

8097

Diag. Cht. No. 1206-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. ECFP-1353 Office No. H-8097

LOCALITY

State New Hampshire - Massachusetts

General locality

Locality Hampton Harbor and Approaches

194 53 & 54

CHIEF OF PARTY

Clarence R. Reed

LIBRARY & ARCHIVES

DATE June 6, 1955

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET (AMENDED 1954)

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. E-8097

Field No. ECFP-1353

State New Hampshire - Massachusetts

General locality Hampton Harbor, New Hampshire & Massachusetts

Locality Hampton Harbor and Outer Coast adjoining Approaches

Scale 1:10,000 Date of survey 8/20 - 10/14/53 & 6/29 - 7/15/54

Instructions dated 6 March 1953 - Supplemental Inst. 1/29/54 and letter 4/2/54

Vessel East Coast Field Party

Chief of party Clarence R. Reed

Surveyed by R.B. Noble, L.D. Kelley & C.E. Horne

Soundings taken by ~~hydrographer~~ graphic recorder, hand lead, ~~xxx~~ sounding pole

Fathograms scaled by Party personnel

Fathograms checked by L.D. Kelley, R.B. Noble & C.E. Horne & Norfolk Office

Protracted by Richard D. Lynn

Soundings penciled by Richard D. Lynn

Soundings in ~~fathoms~~ feet at MLW ~~xxxx~~ and are true depths

REMARKS: Hydrography was completed in 1953 except from Great Boars Head north to the limit of the sheet. This was accomplished in 1954.

NOTES FOR DESCRIPTIVE REPORT TO ACCOMPANY

Hydrographic Sheet H-8097, (FIELD NO. ECFP 1353)

Hampton Harbor & Outer Coast Adjoining

EAST COAST FIELD PARTY

CLARENCE R. REED, CHIEF OF PARTY

PROJECT CS-355

1953

SCALE 1:10,000

PROJECT This survey was accomplished under instructions dated 6 March 1953, calling for a modern Hydrographic Survey of the coastal regions of New Hampshire & Northern Massachusetts.

SURVEY LIMITS The survey on Sheet H-8097, (FIELD NO. ECFP 1353) covers an area bounded by the shorelines of Hampton Harbor & Hampton River and a strip about a mile and a half wide along the outer coast from Latitude $42^{\circ}51'$ to Latitude $42^{\circ}57'$. Junctions were made with contemporary surveys on Sheet H-8096, (FIELD NO. ECFP 1253) & H-8091 (1953) (FIELD NO. ECFP 1453) & prior survey H-7140. Work commenced 20 August 1953 and stopped 14 October 1953. Bad weather prohibited completion of the survey on the outer coast from Latitude $42^{\circ}55'$ to Latitude $42^{\circ}57'$.

VESSELS & EQUIPMENT Aluminum Launch No. 168 was used primarily for the survey. The launch operated from moorings at Hampton Harbor & Newburyport. All echo soundings were with graphic recorder No. 67. The transducers were mounted inboard.

Launch 82 was used for some splits and development. Graphic Recorder 138 SPX was used in this launch. Transducers were also mounted inboard.

TIDES AND CURRENTS The tidal note is attached to this report. No currents were observed.

SMOOTH SHEET The smooth sheet is to be plotted by the Norfolk Processing Office.

CONTROL STATIONS The control consisted of triangulation and photogrammetric stations. The latter were transferred from Air-Photo Compilation Sheets T-11151, T-11149 and T-11148. of 1952-53.

SHORELINE AND TOPOGRAPHY The shoreline and topographic detail were transferred from Air-Photo Compilation Sheets T-11151, T-11149 and T-11148. Any inaccuracies were resolved in the field and sketched directly on the boat sheet.

SOUNDINGS The depths were measured with Graphic Recorders, sounding poles, and hand lead. Bottom Samples were obtained from armed hand leads.

CONTROL OF HYDROGRAPHY The sounding lines of this survey were controlled by the Three-point-sextant-fix method. There were no unusual jumps when changing control stations. Sounding lines in Hampton River where control was lacking, were run by noting distinctive shoreline detail in the sounding volume.

