

7198

Diag'd. on diag. ch. No. 1203-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC
Field No. GI-1147 Office No. H-7198

LOCALITY
State Maine
General locality Penobscot Bay
Locality Belfast Harbor

1947

CHIEF OF PARTY

W. F. Malnate

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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. H-7198

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

REGISTER No. H-7198
Field No. GI-1147

State Maine

General locality Penobscot Bay

Locality Belfast ~~Harbor~~ Bay

Scale 1:10,000 Date of survey 18 June to 8 August 1947

Instructions dated 15 April 1947

Vessel Launch No. 101

Chief of party W. F. Malnate

Surveyed by F. B. Quinn

Soundings taken by fathometer, graphic recorder, hand lead, ~~wire~~ and pole

Protracted by A.G.A.

Soundings penciled by A.G.A.

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~

REMARKS: This survey is complete and adequate. Attention is invited to the southeast part of this sheet where an unusual bottom condition exists. Contrary to usual findings, the bottom here is flat with holes from 5 to 25 feet deeper than the general bottom depths. This is further discussed in the body of the report.

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SHEET H-7198 (FIELD NO. GI-1147)

BELFAST HARBOR, PENOBSCOT BAY, MAINE

USC&GS GILBERT

W. F. MALNATE, COMMANDING

PROJECT CS-265

SCALE: 1:10,000

A. PROJECT: This sheet is part of Project CS-265. The survey was accomplished under SUPPLEMENTAL INSTRUCTIONS, 22/MEK, S-2-Gi, 15 April 1947, calling for a new basic survey.

B. SURVEY LIMITS AND DATES: This survey covers slightly more area than that shown on USC&GS Chart No. 319, which it will replace. From a point above the second bridge and 1.0 mile northwest of the first bridge at Belfast, the south shoreline forms the southwestern limit to the mouth of the Little River, near East Northport; thence the southern limit extends easterly to latitude $44^{\circ}-23.6'N$, longitude $68^{\circ}-56.2'W$; thence the easterly limit extends northerly to a point on the north shoreline 0.6 mile northeast of Moose Point; thence southwesterly, westerly and northwesterly the north shoreline forms the north limit to the point of beginning.

The survey was accomplished between 18 June and 8 August 1947.

Satisfactory junction was made with Chart 311 at the outer limits.

A previous survey of this area was made by the USC&GS in 1872 on Sheet H-1168. ¹⁸⁷² Sheet H-1258 also touches the outer limits of the present survey. Information on surveys by the U.S. Engineers to 1937 was not available nor needed for this basic survey, except that part incorporated in the 1944 air photo compilation sheets.

C. VESSELS AND EQUIPMENT: This survey was made with Launch No. 101. 808-type fathometers C&GS No. 53, Submarine Signal Company No. 627, and C&GS No. 113-S were successively used with inboard transducers.

Considerable trouble was experienced with these fathometers that could not be corrected by ship's personnel. Panel No. 53 completely broke down and was returned to Washington; panel No. 627 developed a mechanical failure, gave weak returns, and could not be repaired to satisfaction by a field engineer of the Submarine Signal Company; and panel No. 113-S was finally adjusted by this engineer to give acceptable

results to limiting depths of this sheet. The depths recorded and plotted are accurate and satisfactory, but proper adjustment of the panels would have produced a stronger record on the fathograms. This adjustment was subsequently accomplished at Bar Harbor, Maine, by Mr. Nedley from the Washington Office of the USC&GS.

Handlead and pole soundings were taken to supplement the fathometer work.

Bottom samples were taken both with an armed lead in connection with bar checks, and with a snapper cup in a systematic coverage of the sheet. Soundings taken with the snapper leadline were rejected because of the uncertain readings by inexperienced leadsmen.

