

6804

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. 3a Office No. H-6804

LOCALITY

State MAINE

General locality KENNEBEC RIVER

Locality Pond Island to Cox Head

~~1944~~ 1942

CHIEF OF PARTY

C. D. Meaney

LIBRARY & ARCHIVES

DATE

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. H-6804

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-6804

Field No. 3a

State MAINE

General locality KENNEBEC RIVER

Locality Pond Island to Cox Head

Scale 1:5,000 Date of survey May-October, 1942

Instructions dated March 11, 1942

Vessel LYDONIA

Chief of party C. D. Meaney

Surveyed by Lydonia Officers

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

Protracted by J. D. Curd, L. S. Walter, W. W. Feazel

Soundings penciled by J. D. Curd, L. J. Walter

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

REMARKS: This sheet was processed at the Norfolk Processing Office.

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SHEET

H-6804

INSTRUCTIONS:

The authority for surveys of this area are contained in the following:

Supplemental Instructions	March 11, 1942
Supplemental Instructions	May 16, 1942 (currents)
Supplemental Instructions	June 15, 1942
Supplemental Instructions	Jan. 16, 1942 (currents)
Outline of areas to be dragged	July 10, 1942 (wire drag)
Field Work	September 14, 1942

SURVEY METHODS:

Hydrography of the Kennebec River and the approaches to the river, executed in accordance with the Director's Instructions listed above was controlled by three point fixes on U. S. Engineers and U. S. Coast and Geodetic Survey triangulation stations and topographic stations located during 1942 by graphic control from these stations.

Submarine Signal Corporation 808 Depth Recorders mounted in Launches 79 and 82 were used for soundings. In general, bar-checks were very difficult to observe in the Kennebec River because currents are very strong and the current at different depths during certain stages of the tide seems to be setting in different directions. Current observations indicate that during slack water on the surface there is a current near the bottom. To furnish additional information a midchannel sounding line was run with the LYDONIA. A Dorsey No. 1 fathometer was used for sounding from the vicinity of Parker Flats to the vicinity of Bath. Additional comparisons between 808 Depth Recorder soundings and Dorsey Fathometer Soundings were observed on Sheet ^{H-6804 and H-6805 (1942)} 3 and near the junction of Sheet 3 and Sheet H-6730.

North of
this survey.

^{H-6805} To furnish additional information for correcting soundings several serial temperatures were observed in the Kennebec River. The lowest specific gravity observed in the Kennebec River was 1.0032, the highest specific gravity observed was 1.0229. The average specific gravity observed in the Kennebec River is approximately 1.01.

HYDROGRAPHY:

Launch hydrography on these sheets was executed by Lieut. Wilbur R. Porter in charge of Launch 82 and Lts. C. A. George and H. G. Conerly in charge of Launch 79.

DANGERS:

The least depth on each shoal ^{is} will be indicated on the smooth sheet with appropriate ~~notes~~ curves.

A hydrographic investigation in the vicinity of Jack Rock ^{H-6675 (1941)} and a wire drag survey ^{H-6780 (1941) W.D.} of the channel east of South Sugarloaf Island north of Jack Rock and North Sugarloaf Island ^{present} supplements ~~1941~~ survey of this area. Main channel dragged in 1944, H-6780 Add'l Work.

CHANNELS:

Red nun buoy 2A marks the edge of a charted 21 foot shoal. ^{lat. 43°44.0'} ^{long. 69°45.9'}

^{19' on S.S.} Twenty-two hundredths of a mile north of Pond Island L. H. a ¹⁷17 foot ledge (1942) ~~(last sheet)~~ was found. The U. S. Engineers were in charge of a project to remove this ledge. The ledge had not been removed at the end of the field season.

Removed.
See B.P. 37956
of Jan. 1944.

The controlling depth in the main channel in the entrance between Pond Island and Fort Popham is 28 feet. ^{is being} A ~~17~~17 foot shoal north of Pond Island ~~should be marked or removed. Its removal is underway.~~ It was not practical to wire drag this channel because of dredging, drilling and blasting operations on the shoal. ~~0.22 of a mile north of Pond Island Lighthouse.~~

28 ft. could be carried only with precise navigation of the shoals. Not practical.