ADEQUACY OF SURVEY

This survey is considered complete and adequate except for that portion north of Latitude 42°55' where no sounding lines were run. Junctions with prior contemporary surveys are satisfactory as depth curves can be drawn and there are no holidays. Completed in 1954

CROSSLINES

Sufficient crosslines were run in the completed areas as prescribed.

COMPARISON WITH PRIOR SURVEYS

A comparison with prior surveys Nos. H-1069, H-4892 and H-7140 showed some discrepancies. - east of Hampton Harbor Entrance. These items as well as items mentioned in the preliminary review as prepared by the Washington Office are listed below. P5 Review

COMPARISON WITH CHARTS

CHART 1206

LATITUDE	LONGITUDE	CHART	1953	REMARKS
----------	-----------	-------	------	---------

42°-53.8	70°-49.1	rock awash	----	
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Deleted x from 1206 and extended 1W curve (sand spit) to north position of R+B buoy on smooth sheet. Show dep. "0" in place of Rock awash

Item 11 - Prelim. Review.

There was no evidence of a rock awash in this area, however there is a 7 ft. sounding in the vicinity of the mentioned 7 ft. sounding. Sand has filled in the Harbor and all bottom samples revealed mud & sand, but there are ledges in the entrance and very likely the seven foot edg. is a ledge. A red & black channel buoy separates the two channels to Seabrook and Hampton Harbors. This buoy lies at the tip of a sand spit lying east and west separating the harbors. There is no evidence of the old wooden bridge and information from a sub contractor reveals that the old piling were sawed off at the harbor bottom.

42°-53.82	70°-49.04	---		
-----------	-----------	-----	--	--

L.S.S. 5/25/55

dolphin

Hampton Harbor Entrance. It is recommended the rock awash be deleted and the channel buoy and dolphin be charted. *Not correct*

42°-52.2	70°-48.3	16	24	
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Prelim Review. A 10 ft. sounding was obtained 150 m SW of this position with a 17 ft. sounding of this shoal 9050 m SW of this position. It is recommended that the new position of this ledge be charted. *105 10 ft*

42°-52.2	70°-47.2	21	28	
----------	----------	----	----	--

22 NR but included within the 30' curve

Prelim Review. 22 191 soundings were obtained west of this position. One was 170 M NW and the other 200 m SW. It is recommended that these positions be charted. *Ch. 11 18 ft*

42°-51.64	70°-47.93	43	38 32	
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42°-51.78	70°-48.32	19	17	
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42°-51.83	70°-48.11	3	30	
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A 2 ft. edg. was obtained 140 m NE. A 4 ft. edg. is 40 m NE. 140 m S 100 m SE. 3 ft. edg.

LATITUDE	LONGITUDE	CHART	1953	REMARKS
42°-51.88	70°-47.36	53	8142	44' sounding 55 m NW. <i>39' sdg - 200 ft N.E.</i>
42°-52.04	70°-47.36	45	7348	40' sounding 280 m SW.
42°-52.40	70°-48.18	39	--	28' sounding 60 m NE.
				26' sounding 280 m NE.
42°-52.27	70°-48.12	--	2118	Shoalest sounding.
42°-52.358	70°-47.16	38	--	35' sounding 140 m NNW.
42°-52.61	70°-47.61	63	--	29' sounding 240 m NW. <i>Charted "X" on 1206.</i>
42°-52.68	70°-48.12	33	33	25' sounding 45 m SE.
42°-52.66	70°-48.56	28	23	18' sounding 100 m E. <i>1' sdg. 170 ft N.W.</i>
42°-53.00	70°-48.26	23	24	15' sounding 200 m S. <i>2' sdg. 220 ft W.S.W.</i>
42°-52.91	70°-47.86	31	53	26' sounding 170 m SSW.
42°-53.46	70°-47.45	27	--	17' sounding 50 m WSW.
42°-53.89	70°-47.38	14	--	89' sounding 50 m N. <i>9 ft. on smooth sheet</i>
42°-53.75	70°-47.58	50	28	Also 28' sounding 80 m NE & 160 m S. <i>23 ft sdg.</i>
42°-53.63	70°-47.48	16	--	17' sounding 90 m NE.
42°-53.68	70°-47.29	33	--	28' soundings 20 & 80 m NE.
42°-54.33	70°-47.00	33	--	32' shoalest sounding 180 m S.