D. TIDES AND CURRENTS: See Tide Note attached to this report. No current observations were taken.

E. SMOOTH SHEET: The projection was hand made at the Norfolk Processing Office and the sheet plotted by that office. Shoreline on the smooth sheet was obtained from air-photo compilations T-8014, T-~~8018~~ and T-8019^{of 1941-44}, supplemented by a revision sketch blown up to a scale of 1:2,500 on which field measurements, taken with a steel tape and recorded in sounding volume 9, were fitted to air-photo positions to clarify wharf installations and to show additional construction on Marshall Wharf, which was extended about 10 feet offshore and straightened during the spring of 1947. This sketch was blown back down to scales of 1:5,000 and 1:10,000 for transfer to the smooth sheet. The revised shoreline between the Old Eastern S.S. Company Wharf and Consumers Fuel and Hay Company Wharf can be checked by stereoscopic examination of 9-lens air photos Nos. 6987 and 6988. The positions of the northwest corners of both wharves and the azimuths of their west and north faces were held fixed in the revision sketch. *sketch filed as boat sheet no longer needed*

F. CONTROL STATIONS: All control was accurate and adequate. *Photos not available for comparison*

3 triangulation stations were plotted on this sheet, namely, STEEL LEDGE MONUMENT LIGHT 1933-1944, YELLOW BARN CUPOLA 1911-1944, and MOOSE PT. 2 1911-1944. The positions used are from the 1944 triangulation of K.G. Crosby. Stations BELFAST METH. CH. SPIRE 1862-1944 and BELFAST, ELEVATOR 1934 were not used.

Topographic Signals were obtained from Air Photo Compilations Nos. T-8014, T-~~8018~~ and T-8019. *of 1941-44*

Additional signals were located by sextant fixes in some cases and by measured distanced and sextant azimuths from topographic stations in other cases.

G. SHORELINE AND TOPOGRAPHY: The source is given in paragraph "E" of this report. See remarks concerning revision along the harbor shoreline facilities.

Almost complete delineation of the low-water line was obtained.

H. SOUNDINGS: Standard methods of sounding were used throughout. Leadlines were checked, a sheave test was made, bar checks were taken, and sounding poles were carefully calibrated.

Fathometer report filed with fathograms.

Foot-scale soundings, only, were recorded on the fathometer. All shoal areas were extensively covered with splits, crosslines and drift soundings, supplemented by handlead or pole soundings for determination of least depths. These developments are covered by notes in the soundings volumes. In the shoal area east of the first bridge at Belfast, soundings and heights of rocks at various stages of the tide were taken from a skiff to make sure that no rocks would be missed during the fathometer development of this area. See "t" day, 28 July 1947.

In the area above the first bridge, only such development was made as was necessary to give the limits of the area baring at low water and to clearly delineate the river channel. No soundings were taken beyond the limits of the proposed new chart. *See Rev. Plan. 7d + 9*

The clearances of both bridges were determined for reference in the Coast Pilot Notes, a copy of which is attached.

SPECIAL ATTENTION, is invited to the area near the southeast corner of the survey, where a generally flat-sloping condition with holes instead of the usual pinnacles was found. The first lines over this area were regarded with suspicion and it was thought that the fathometer was giving "misses" and not properly returning the echo. However, subsequent splits, crosslines, and finally a development along what appeared to be the axis of a possible trench, verified the fact that these holes of 5 to 25 feet greater depth actually existed as holes. These soundings should be plotted and enclosed by individual depth curves, and the regular depth curves plotted in the usual manner. The cause of this type of formation is not determined, but it could be a result of springs, the proximity to the deeper water of Penobscot Bay, or the lack of filling with silt because of the abrupt widening of the bay in the vicinity of Steel Ledge Monument Light. A few similar spots appear on the 1872 survey, Sheet H-1168, but the wider line spacing failed to emphasize them.

I. CONTROL OF HYDROGRAPHY: Standard sextant fixes were used throughout with the exception of a few places where the lines were close to signals and accurate distances and directions could be estimated and recorded from them. No difficulty was found in plotting any lines.

J. ADEQUACY OF SURVEY: This survey is complete and adequate to supersede prior surveys for charting.

No holidays or excessive differences exist, and satisfactory junction was made as noted in paragraph "B".

The depth curves can be accurately drawn.

K. CROSSLINES: Crossline were run in accordance with specifications over open water areas, and additional lines along and paralleling the channel were run to assure unbroken profiles in the channel. Developments of shoals furnished addition crosslines.

L. COMPARISON WITH PRIOR SURVEYS: Sheet H-1168, done in 1872, is in very good agreement with the present survey with exception of some shoaling indicated upstream beyond the bridges and slightly shoaler depths on previously charted shoals due to closer development during the present survey.

