix River Maine

Scale $\frac{1}{10000}$

Began August 5th
Ended October 14th

Lieut J. M. Crosby U.S.N

In charge of Party

Date	Boat	Letter	Book		Miles	Sdgs	Angles	Officer in Charge	Remarks
			Sdg	Tide					
Aug 5	"Gedney"	A	1	1	20.50	335	214	Lieut F.H. Crosby	
" 8	"	B	2	1	18.50	198	148	"	
" "	Shm Cutter	a	1	1	2.70	213	76	Ensign R.O. Bidler	
" 9	"	b	2	1	10.80	757	254	"	
" 9	"Gedney"	C	1	1	39.50	381	278	Lieut F.H. Crosby	
" 10	"	D	2	1	39.50	440	270	"	
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" "	"Gedney"	G	1	2	23.50	220	179	Lieut F.H. Crosby	
" 17	"	H	2	2	32.60	409	220	"	
" "	Shm Cutter	g	3	2	6.50	521	152	Ensign R.O. Bidler	
" 18	"	h	2-4	2	10.60	701	154	"	
					281.50	6279	2922		

Date	Boat	Letter	Book		Miles	Soundings	Angles	Officer in Charge	Remarks	
			Sdg	Tide						
					281.50	6279	2922			
Aug 18	"Gedney"	I	1	2	14.80	163	90	Lieut F.H. Crosby		
" 19	"	J	4	2	36.30	391	250	"		
" "	Shin Cutter	i	3	2	17.50	926	274	Ensign R.O. Butler		
" 20	"	j	4	2	6.00	400	124	"		
" "	"Gedney"	k	1	2	21.00	189	129	Lieut F.H. Crosby		
" 22	"	L	4	2	28.50	268	192	"		
" "	Shin Cutter	k	3	2	7.10	311	114	Ensign R.O. Butler		
" 23	"	L	4	2	11.44	550	188	"		
" "	"Gedney"	M	3	2	29.30	268	196	Lieut F.H. Crosby		
" 24	"	N	4	2	3.50	144	52	"		
" "	Shin Cutter	m	5	2	3.50	182	46	Ensign R.O. Butler		
" "	"Sagadahoc"	A	1	2	4.50	123	60	" W.B. Fletcher		
" 25	"	B	1	2	3.90	124	66	" "		
" "	Shin Cutter	n	4	2	8.00	449	120	" R.O. Butler		
" 29	"	O	5	2	4.20	269	82	" "		
Oct 14	"	P.	5	2	2.30	109	40			
					483.80	11500	4945			

St Croix River Maine

Miles	Soundings	Angles	Sigs built	Sigs located	Tide gauges ^{erected}
483.88	11200	4945	10	-	1

30 ³/₄ □ miles

2 Current Stations

38 Bottom Specimens

Sicil F.H. Crosby }
 Ensign R.O. Butler } Observers
 " W.B. Fletcher }
 " M. Johnson }
 " Jo: Strauss }