The above positions are in rocky bottom. Changes to 5 feet in sandy areas were not noted. This area is subject to continual change as sand keeps working toward the harbor. The controlling depths to Hampton Harbor is 5 feet. The shoal breaks except on high water and calm days.

It is recommended that all soundings of this survey supersede prior survey soundings and all new shoals located above be charted. *see TP 526 Review*

COAST PILOT NOTES A separate report was submitted to the Coast Pilot Section 23 October, 1953.

AIDS TO NAVIGATION Floating aids to navigation were located as follows:

LATITUDE	LONGITUDE	BUOY	DEPTH	DATE
42°-51.84	70°-47.88	Nun "2"	35'	8/26/53
42°-53.12	70°-47.50	Red FL.W. "4" Bell	67'	9/2/53
42°-53.88	70°-47.08	Red Gong "2"	74'	9/2/53
42°-53.39	70°-48.13	Nun "6"	26'	9/9/53
52°-53.53	70°-48.26	Can "1"	13'	9/9/53
42°-53.47	70°-48.26	Nun "6A"	13'	9/9/53
42°-53.56	70°-48.24	Nun "8"	7'	9/9/53
42°-53.78	70°-49.08	Red & Bk Can	7'	9/9/53
42°-53.68	70°-48.81	Can "3"	11'	9/4/53

LAND MARKS Photo station HAM (SHEET T-11149) is a steel water tower on 4 legs erected and located in 1953. This is a better landmark than Hampton Beach Catholic Church Spire 1928 which is charted at present. They are both in the same immediate vicinity. The tank is at Latitude 42°-54.96, Longitude 70°-48.82. *Deleted Spire from 1206*
It is recommended that this tank be charted as a landmark. OHAM shown as Landmark on Smooth Sheet.
Added to new plan of Hampton Hbr. 11:30, 1950

GEOGRAPHIC NAMES No changes or additions to geographic names were found.

Shown as
* 50
S.S.

MISCELLANEOUS

Attempts were made to obtain lead line soundings on various shoals, but rough seas prevented. The approximate shapes of ledges awash is shown on the boat sheet. Rocks at Latitude 42°-53.81 Longitude 70°-47.85, Latitude 42°-53.45 Longitude 70°-48.13 are bare about 1 foot at MHW and should be charted as rocks awash in accordance with Hydrographic Manual Section 7822.

Entrance should be made to Hampton Harbor only on local knowledge. Buoys give only approximate location of channels as channels weave between buoys.

The following note was added to Chart 1206 reference to Hampton Harbor.

HAMPTON HARBOR

The channel is subject to continual changes. Buoys are not charted because they are frequently shifted in position and should be used only with local knowledge.

Respectfully submitted

Lionel D. Kelley
Lionel D. Kelley
ENS. USC&GS

L.S.S.
5/25/55

Approved and forwarded

Clarence R. Reed
Clarence R. Reed, CDR, USC&GS
Chief of Party

*Reef symbols from
B.S. transferred to
S.S.*

1954 NOTES FOR SUPPLEMENTAL DESCRIPTIVE REPORT

To Accompany Hydrographic Sheet H-8097
(Field No. EGFP-1353)

Hampton Harbor & Adjoining Outer Coast, N.H. & Mass.