M. COMPARISON WITH CHARTS: Spots noted on the Washington Office Chart Review of Chart No. 311 were given special examination. On 24 November 1947 Form 786 was submitted to Washington indicating a least depth of 19^{*} feet on the previously charted depth of 24 feet at Lat. 44°-25'-89 meters, Long. 68°-57'-283 meters. This change was published in Notice to Mariners, No. 51, 20 December 1947. * 18' on sheet

Other spots marked for field investigation on the Chart Review and additional spots are tabulated below:

<u>Latitude</u>	<u>Longitude</u>	<u>Survey</u>	<u>Charted</u>	<u>Depth</u>	<u>Depth</u>	<u>Remarks</u>
44°-25' ⁹⁷ 00	68°-56' ⁴ 36	(45)	37'	Ch 311	45'	Appears to be wrong sounding in previous survey
44-24.78 ⁵	68-56.53 ⁷		49'	Ch 311	41'	ditto } Probably error in sounding or position on prior survey. See Review par. 5A
44-24.30 ⁰⁸	68-57.55 ⁷		45'	Ch 311	35'	
44-24.48 ⁵	68-57.22		44'	Ch 311	32'	
44-24.77 ⁶⁶	68-57.73		27'	Ch 311	28'	
44-24.82 ²	68-57.86 ⁷	(100m. SE. of pos.)	28'	Ch 319	27'	
44-24.75	68-57.78 ⁸		26'	-----	27'	Same shoal not noted before.
44-25.14	68-57.56		24'	Ch 311	25'	Small area shoal.
44-25.40	68-57.78		22'	Ch 319 A	3'	shoal lies 150 meters NE

Probably error in sounding on prior survey. See Review par. 5A

<u>Latitude</u>	<u>Longitude</u>	<u>Survey Depth</u>	<u>-5- Charted Depth</u>	<u>Remarks</u>
44-25.50	68-57.65	10'	-----	Not noted before, shoalest small bldr on shoal area.
44-25. ⁵¹ 49	68-57.92	15' 14'	12' ch 319	Old sounding believed displaced SW'ly. Rev. par 5A
44-25.33	68-58.03	7¹/₂' 6'	9' ch 319	Small shoal spot
44-25.40	68-58.12	12' 11'	10' ch 319	Old sounding not verified Present depth inadequate
44-25.43	68-58.35	9' 8'	12' ch 311	Boulder ch 311
44-24.98	68-59.18 ⁷	21'	16') ch 319	No Shoal Area indicated Probably error in prior sounding Rev. par. 5
44-25.05	68-59.24 ³	19' 20'	16') ch 319	

All other shoal spots are close to the shoreline or well-noted on boat sheet.

N. DANGERS AND SHOALS: Boulders lie along both north and south shorelines. The shoal area extending northwestward from Bell Buoy No. 2, through Steel Ledge Monument Light, has numerous spots from ~~2¹/₂~~ to 5 feet in depth.

The bights along the north shore between Patterson Point and the memorial bridge are shoal and boulders lie around the points between them.

The shoal area east of the first bridge and north of the wharves is quite extensive and reaches approximately 2/3 of the distance across the river from the north shore.

O. COAST PILOT INFORMATION: Revision of the "United States Coast Pilot, Atlantic Coast, Section A, pages 175 and 176" are part of a separate report, and a copy of this information is appended to this report. Noted.
J.A.M.
3/17/48

P. AIDS TO NAVIGATION: No new Fixed Aids to Navigation were located. A copy of Floating Aids to Navigation furnished to the 1st Coast Guard District was forwarded to Washington on 17 November 1947. Ch. L.
757(1947)

Q. LANDMARKS FOR CHARTS: No new landmarks are recommended.

R. MAGNETIC OBSERVATIONS: A new magnetic station was established near signal SUB. All data was forwarded to Washington on 10 September 1947.

S-Z: There is nothing to report under these headings.

Francis B. Quinn
Lt. Comdr. USC&GS

Approved & Forwarded:



W. F. Malnate
Lt. Comdr. USC&GS
Commanding Ship GILBERT

APPROVAL SHEET
TO ACCOMPANY

HYDROGRAPHIC SURVEY H-7198 (FIELD NO. GI-1147)

The boat sheet and sounding records were inspected daily and at the conclusion of the field work. Both are approved.

The Descriptive Report has been examined and is approved.