John Nelson M at A }
 E. Meyer B.M } Leadsman
 F. Christiansen Q.M }

Pay Yeo W.S. Crosby }
 W.B. Griffith (sea) } Recorders

10 S'lg Books }
 1 Angle " } Originals
 2 Tide " }

W.B. Griffith (sea) } copyist

7 Fair Journals }
 1 Angle Books } Copies
 2 Tide " }

Gilbert Anderson (sea) }
 John Eckmann (sea) } Tide Observers

Ensign A.W. Dodd }
 " W.B. Fletcher } Plotted by

Gedney

Sheet # 3

1887^{137.}St. Croix River Maine scale $\frac{1}{10000}$

Began August 24th
 Ended October 14th

Lieut. F. H. Crosby U.S.N.
 In charge of Party

Date	Boat	Letter	Book		Miles	Soundings	Angles	Officer in Charge	Remarks
			Sig	Tide					
Aug 25	Shm Cutter	A	1	1	2.10	137	36	Ensign R.O. Bidler	
" "	" Sagadahoc	A	1	1	1.50	47	26	" W.B. Fletcher	
" 26	"	B	2	1	14.50	353	194	" "	
" 27	"	C	1	1	8.75	220	116	" "	
" "	Shm Cutter	B	2	1	7.50	353	124	" R.O. Bidler	
" 29	"	c	1	1	2.20	136	48	" "	
" "	" Gedney	A	1	1	15.20	416	124	Lieut. F.H. Crosby	
" "	" Sagadahoc	D	2	1	10.20	397	126	Ensign W.B. Fletcher	
Sept 1	Whaleboat	a	1	1	2.70	226	64	" "	
" "	" Sagadahoc	E	1	1	10.80	352	115	" "	
" "	Shm Cutter	a	2	1	9.70	629	154	" R.O. Bidler	
" 2	"	e	1	1	10.00	854	218	" "	
" "	" Sagadahoc	F	2	1	14.90	597	220	" W.B. Fletcher	
" 5	"	G	1	1	3.80	205	74	" "	
" "	Shm Cutter	f	2	1	6.10	544	166	" R.O. Bidler	
					119.95	5466	1705		

Sheet #3. continued
 St. Croix River Maine

138.

Date	Boat	Letter	Book		Miles	Soundings	Angles	Officer in Charge	Remarks
			Page	Tide					
					119.95	5466	1700		
Sept 6	Stm Cutter	g	1-3	/	8.00	1076	210	Ensign R O Bider	
" 8	"	h	3	/	4.80	387	119	"	
" 9	"	i	3	/	4.60	358	162	"	
" 15	"	j	3	/	2.50	221	72	"	
Oct 14	"	k	3	/	2.90	146	64	"	
					142.75	7654	2372		

Sf Croix River Maine

Miles = Soundings	Angles	Sigs built	Sigs located	Tide gauges erected
142.75	7654	2322	10	-

6 1/4 □ miles

0 Current Stations

6 Bottom specimens

Lieut F.H. Crosby
 Ensign R.O. Butler
 " W.B. Fletcher
 " M. Johnson
 " Jo. Strauss

Observers

John Nelson Mat A
 E Meyer BM
 F Christiansen QM

Leadsmen

Pay Vea W.S. Crosby
 W.B. Griffith (pea)

Recorders

Sdg Books 7
 Angle " /
 Tide " /

originals

W.B. Griffith (pea)

Copyist

Fair Journals 4
 Angle Books /
 Tide " /

copies

John Eckmann (pea)

Tide Observer

Lt. F.H. Crosby
 Ensign A.W. Dood

Plotted by

"Gedney"

Sheet #4

1887^{140.}

St. Croix River Mains

scale $\frac{1}{10000}$

Began Sept 8th
Ended Sept 15th

Lieut J. A. Crosby U.S.N.
In charge of Party

Date	Boat	Letter	Books		Miles	Soundings	Angles	Officer in Charge	Remarks
			Sdg	Tide					
Sept 8	"Sagadahoc"	A	1	1	14.60	778	171	Ensign W B Fletcher	
" 9	"	B	2	1	15.00	820	158	" "	
" "	"Slim Cutter"	a	1	1	1.80	138	22	" R. O. Bider	
" 12	"	b	2	1	8.00	841	167	" "	
" 13	"Sagadahoc"	C	1	1	5.30	390	61	" W B Fletcher	
" "	"Slim Cutter"	c	1	1	13.80	1088	220	" R O Bider	
" 14	"	d	2	1	7.40	818	151	" "	
" "	"Sagadahoc"	D	2	1	1.25	104	24	" W B Fletcher	
" 14	"Whaleboat"	a	2	1	2.50	271	48	" "	
" 15	"	b	2	1	5.40	662	94	" "	
" "	"Slim Cutter"	e	1	1	9.20	835	168	" R O Bider	
" "	"Sagadahoc"	E	1	1	1.10	87	14	" W B Fletcher	
					85.35	6832	1298		