EAST COAST FIELD PARTY

C.R. REED, CHIEF OF PARTY

PROJECT CS-355

1954

SCALE 1/10,000

* * * * *

PROJECT This survey was accomplished under instructions dated 6 March 1953, supplemental instructions dated 29 January 1954, and a letter dated 2 April 1954 (Subject: Additional Field Work in Areas Surveyed in 1953) ✓

VESSELS & EQUIPMENT For the supplemental field work done on this sheet in 1954, launch 82 was used. Echo soundings were obtained with graphic recorders No. 119S and 77. Transducers were mounted inboard. ✓

TIDES AND CURRENTS No tide gages were established for the supplemental hydrography. Tides were furnished by the Washington Office.

CONTROL STATIONS Control signals established in 1953 were recovered and used to control hydrography in 1954. ✓

ADEQUACY OF SURVEY This survey is now considered adequate to supersede prior surveys.

COMPARISON WITH PRIOR SURVEYS A comparison with prior surveys Nos. H-1069, and H-7140 showed one discrepancy. This was a $5\frac{1}{2}$ fathom sounding plotted on H-1069 (1870) at Lat. $42^{\circ} 55.47'$ Long. $70^{\circ} 46.93'$. This same sounding was shown on Chart 1206 as a 31 ft. depth and was circled with a dotted line on the preliminary review. There was no indication found of a 31' depth in this spot. The depths on all sounding lines in the vicinity were uniform and no indication of any shoal was found. It is recommended that the aforementioned 31' depth be deleted from Chart 1206. delete
31' from
cht. -
disproved
by H-
8097.
3. retained
pending review

COMPARISON WITH CHART 1206 A 4' depth charted at Lat. $42^{\circ} 55.46'$ Long. $70^{\circ} 47.56'$ and circled with a dotted line on the preliminary review was investigated and reduced soundings of 1.8' and 3.2' were found as the least depths. It is recommended that this new depth be charted. 2RK
charted

A 28' depth charted at Lat. $42^{\circ} 55.73'$ Long. $70^{\circ} 47.00'$ and circled with a dotted line on the preliminary review was also investigated. This was found to be a narrow rock shoal extending for approx. 350 m in a 24' NE-SW direction. The least depth by fathometer on this shoal was 25'. 2RK

MISCELLANEOUS On "e" day an inexperienced fathometer operator failed to get the phase changer, of the fathometer, in the notches when changing scale, consequently the soundings are incorrect as they stand. Due to this situation there is a different value of index correction each time the scale was changed, the values of the index corrections remaining constant between scale changes.

The index corrections were scaled directly from the fathogram for the A range, but the B scale corrections had to be derived by comparison with crossline intersections. These crosslines were compared using final tides as furnished by Washington.

These B range index corrections are: -2.4' from pos. 16 to the first sounding out of pos. 63, and -4.6' from the fourth sounding out of pos. 15e to the second sounding out of pos. 28e.

NOTE BY CHIEF OF PARTY - The sunken rock and 11 foot sounding at approximate Latitude 42°53.9', Longitude 70°48.1' were not transferred to the boat sheet in 1953 by the hydrographer and were not noticed by the Chief of Party prior to forwarding the boat sheet to Washington and the records to Norfolk. The reason for the "MISS" sounding on position 61f day may be the steep slope near the sunken rock. The fathogram should be re-examined. The 11 foot sounding is indicated by a 15 foot sounding on the line to the north. The note on the boat sheet by G.S.J. states that no additional field work at this spot is desired by Washington.

11 ft. sdg. and * (2) from H-4892 (1928)
transferred to H-8097

Respectfully submitted

Charles E. Horne

Charles E. Horne
ENS., USC&GS

L. S. S.

5/25/55

Approved and forwarded

Clarence R. Reed

Clarence R. Reed
CDR, USC&GS
Chief of Party

1953

FATHOMETER CORRECTIONS

PROJECT CS-355

Hydrographic Survey Sheet H-8095⁷, (FIELD NO. ECFP 1353)

The corrections tabulated below are based on an initial set at zero on the fathogram. Where the initial varies from zero on the fathogram INDEX CORRECTIONS must be entered in the sounding volumes.