The Report showing Fathometer Corrections has been examined and is approved.



W. F. Malnate
Lt. Comdr., USC&GS
Commanding Ship GILBERT

TIDE NOTE TO ACCOMPANY

- HYDROGRAPHIC SURVEY H-7198 (FIELD NO. GI-1147)-

All tide reducers were obtained from the Belfast, Maine, Tide Station, and no correction for time or range was used on any part of the survey.

Portable-Automatic Tide Gage No. 299 was in operation by this party from 23 June to 8 August 1947, installed at the Old Eastern Steamship Company Wharf (Wyman Lumber Company Wharf) at latitude $44^{\circ}-25.58'N$, longitude $68^{\circ}-59.97'W$.

The Washington Office determined the tidal planes and furnished the hourly heights necessary for reduction of soundings.

STATISTICS

TO ACCOMPANY

HYDROGRAPHIC SHEET H-7198 (FIELD NO. GI-1147)

(1947) Date	Vessel	Day (blue)	Vol.	H.L. Pole*Sdgs.	Pos.	Stat.Mi. Sdgs.	Total Stat. Mi. Run
June 27	Launch 101	a	1		146	22.4	38.4
28	"	b	1		83	13.1	19.9
30	"	c	1		15		
July 10	"	d	2	36	36		11.5
11	"	e	2	32	32		18.4
12	"	f	2	2	88	15.4	16.1
14	"	g	2,3		227	39.9	42.2
15	"	h	3	1	127	14.5	17.4
16	"	j	3	1	108	16.9	24.7
17	"	k	4	4	219	27.4	33.4
18	"	m	4	2	117	25.0	33.3
19	"	n	5		98	9.2	10.2
21	"	p	5	1	138	14.0	19.9
22	"	q	5	2	111	10.5	20.5
24	"	r	6	1	182	26.0	34.6
25	"	s	6,7	1	179	30.6	37.9
28	dinghy	t	7	12*	18		3.4
30	Launch 101	u	7		41	6.8	16.5
Aug. 1	"	v	7	1	225	24.3	34.8
2	"	w	8	1	106	14.5	19.7
4	"	x	8	5	167	21.0	32.7
5	"	y	8,9	4	142	18.6	29.9
6	"	z	9	4	99	8.3	18.4
7	"	aa	9	2			
8	"	ab	9	14*	27	1.5	3.2
Totals		25	9	128	2739	359.9	537.0

Area = 6.9 square statute miles

SUMMARY OF FATHOMETER CORRECTIONS

JUNE - AUGUST, 1917

HYDROGRAPHIC SURVEY H-7198 (FIELD NO. 61-1117) - - - BELFAST, MAINE

"a" and "b" days (Using Fathometer 53-8)

<u>A-Range</u>			<u>B-Range</u>
<u>From</u>	<u>To</u>	<u>Corrections</u>	
(feet)	(feet)	(feet)	
0.0	20.0	0.0	0.0 Correction at all depths.
20.1	and	+0.2	

"r" to "s" days, inclusive (Using Fathometer Sub. Sig. Co. No. 627)

0.0 Correction for all depths on Both A-Range and B-Range.

"v" to "g" days, inclusive (Using Fathometer 113-8)

<u>A-Range</u>			<u>B-Range</u>
<u>From</u>	<u>To</u>	<u>Corrections</u>	
(feet)	(feet)	(feet)	
0.0	10.0	0.0	0.0 Correction at all depths.
10.1	15.0	+0.2	
15.1	20.0	+0.4	
20.1	33.0	+0.6	
33.1	37.0	+0.4	
37.1	50.0	+0.2	
50.1	and	0.0	