St Croix River Maine

Miles	Soundings	Angles	Sigs built	Sigs located	Tide gauges Erected
85.35.	6832.	1298.	11.	9	1

3 3/4 □ miles

0 Current stations

16 Bottom specimens

Ensign A.W. Doda	} Observers	E Meyer B.M.	} Saddsmen
" R.O. Butler		F Christiansen Q.M.	
" W.B. Fletcher		Sdg Books 4	} Originals
" M. Johnson		Angle " 1	
" Jo. Strauss	Tide " 1		
Pay Ye W.S. Grosby	} Records	Fair Journals 3	} Copies
W.B. Griffith (sea)		Angle Books 1	
W.B. Griffith (sea)	} Copyist	Tide " 1	
Gilbert Anderson (sea)	} Tide observer	Emb. A.M. Doda	} Plotted by
		" M. Johnson	

Recapitulation

St Croix River Maines (Series)

Total Stos Miles	902.78
" " Soundings	35327.
" " Angles	12735
" " □ Miles	49 $\frac{1}{4}$
" " Current Stations	4
" " Bottom Specimens	79

Begun June 20th } 1887
 Ended Oct 14th }

"Gedney"
1887

143

Lieut F H. Crosby U.S.N
In charge of Party

Date 1887	No of days on which Hyarography done	Prevented by Bad Weather and other causes	Building Signals	Signals built
April	13	10		
May	9	17		
June	8	13	5	20
July	20	8	3	10
August	24	5	1	10
Sept	18	8	1	23
October	10	7	1	6
Total	102	68	11	69

1887
"Gedney"

144

Lieut J. M. Grosby U.S.N.
In Charge of Party

Date 1887	No of Miles	No of Soundings	No of Angles	Signals Located	Working Days Each Month
April	104.33	8249	1515	10	23
May	17.00	1374	269	1	26
June	53.76	3016	138	40	26
July	162.10	7838	3458	10	26
Aug	609.05	15869	6579	20	27
Sept	225.85	16139	3541	30	26
Oct	142.10	8809	2467	6	16
Total	1314.19	60494	17867	117	170

1887
"Gedney"

145,

Lieut. F. M. Grosby U.S.N.
In charge of Party

Date 1887	No of Stations on which angles observed to locate signals	No of Angles Observed	No of Tide gauges Erected	No Natural Objects Located
April	7	84	2	3
May	-		2	
June	41	366	4	
July	25	224	2	8
Aug	46	585	3	
Sept	41	308	2	6
Oct	7	69	2	
Total	167	1636	17	17

1887
"Gedney"

146.

No of days work done by each boat

Lieut. F. H. Crosby U.S.N.
In charge of Party

Date 1887	"Gedney"	Stim Cutter	Whaleboat	Dinghy	"Sagadahoc"
April	3	2	9	1	
May	4	4	1		
June		7			1
July		11	1		10
Aug	16	24			6
Sept		13	5	1	10
Oct		8	2		6
Total	23	69	18	2	33

General Recapitulation For the Season

147.

Total No.	of Miles		1311.37
"	"	Soundings	60415
"	"	Angles	18195
"	"	□ Miles	58 ³ / ₄
"	"	Signals erected	69
"	"	" Located	117
"	"	Tide gauges erected	17
"	"	Bottom Specimens	81
"	"	Current Stations	6
"	"	Days Hydrography done	102
"	"	" Bad Weather &c	68
"	"	" Erecting Signals	11
"	"	" Work done by "Gedney"	23
"	"	" " " " " Steam Cutter	69
"	"	" " " " " Whaliboat	18
"	"	" " " " " Dinghy	2
"	"	" " " " " "Sagadahoc"	33

The months of April, May and part of June were spent in running additional lines of soundings in Long Is. Sound, Lower N. Y. Bay and Penobscot River Maine

Sketch of Tidal

Currents - about Hangman's

wharfs - September

19-1884 - Full Spring

tides and from 2 to 3 hours

before 7 P.M. the time of ebb

whirlpools. Observe also at

Long Island and Deer Pt.:-



Report B

St Croix River Maine

Q: This report covers sheets Nos I II III and IV St Croix River Series Maine, extending from Eastport to Calais Maine. The latter port is at the head of navigation on the river and is $22\frac{1}{4}$ nautical miles above Eastport.