Dragged 20 to 24 ft. in 1944.
H-6780 Add'l Work.

There is a channel east of South Sugarloaf north of Jack Rock Beacon and north of North Sugarloaf Island with a least depth of 30 feet. This channel was wire dragged to 26 feet. To properly mark this channel a buoy should be placed close to the rock awash at low water, 0.1 of a mile southeast of Jack Rock Beacon and another buoy should mark the charted 18 foot shoal 0.15 of a mile northeast of Jack Rock Beacon. This channel is not used by deep draft vessels because it is unmarked and it is very difficult for large vessels to make the sharp turns.

~~From midchannel off Fort Popham north to midchannel off Doubling Point the least depth found in the channel was 31 feet. This channel has been wire dragged to a depth of 28 feet, as far north as Bluff Head. From this position to midchannel off Doubling Point it was impossible to wire drag because of dredging operations in the vicinity of Lithgow Rock and Fiddler Ledge.~~

Durning 1942 current observations were made at stations listed below:

Midchannel between Fort Popham and Gilbert Head.

The records of these observations were submitted to the Director during the field season. Currents approaching 3.5 knots were observed during the summer. During spring thaws the currents are probably much stronger.

Entering, leaving or navigating the Kennebec River is dangerous during heavy fog. The channels are very narrow and the currents are strong. Whirlpools form in many parts of the river.

A ship, the size, speed and draft of the LYDONIA may be safely navigated in the entrance to the Kennebec River whenever visibility at the entrance to the river is one mile and in the Kennebec River to Bath, Maine whenever the shoreline is visible along the river.

Atkins Bay: A channel leads west of Fort Popham for 0.4 of a mile into Atkins Bay. An abandoned wharf projects 0.15 of a mile northnortheast of Sabino Head to the south edge of this channel. Currents are very strong alongside the dock and in the channel. The controlling depth of water from midchannel off Fort Popham to this dock is 7 feet. The deep water extends west of the wharf into Atkins Bay for 0.15 of a mile. The remainder of Atkins Bay bares at low water.

~~Sasanoa River: North of Salter Island there is a channel with $7\frac{1}{2}$ feet of water from Sheepscot Bay to Stage Island Bay. A channel with feet at mean low water separates the north side of Stage Island and Kennebec Point and connects Stage Island Bay with the Kennebec River. These channels are used by persons with local knowledge.~~

~~There is a channel close to the west coast of Pond Island between Pond Island and Wood Island with 8 feet of water at mean low water. The south entrance to this channel is a bar and breaks in heavy weather. Soundings in this vicinity differ radically from charted depths and indicate that this channel is subject to radical changes resulting from deposits and storms. This channel is used only by seaman with local knowledge.~~

ANCHORAGES:

~~During favorable weather there is a good outside anchorage $\frac{3}{4}$ of a mile east of Salter Island in 10 fathoms of water.~~

Stage Island Bay is used for anchorage by persons with local knowledge.

WIRE DRAG GROUNDINGS:

Wire drag groundings are the subject of a separate report of the wire drag sheets of the Kennebec River and approaches executed in 1942 by a sub party under Lt. Clarence R. Reed. H-6780 (1942-44) W.D.

GEOGRAPHIC NAMES:

Geographic names is part of a report to be submitted by Lt. H. O. Fortin in connection with the air photo inspection of this area.

SCALE:

The scale of the boat sheet is 1:10,000. The scale of the smooth sheets of the Kennebec River is 1:5,000.

There are two navigation charts of the Kennebec River, numbers 314 and 230. Chart 314 is on a scale of 1 : 40,000 and shows the approaches to the Kennebec River to Latitude 44°00'.3 and part of Merrymeeting Bay. Chart 230 shows a part of the Kennebec and Sasanoa Rivers in the vicinity of Bath on a scale of 1:20,000 and Boothbay Harbor on the same scale.

RECOMMENDATIONS:

It is recommended that when a new chart of the Kennebec River is published that careful consideration be given to changing the scale from 1:40,000 to 1:20,000.

This is particularly applicable to area covered by present survey.

TRACINGS:

Tracings showing buoy locations and preliminary shoal depths found and reported during the field season are attached to the boat sheets.

Overlay tracings of field soundings have also been attached to the boat sheets.