LIST OF SIGNALS

HYDROGRAPHIC SHEET NO. H-7198 (Field No. Gi-1147)
BELFAST HARBOR, MAINE

TRIANGULATION STATIONS

BELFAST STEEL LEDGE MON. LIGHT 1862-1944

MOOSE PT. 2, 1911-1944

YELLOW BARN CUPOLA, 1911-1944

TOPOGRAPHIC STATIONS

Abe	T-8019	Jar	T-8014	Use	T-8019
Amy	"	Jug	T-8019		
Bag	"	Jut	T-8014	Vex	"
Big	"			Vim	"
Bob	"	Lax	T-8014		
Bow	T-8014	Lag	T-8019		
		Low	T-8014	Zag	"
Cab	T-8019	Lug	T-8019	Zig	T-8014
* Cam	"			Zog	T-8019
Cat	T-8014				
Cop	T-8019	Man	"		
		Max	"		
Deb	"	Mop	T-8014		
Dim	T-8014				
Doc	"				
Dot	"	Nut	"		
Ear	T-8019	Odd	T-8019		
Eat	T-8014	Off	"		
Ebb	"	Old	T-8014		
* Ego					
		Pal	T-8019		
Fat	"	Peg	"		
Fed	"	Pin	T-8014		
Fig	"	Pup	"		
Fox	T-8019				
Gob	T-8014	* Quo			
Gum	"				
*Gus					
Guv	T-8019	Rag	"		
		Rim	T-8014		
		Rot	T-8019		
* Hat					
His	T-8019				
Hoe	T-8014	Sir	T-8019		
* How		Sky	T-8014		
		Sly	T-8019		
Ice	T-8019				
Ida	"	Tap	T-8019		
		Try	"		
* Irv	T-8014	Tub	T-8014		

* From field locations of topo. accuracy as recorded in Vol. 1

HYDROGRAPHIC STATIONS

Act	-	Vol.	7	pg.	11
Dud	"	1	"	3	
Eel	"	1	"	3	
Egg	"	1	"	3	
Fix	"	1	"	5,6,8,9	
Hem	"	1	"	4,5,6,8	
Jap	"	1	"	58	
Jib	"	1	"	4,5,6,8	
Joe	"	1	"	5	
Key	"	1	"	6, 9	
Kid	"	1	"	5,6,8	
Leo	"	1	"	58	
Mal	"	1	"	6, 9	
New	"	1	"	10	
Nix	"	1	"	6	
Nod	"	1	"	5,6,8	
Subm	"	1	"	6	
Vet	"	7	"	11	
Wed	"	1	"	6	

Noted by J. A. M.
3/17/48

REVISION NOTES FOR

"UNITED STATES COAST PILOT, ATLANTIC COAST, Section A, St. Croix
River to Cape Cod, Fourth (1941) Edition."

Page 175, Line 19: Revise last sentence to read "The wharf was re-
built in 1947 and two float landings were maintained by the Northport
Yacht Club." Also add "A nautical school for children is operated at
Northport during the summer months."

Page 175, Line 32: After "---- by small craft." insert "Lobster pots
are present to a limited extent in the river and bay during the season,
and there were three fish traps in the vicinity of Moose Point in 1947."

Page 175, Line 36: Revise first sentence to read "---- with least
depths of $2\frac{1}{2}$ ^{foot} feet at several spots."

Page 175, Lines 38 and 39: Delete this sentence and substitute "There
is deep water between the ledge and the north shore, but this should
not be used as a channel because of shoal obstructions lying to the
eastward."

Page 175, Line 42 to Page 176, Line 4: Delete these paragraphs and
substitute the following.

"The city small boat landing is on the northwest side of the old Eastern Steamship Company Wharf (now the Wyman Lumber Company), with depths of 2 to 3 feet at mean low water alongside the float in 1947. The outer face of the Wharf was solid in 1947 and had a depth of 13 feet at mean low water, except for an 8 foot spot at the northwest corner. The wharf flooring was in a ruined condition and a fence blocked access to it from shore."

"Consumer Fuel Company Wharf has a depth of 8 feet at mean low water across the channel end and along the northwest side as far as the outer end of the warehouse."

"Oak Hill Granite Company Wharf was in poor condition and had no wharf flooring in 1947. The depth along its face was from 9 feet at the southeast end to 12½ feet at the northwest end."

"Marshall Wharf, rebuilt in 1947, has mean low water depths from 9 feet at the east end to 15 feet at the west end. It is the principal wharf used for loading supplies, water, and fuel via tank wagon. Daily small boat mail and passenger service is maintained from this wharf to Castine."

"Eaton Coal Company Wharf was in poor condition in 1947. Mean low water depths ranged from 11 feet at the east end to 14 feet at the west end."

"Belfast Packing Company Wharf has mean low water depths of 7½ to 8½ feet across its northern end, and shoals to 1½ feet on its eastern side."