The upper portion of the river (from Devils Head to Calais) is so filled with sawdust from the mills above that it is practically closed to navigation at low water. From The Sledge up there is only a narrow stream at low water with 7 ft.

Vessels still anchor as far up as The Sledge with good depth of water, but the river is said to be rapidly filling up with

sandust as far as Devils Head. In this portion of the river (Devils Head to Calais) the spring freshets are said to deepen the channel temporarily about two feet. At high water deep draught vessels may go to Calais, but ground out at low water.

What may be considered a remarkable feature of the St Croix River and St Andrews Bay, considering the rugged appearance of the country, is the very small number of outlying dangerous ledges. This feature, the strong tidal currents, and the fact that vessels may anchor almost anywhere make it practicable to "work with the tide" to advantage in calms. The chief object served by these waters is Commerce and fisheries.

3. The shores are high and partially wooded and so bold that a vessel may sight them with safety nearly everywhere in thick fogs.

The principal water trade is in lumber and fish and is principally carried in sailing vessels.

There are two steamers on the river which do all the passenger and the express and fast freight business connecting at Eastport with the coastwise

Steamers: I applied to the Collector at Eastport for an approximate number of vessels engaged in trade and while he expressed willingness to furnish the necessary data he informed me ^{he} had but recently supplied the Can. & U. S. Office with the same data.

4 - Sheets do not go to the sea. No general guides needed. Simply follow the general direction of the river.

5 - No life-saving stations on sheets.

6

7 - The United States maintains a light on Docket's Island off Red Beach Maine which shows up and down the river making a good guide for vessels. The Canadian government maintains a light on the extreme end of a shoal spit S. E. of St. Andrews N. B., one on a wharf at St. Andrews, one about a mile below "The Sledge" N. B. and one just above "The Sledge" N. B. These lights are small ones but seem to answer the purpose and I think others are not needed.

Beacons - A large wooden beacon marks the west side of the channel of the south entrance to

St. Andrews, two others of the same kind show the way into St. Andrews to the Strid of St. Andrews Island, but there is no channel from this side at low water. Farther up the river - at "The Ledge" the breakwater, or ice breaker, serves as a beacon. All are good aids.

Buoys - The first one above Eastport is on Frost's Ledge off Pleasant Point Maine. There is a very strong current here and the buoy sometimes is dragged into deep water and lost. I think a spindle set into the ledge would be a great improvement. There is a buoy off southern end of St. Andrews Island, one on the east side of the entrance to St. Andrews (opposite the beacon) which are good guides. Along the channels into St. Andrews Harbor are several buoys, but so small and poorly painted as to be of no use to strangers.

The next buoys are found off Red Beach Maine. One marking Half Tides Ledge and another the end of the ledges on the north side of Dochet's Island.

From Devils Head up to Calais the channel is well indicated by a number of buoys.

There should be a buoy placed to mark the

"Middle Ground" to the S^d of Docket's Island.

Many vessels ground on this Shoal, it being avoided only by good judgement and bearings. It used to be marked by a buoy but there is none there now. No place on the river seems to need one more. With this exception I think this river is sufficiently buoyed. River men however think a buoy should be placed to mark the end of Wilson's Point at Red Beach, and Sandy Point on the opposite side.

8 = There are no regular pilots, but most of the fishermen are competent pilots = It is not customary to anchor and wait for a pilot.

9 = There are no quarantine regulations and no boarding stations.