Respectfully submitted,

signed/C. D. Meaney,
Lieut. Comd'r. C&GS

STATISTICS

HYDROGRAPHIC SHEETS H-6804 & H-6805

U. S. C. & G. S. LYDONIA - C. D. Meaney, Comd'g.

Vol. No.	Date 1942	Day Letter	No. of Positions	Statute Miles
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Launch 82 - Lt. Wilbur R. Porter, In Charge

I	5/28	a (red)	115	16.1
I	5/29	b	88	11.9
II	5/29	b	48	6.7
II	6/4	c	58	6.7
II	6/5	d	94	10.8
III	6/5	d	21	2.0
III	6/10	e	170	24.8
IV	6/10	e	57	10.1
IV	6/11	f	131	21.4
V	6/11	f	64	10.6
V	6/12	g	146	11.0
VI	6/12	g	55	4.0
VI	6/18	h	147	23.0
VII	6/18	h	18	2.4
VII	6/19	j	166	27.8
VIII	6/23	k	143	26.1
VIII	6/24	l	57	9.5
IX	6/24	l	77	9.5
X	6/25	m	234	26.0
XI	6/25	m	3	0.3
XI	6/26	n	180	23.3
XII	6/29	p	96	9.0
XII	6/30	q	23	2.0
XII	7/7	r	74	9.7
XIII	7/7	r	174	17.8
XIII	7/9	s	65	8.4
XIV	7/9	s	163	13.8
XV	7/17	t	195	21.8
XV	8/3	u	68	6.0
XV	8/5	v	165	13.0
XVI	8/5	v	5	0.3
XVIII	8/19	w	222	28.9
XIX	8/29	x	151	20.0
Total			3473	434.7

Launch 79 - Lt. Horace G. Conerly, In Charge

I	6/18	a (blue)	141	22.9
I	6/19	b	55	8.0
II	6/19	b	117	18.6
II	6/23	c	85	8.9
III	6/23	c	57	6.3
III	6/24	d	35	5.0

Vol. No.	Date 1942	Day Letter	No. of Positions	Statute Miles
III	6/25	e	98	12.6
IV	6/25	e	128	16.9
IV	6/26	f	79	10.1
V	6/26	f	156	20.2
V	6/29	g	51	5.0
VI	6/29	g	100	11.2
VI	7/7	h	110	15.1
VII	7/7	h	107	14.0
VII	7/9	j	100	14.4
VIII	7/9	j	121	15.9
VIII	7/10	k	92	11.5
IX	7/10	k	52	5.9
IX	7/13	l	162	22.2
X	7/13	l	7	0.2
X	7/16	m	213	21.6
XI	7/17	n	79	10.2
XV	7/17	a (purple)	182	24.8

Lt. Clarence A. George, In Charge

XI	7/24	p (blue)	56	5.6
XII	8/4	q	18	1.2
XII	8/5	r	135	7.8
XII	8/19	s	100	13.9
XIII	8/19	s	91	10.1
XIII	9/28	t	46	5.0
XIII	9/29	u	104	12.9
XIV	9/29	u	52	7.3
XV XIV	10/9	v	68	7.3
XV XIV	10/12	w	45	5.4

Total

2860
3042

353.2
378.0

Launch 103 - Lt. Dale E. Sturmer, In Charge

I	10/12	a (green)	25	Locating reefs
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LYDONIA - C. D. Meaney, Commanding

I	10/9	A (red)	36	5.4
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H6804

Surveys Section (Chart Division)

HYDROGRAPHIC SURVEY NO.

Records accompanying survey:

Boat sheets ..².; sounding vols. ²....; wire drag vols.;
 bomb vols.; graphic recorder rolls .³....;
 special reports, etc. .¹⁹ Sdg. vols. of H-6804-6805
 ..²² fath. rolls of H-6804-5.....

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

Number of positions on sheet	1065.
Number of positions checked	..76..
Number of positions revised	..7..
Number of soundings recorded	10,120
Number of soundings revised (refers to depth only)	..26..
Number of soundings erroneously spaced	..64..
Number of signals erroneously plotted or transferred	..0..
Topographic details	Time ..8... hrs
Junctions	Time ..48... hrs
Verification of soundings from graphic record	Time

Verification by... *Leroy King* ... Total time 206 hrs Date 9/16/44

Review by ... J.A. McCormick ... Time 48 hrs. Date 10/14/44.