"The "T"-shaped pier just above the first bridge, formerly used for loading fertilizer, was in ruins in 1947."

"Minor repairs to machinery can be made at Belfast, and arrangements can be made for towboats. The Belfast, Moosehead Lake Railroad has a terminal at Belfast."

"Belfast is a customs port of entry and marine documents are issued. An office is maintained in the Post Office Building."

Page 176, Lines 5 to 9: Delete and substitute the following.

"Bridges.— Two highway bridges cross the Passagasawakocag River near Belfast. The lower one, a swing bridge on highway route U.S. 1 at the upper end of Belfast, is of concrete and steel construction. It has a horizontal clearance of 58 feet and a vertical clearance of 6.9 feet at mean high water. The midchannel depth through the bridge is 9.5 feet at mean low water. Arrangements for opening to permit passage through can be made by contacting the City Manager at Belfast."

"The second bridge, Mickerson Bridge, is a fixed bridge with a single channel 29 feet wide. The vertical clearance at mid-channel is 8.8 feet at mean high water."

Page 176, Line 25: Add to the end of this paragraph "From a mid-channel point east of Oak Hill Granite Company Wharf, head westward to pass close by Marshall Wharf and enter the small boat anchorage area between Marshall Wharf and the bridge."

Page 178, Line 21: Add "The Maine Nautical School is located at Castine."

Page 178, Line 19: Revise to read "Castine has daily small power boat mail and passenger service with Belfast."

ADDENDUM

to accompany

HYDROGRAPHIC SURVEY H-7198 (Field No. Gi-1147)

CONTROL

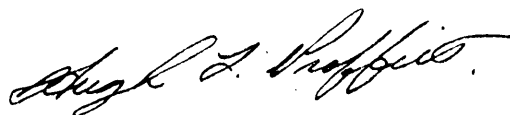
Dud, Hem, How, Irk, & Hat ^{Eq°} These signals were plotted on smooth sheet by azimuths and distances, from data recorded in the sounding volumes. The topographic signals, on which these were referenced, were left off the sheet to avoid conjection.

UNDEVELOPED SHOAL INDICATIONS

Lat. 44°²35.05' Long. 69°58.88' An 18' sounding in a general depth of 25'. This may possibly be a stray as the fathogram is not clear. *18 15 a stray - not plotted*

Lat. 44°25.85' Long. 69°00.56' A 6' sounding falling outside an 11' sounding near Belfast Packing Co. Wharf. *Plotting in error. As revised, 6' in agreement*

Respectfully submitted,




Hugh L. Proffitt
Cartographer

Norfolk, Va.

March 4, 1948

Approved & Forwarded


George L. Anderson
Supervisor S.E. District

GEOGRAPHIC NAMES

Survey No.

H7198

Name on Survey

On Chart No. / On previous survey No. / On U. S. quadrangle Maps / From local information / On local Maps / P. O. Guide or Map / Rand McNally Atlas / U. S. Light List

	A	B	C	D	E	F	G	H	K
<u>Maine</u>				(for title)					USGB 1
<u>Penobscot Bay</u>				"	"				2
<u>Belfast Harbor</u>				"	"				3
									4
<u>Little River</u>									5
<u>Belfast</u>									6
<u>Belfast Swing Bridge</u>									7
<u>Nickerson Bridge</u>									8
<u>Passagessawaukeag River</u>			(exact spelling	pending with U.S.B.G.N.)					9
<u>Goose River</u>									10
<u>Patterson Point</u>									11
<u>Moose Point</u>									12
<u>Steals Ledge</u>									13
									14
									15
					Names underlined in red are approved. 7/12/48 L.Heck.				16
									17
									18
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									20
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									23
									24
									25
									26
									27

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. **H.7198.**

Records accompanying survey:

Boat sheets ..1..; sounding vols. ..9..; wire drag vols. .0...;
 bomb vols. ...0..; graphic recorder rolls .16...;
 special reports, etc. .1 Tracing.....

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet		2739
	
Number of positions checked		101
	
Number of positions revised		11
	
Number of soundings revised (refers to depth only)		116
	
Number of soundings erroneously spaced		12
	
Number of signals erroneously plotted or transferred		0
	
Topographic details	Time	3 hr.
	
Junctions	Time	0
	
Verification of soundings from graphic record	Time	15 hr.
	