10 = There are no tomboats at Eastport of any account. They may be had at Calais. Rates are not fixed. Very few vessels use them.

11 = Anchorages are not limited by rules.

Strangers have nothing to consult except the chart and their judgement.

12 = There are no harbor regulations or dues. The wharves are all private property.

13 = Supplies and ship chandlers stores may be had at Eastport and Calais. Fresh water is supplied by water-boat from Eastport. A limited supply of Anthracite coal may be had at either city and is delivered at wharves or by lighter. Ordinary repairs may be made at Eastport or Calais but neither place has facilities for handling heavy work.

14 = There are no hospitals in the vicinity, but the collector at Eastport provides for each case as it is reported =

15 = There are no dry docks or marine railways of any importance in the vicinity

16 = The ends of most wharves are above low water mark; none have water for deep vessels at low water, but two or three at Eastport have from 7 or 8 to 10 or 12 ft at L.W.

17

18

19 = U.S. Signal Service Office is in the Government Building at foot of Washington St., where weather signals are displayed =

20 = Stone

21 = "

22nd. The International Steamship Co run tri-weekly steamers both ways from Boston Mass to St. John's N.B. touching at Portland and Eastport Maine. A branch railroad from St. Andrews N.B. connects with roads running to Ed. as far as Malifax &c, and with the Maine Central system for the West. A stage line from Calais also connects with the latter. There are Telegraph Offices at Eastport and Calais and telephone communication between them and at the intermediate post office villages. The postal service is daily.

U.S. Post Offices - on sheets: Eastport, Perry, Robbinston, Red Beach and Calais all accessible by river and wagon road.

23rd Settlements on U.S. side, Eastport, Calais, Red Beach and Robbinston, their importance in order named, none have direct railroad communication but the Maine Central passes near Calais. Eastport is on Moose Island in Passamaquoddy Bay, Calais is at the head of navigation on the St. Croix 22 $\frac{1}{2}$ miles from Eastport. Red Beach 14 $\frac{3}{4}$ miles and Robbinston 11 miles from Eastport, are small villages of not much importance. Robbinston is at

The mouth of the St. Croix River. On New Brunswick side are St. Andrews opposite Robbinston is a rail-road terminus, The Sedge three miles below Calais, and opposite Calais, St. Stephens which is also a rail-road terminus. Of these places St. Stephens is most important and St. Andrews next.

25. - There are Custom-Houses at Eastport and at Calais - in the government buildings - with the Collector at the former and a Deputy at the latter.

26. There is little danger from ice as far down as Eastport, but from Robbinston up it is dangerous during January, February and March.

27. There are no dangerous freshets.

28. Prevailing winds in summer blow South Westward, blowing with a great deal of regularity almost daily. For the rest of the year, the winds are very much the same as along the rest of the North-east Coast. The most dangerous gales come from the Eastward and South Eastward, but being interior waters much damage is seldom done by them. Southerly gales always produce very high tides, sometimes overflowing the wharves at Eastport.

29. Fogs are very prevalent through all the summer

months. Winds from seaward always bring them and they seldom lift until the wind comes from off the land. Winds from West to North always bring clear weather. Winds from South East to South West are sure to bring dense fogs in the summer time. The fogs seldom extend into the interior or up the river beyond Robbinston, when very dense at Eastport and outside, St Andrews Bay is often free from fog. #30 = wrecks are rare except on the outside coast =

Note = The whirlpools at Deer Island Point are very dangerous for small craft during flood tides. They are worst about two hours before high water on the spring tides. There are no dangerous whirlpools on the ebb tides, which get quickly out. These whirlpools on the flood current seem to be caused by the confinement of the land and the meeting of the currents coming from either side of Indian Island and to the Northward through Friar Roads. A number of small boats have been lost in the whirlpools and two sailing vessels of about three tons have been drawn down here. One in about 1819 and the other in 1867 or 1868. In each case the vessel came up some distance away and all hands were lost and bodies not recovered.