H-6804

Remarks

Decisions

1		USGB
2		437697 "
3		"
4		"
5		"
6		"
7		"
8		"
9		" USGB
10		"
11		
12		
13		
14		
15		
16	Location of tide staff	
17	" " "	
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT }
PHOTOSTAT OF }

No. H **H6804**
No. T

{ received January 22, 1944
registered February 14, 1944
verified *Sept. 16, 44*
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25			
26			
30			
40			
62			
63			
82			
83	<i>Pg 2</i>	<i>La... per 818</i>	<i>Comdr Finnegan</i>
88			
90			

RETURN TO

82	Comdr. R. W. Knox
----	-------------------

r Paul

LAC
HNE

TIDE NOTE FOR HYDROGRAPHIC SHEET

March 3, 1944

~~Division of Hydrography and Topography.~~

✓ Division of Charts: Attention: H. R. EDMONSTON

Plane of reference approved in
21 volumes of sounding records for

HYDROGRAPHIC SHEET 6804

Locality Pond Island to Cox Head, Kennebec River, Maine

Chief of Party: C. D. Meaney in 1942
Plane of reference is mean low water reading
2.9 ft. on tide staff at Fort Popham
14.8 ft. below B. M. 1
8.6 ft. on tide staff at Portland
19.0 ft. below B. M. 31

Height of mean high water above plane of reference is 8.3 feet
at Fort Popham; 8.9 feet at Portland.

Condition of records satisfactory except as noted below:
"a" day Vol. 1, May 28, 1942 - Wrong tide reducers used. Reducers were
corrected and the revised reduced soundings entered in "office" column.

C. D. Meaney
Chief, Division of Tides and Currents.

DIVISION OF CHARTS

REVIEW SECTION - SURVEYS BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. 6804

Field No. 3a

Maine; Kennebec River; Pond Island to Cox Head
Surveyed May - October 1942; Scale 1:5,000
Project C. S. 265

Soundings:

808 Fathometer

Control:

Three-point fix on shore signals

Chief of Party - C. D. Meaney
Surveyed by - LYDONIA'S Officers
Protracted by - Norfolk Processing Office
Soundings plotted by - Norfolk Processing Office
Verified and inked by - L. King
Reviewed by - J. A. McCormick
Inspected by - H. R. Edmonston, October 14, 1944

1. Shoreline and Signals

Shoreline and topographic signals are from graphic control surveys T-6910a, T-6911a, and T-6928a of 1942 and from topographic maps T-5971 and T-5972.

2. Sounding Line Crossings

Satisfactory.

3. Depth Curves

Satisfactory.

4. Contemporary Surveys

- a. Satisfactory junctions were effected with H-6803 (1942) on the north and with H-6805 (1942) on the south. A special survey, H-6675 (1941) subplan, in the vicinity of Jack Rock was transferred to the present survey practically in its entirety. Deep soundings of the present survey did not verify the 5-ft. ledge in Lat. $43^{\circ}44.98'$, Long. $69^{\circ}46.38'$ on H-6675 and investigation of plotting and fathograms of both surveys did not reveal the causes of the disagreement. The deeper soundings have been omitted in favor of the ledge.

- b. Drag work was accomplished in the area on H-6799 (1942) and H-6780 (1942-44). Ledge and shoal removal by the U. S. Engineers prevented dragging the main channel in 1942, but in July and August 1944 additional work on H-6780 carried effective depths of 20 to 24 feet through the previously undragged area. The Engineers had reported the channel cleared to 27 feet in Chart Letter 103 of 1944 but the additional drag work shows a grounding of 21 feet about 30 meters inside the channel in Lat. $43^{\circ}45.06'$, Long. $69^{\circ}46.72'$. The District Engineer at Boston has been queried concerning this discrepancy. see Br 10631-2 Nov. 1945

Note that four channel shoals came within the scope of the Engineers' operations. Present survey depths on these shoals consequently are superseded and apparent conflicts between present survey depths and the 1944 effective drag depths in these areas are to be disregarded. The shoals in question are 19 feet in Lat. $43^{\circ}44.61'$, Long. $69^{\circ}46.23'$; 25 feet in Lat. $43^{\circ}44.90'$, Long. $69^{\circ}46.55'$; 14 feet in Lat. $43^{\circ}44.96'$, Long. $69^{\circ}46.62'$; 18 to 27 feet in Lat. $43^{\circ}45.05'$, Long. $69^{\circ}46.70'$.