Verification by... *C.P. Reed* Total time Date 5-5-48

Reviewed by... *D.H. Carstens* Time 4.8 hr Date 5/21/48

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7198

FIELD NO. GI-1147

Maine, Penobscot Bay, Belfast Bay
Surveyed in June - August 1947 Scale 1:10,000
Project No. CS-265

Soundings:

Pole
Handlead
808 Fathometer

Control:

Sextant fixes on shore signals

Chief of Party - W. F. Malnate
Surveyed by - F. B. Quinn
Protracted by - A. G. Atwill
Soundings plotted by - A. G. Atwill
Verified and inked by - C. P. Reed
Reviewed by - R. H. Carstens, May 20, 1948
Inspected by - H. W. Murray

1. Shoreline and Signals

The shoreline and signals originate with air photographic surveys T-8014 and T-8019 of 1941-44. Sextant fixes for supplementary hydrographic signals are recorded in the sounding volumes.

Revisions to wharfs in Belfast harbor are from a supplementary large scale boat sheet. This boat sheet is no longer needed and has, therefore, been destroyed.

No remains of the fish trap (not charted) shown on T-8019 in the vicinity of lat. 44° 25.7', long. 68° 57.4' were found on the present survey. This fish trap is considered non-existent and should be disregarded in charting.

2. Sounding Line Crossings

Depths at crossings are in excellent agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated. Supplementary curves of 42, 48, 54 and 66 ft. were added to emphasize bottom relief.

The bottom is generally smooth. However, there are several shoals with least depths of 6 to 26 ft. lying as much as one mile off the north shore of the bay.

In the southeast portion of the survey there are numerous circular or oval-shaped depressions which range in depth from 5 to 46 ft. below the surrounding bottom. These depressions are unusual in that they occur at random in a generally smooth bottom. Prior indications of deep holes in this area appear on H-1168 and H-1258 of 1872.

4. Junctions with Contemporary Surveys

No contemporary surveys adjoin the present survey. The junction with charted soundings, however, is adequate.

5. Comparison with Prior Surveys

- A. H-1168 (1872) 1:10,000
H-1258 (1872) 1:20,000

Little change in depths has occurred in this area subsequent to these prior surveys, except in the vicinity of Belfast Harbor where depths have been artificially increased as much as 5 ft. by dredging.

There are, however, discrepancies of as much as 20 ft. in some places between present and prior soundings. These discrepancies are considered to be due to erroneous soundings and sextant angles, and to inaccuracies in the spacing of soundings on the prior surveys. The following prior soundings (charted) are considered to be in error because of the reasons given above and should be disregarded. The plotting of each sounding has been verified from the original records and where mistakes are apparent, the soundings have been corrected on the original smooth sheet.

Incorrect soundings from H-1258

<u>Prior Sounding</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Nearby Present Depth</u>	<u>Chart</u>
17 ft.	44° 25.69'	68° 56.43'	22 ft.	311
26 ft.	44° 25.56'	68° 56.45'	36 ft.	311
29 ft.	44° 25.33'	68° 57.0'	34 ft.	311
32 ft.	44° 25.20'	68° 57.1'	35 ft.	311
37 ft.	44° 24.97'	68° 56.40'	49 ft.	311
41 ft.	44° 24.75'	68° 56.57'	49 ft.	311

Incorrect soundings from H-1168

32 ft.	44° 24.50'	68° 57.21'	44 ft.	311 /
34 ft.	44° 24.61'	68° 57.53'	40 ft.	311
35 ft.	44° 24.08'	68° 57.55'	47 ft.	311 /
3 ft.	44° 25.40'	68° 57.78'	23 ft.	311 & 319
10 ft.	44° 25.51'	68° 57.93'	14 ft.	319
3 ft.	44° 25.49'	68° 58.95'	11 ft.	319
16 ft.	44° 25.05'	68° 59.23'	20 ft.	311 & 319
16 ft.	44° 24.98'	68° 59.17'	21 ft.	311 & 319
2 ft.	44° 24.86'	68° 59.32'	11 ft.	319
11 ft.	44° 24.58'	68° 59.14'	15 ft.	319
13 ft.	44° 25.28'	68° 59.38'	17 ft.	319 & 311

The present survey is adequate to supersede these prior surveys within the common area.

B. H-3302 (1911) W.D.

There are no conflicts between the present survey depths and the effective drag depths of this wire-drag survey.

6. Comparison with Chart 319 (Latest print date 11/30/42)
Chart 311 (Latest print date 2/16/48)A. Hydrography

1. The charted hydrography is principally from the previously discussed surveys which need no further consideration, and from after dredging surveys shown on Bps. 16284 (1916) and 31542 (1937). There are only minor differences between depths on the blueprints and present depths. The present survey is adequate to supersede these surveys.

A few supplementary soundings, now superseded, are charted from advance information of the present survey in Chart Letter 774 (1947).

2. The wharf ruins charted in lat. $44^{\circ} 25.17'$, long. $68^{\circ} 59.61'$ from Chart Letter 483 (1940) and the piling charted in lat. $44^{\circ} 25.62'$, long. $69^{\circ} 00.14'$ from Bp. 31542 (1937) are not shown on the present survey nor on the contemporary air photographic survey of this area, T-8014 (1941-44). The ruins and piling are considered to be nonexistent and should be disregarded.
3. The sunken rock charted in lat. $44^{\circ} 25.92'$, long. $69^{\circ} 00.5'$ on chart 319 originates with Bp. 16284 (1916) on which it is shown as a rock covered by 0.4 ft. in general depths of $1\frac{1}{2}$ ft. The depths in this area have subsequently decreased about 2 ft. because of sedimentation. The sunken rock, therefore, has no charting value.
4. The transmission line charted in lat. $44^{\circ} 25.95'$, long. $69^{\circ} 00.54'$ from chart letter 483 (1940) is reported to be nonexistent in the Descriptive Report of T-8014 (1941-44) and should be disregarded.

B. Aids to Navigation

The present survey positions of aids to navigation are in substantial agreement with their charted positions and adequately mark the features intended.

7. Condition of Survey

- a. The sounding records and Descriptive Report are exceptionally complete and comprehensive.
- b. The smooth plotting was accurately accomplished.
- c. The scope and character of the survey adequately complies with the requirements of the Hydrographic Manual.
- d. The development near the head of the river in lat. $44^{\circ} 26.6'$, long. $69^{\circ} 01.4'$ does not adequately delineate the bottom. H-1168a (1872) shows a channel with depths of 3 to 6 ft. extending about 0.75 mile further upstream. Most of this area lies outside the limits of large scale charts 311 and 319.

8. Compliance with Project Instructions

The present survey adequately complies with the Project Instructions except as noted in paragraph 7d.

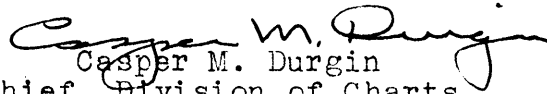
9. Additional Field Work Recommended

This is an adequate basic survey and no additional work is recommended except at the head of the river as noted in paragraph 7d, above. Development should not be made unless the area is considered to be of sufficient importance.

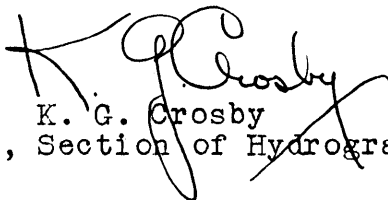
Examined and approved:



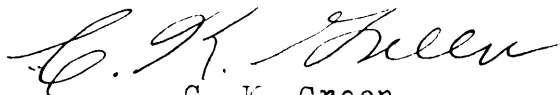
I. E. Rittenburg
Chief, Nautical Chart Branch



Casper M. Durgin
Chief, Division of Charts



K. G. Crosby
Chief, Section of Hydrography



C. K. Green
Chief, Division of Coastal Surveys

839

Harvey

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

11 March 1948

Division of Charts: H. W. MURRAY

Plane of reference approved in
9 volumes of sounding records for

HYDROGRAPHIC SHEET 7198

Locality - Belfast Harbor, Penobscot Bay, Maine

Chief of Party: W. F. Malnate in 1947
Plane of reference is mean low water, reading
1.9 ft. on tide staff at Belfast
15.8 ft. below B. M. 5 (1947)

Height of mean high water above plane of reference is 9.7 ft.

Condition of records satisfactory except as noted below:

E. C. McKay
Section

Chief, ~~Division of Tides and Currents~~