5. Previous Surveys

a. H-556 (1856-1882)

The original survey of 1856 gives a fair representation of bottom configuration in the area but it is poorly controlled and there is considerable tendency to exaggerate the distance from shore of the shoaler depths. Typical examples are the 2- and 9-foot depths (charted) in the vicinity of Shag Rock Beacon (Lat. $43^{\circ}45.9'$, Long. $69^{\circ}47.0'$), the 21-foot sounding to sand (not charted) in Lat. $43^{\circ}45.1'$, Long. $69^{\circ}46.17'$ (49 to 57 feet on present survey with 17 to 24 feet 100 meters northwest) and the 3-foot sounding to rock (charted) in Lat. $43^{\circ}44.75'$, Long. $69^{\circ}45.5'$. All of these soundings should be disregarded. In better agreement are the 18-foot sounding of 1882 in Lat. $43^{\circ}44.6'$, Long. $69^{\circ}46.25'$ and the 19-foot sounding of the present survey. This ledge was one of those removed to 27 feet by the U. S. Engineers (par. 4b). A 21-foot depth in Lat. $43^{\circ}44.05'$, Long. $69^{\circ}45.92'$ on the 1882 work has been carried forward in depths of 24 feet on the present survey. No other depths have been retained from the older work.

b. H-971 (1868)

This survey overlaps the northeastern corner of the subject area. Agreement of old and new work in the foul passage north of Salter Island is better than would ordinarily be expected. The old survey is superseded.

6. Comparison with Chart 314 (Print of July 14, 1944)

a. Hydrography

Depths now charted in the area are from sources listed below.

1. Contemporary Surveys

H-6675 (1941) has been applied in full. Results of the survey were first applied from Chart Letter 577 of 1941 and later corrected to agree with the smooth sheet. A rock awash charted in Lat. $43^{\circ}44.7'$, Long. $69^{\circ}46.7'$ from the sketch accompanying the letter does not appear on the smooth sheet nor is it mentioned in the sounding records. It should be removed from the chart.

2. Superseded Surveys

Only one sounding has been retained from the old surveys and three are specifically mentioned in par. 5a for deletion.

3. U. S. Engineers' Surveys

Depths have been applied from various Engineers' surveys. All are superseded except those from after-dredging surveys of December 1943 and January 1944 (blue-prints 37955, 37956 and 38002. See also Chart Letter 103 of 1944). Areas covered by these after-dredging surveys have been discussed in par. 4b. For the convenience of the compiler, channel limits have been added to the smooth sheet in pencil from Engineers' B/P 35457. Limits of the dredged sections also are indicated.

b. Navigational Aids

Survey positions of aids agree fairly well with those charted. It will be noted that both

survey and chart show Buoy N2B (Lat. $43^{\circ}44.9'$, Long. $69^{\circ}46.6'$) a little to the west of mid-channel. The 1944 additional work on H-6780 W.D. shows the buoy 140 meters NNW of its 1942 position, still inside the channel but better stationed.

7. Compliance with Project Instructions

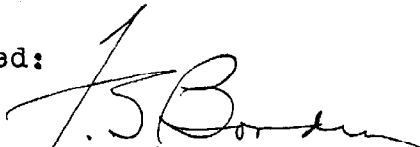
Satisfactory.

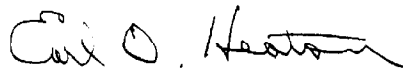
8. Additional Field Work Recommended


None. Further investigation of channel shoals should be left to the U. S. Engineers (see par. 4b).

Examined and approved:


Chief, Surveys Branch


Chief, Division of Charts


Chief, Section of Hydrography


Chief, Division of
Coastal Surveys

Partially applied to ch# 1204 thru ch# 314 before V4R.

5/10/44 HFR

" " " 1000 " " 1204 before V4R

9/2/44 HFR