FATHOMETER NO. 67

14 August - 14 October 1953

Launch No. 168

Correction	Depth	
A Range	From	To
+0.2	0.0	10.0
0.0	10.1	23.5
-0.2	23.6	32.0
-0.4	32.1	37.5
-0.6	37.6	42.5
-0.8	42.6	48.5
-1.0	48.6	55.0
B Range		
-0.6	35.0	36.5
-0.8	36.6	41.0
-1.0	41.1	46.0
-1.2	46.1	51.0
-1.4	51.1	56.0
-1.6	56.1	61.0
-1.8	61.1	66.0
-2.0	66.1	71.0
-2.2	71.1	76.0
-2.4	76.1	81.0
-2.6	81.1	86.0
-2.8	86.1	91.0

From the correction for 136 fathoms, the correction is -0.2

Base line graphs are filed with H 8097

1954

SUPPLEMENTAL FATHOMETER CORRECTIONS

The corrections listed below are based on an initial set at zero on the fathogram. Where the initial varies from zero on the fathogram, index corrections must be entered in the sounding volumes.

FATHOMETER NO. 1198

22 June - 25 June - 1954

Launch 82 9-c days

CORRECTION	DEPTH	
	From	To
A Range		
0.0	0.0	30.0
-0.2	30.2	37.0
-0.4	37.2	43.0
-0.6	43.2	49.0
-0.8	49.2	Rest of A Range
B Range		
+0.2	35.0	42.0
0.0	42.2	49.0
-0.2	49.2	55.0
-0.4	55.2	61.0
-0.6	61.2	67.0
-0.8	67.2	74.0
-1.0	74.2	80.0
-1.2	80.2	87.0
-1.4	87.2	Rest of B range

FATHOMETER 77

28 June - 15 July

Launch 82 4-j days

CORRECTION	DEPTH	
	From	To
A Range		
0.0	0.0	5.0
+0.2	5.2	18.0
0.0	18.2	27.0
-0.2	27.2	36.0
-0.4	36.2	45.0
-0.6	45.2	Limit of A Range
B Range		
+0.6	35.0	39.0
+0.4	39.2	47.0
+0.2	47.2	56.0
0.0	56.2	65.0
-0.2	65.2	74.0
-0.4	74.2	82.0
-0.6	82.2	Limit of B range

1953
STATISTICS TO ACCOMPANY

Hydrographic Sheet H-8097 , (FIELD NO. ECFP 1353)

DATE	DAY LTR.	VOL. NO.	LEAD LINES	NO. OF POSITIONS	STAT. MI. OF SDG.
8/20/53	a	168 1	67 0	54	9.1
8/21/53	b	1&2	0	160	27.0
8/26/53	c	2	1	153	25.3
8/28/53	d	2&3	0	250	37.5
9/2/53	e	3	0	29	4.2
9/3/53	f	4	0	251	40.8
9/4/53	g	5	2	21	3.1
9/9/53	h	5	6	32	3.8
9/10/53	j	5	1	81	11.3
9/11/53	k	5&6	5	175	22.5
9/14/53	l	6	0	7	0.6
9/15/53	m	6&7	0	198	20.5
9/16/53	n	7	0	101	7.8
9/17/53	p	7&8	3	152	15.0
9/18/53	q	8	30	22	1.9
9/22/53	r	8	2	132	9.4
9/23/53	s	9	9	137	7.5
9/24/53	t	9	10	31	0.6
9/25/53	u	9	0	5	0.6
10/13/53	a(1ch 82)	10	138 1	74	5.7
10/14/53	b " "	10	3	72	6.7
10/15/53	c " "	10	5	5	0.0
TOTALS			78	2142	260.9

Sq. stat. mi. of area: 7.3 sq. stat. mi.

6-22-54	a	17
6-24-54	b	121
6-25-54	c	87
6-28-54	d	76
7-8-54	e	31
7-9-54	f	125
7-13-54	g	112
7-14-54	h	60
7-15-54	j	59
		688

1954
1954
SUPPLEMENTAL STATISTICS TO ACCOMPANY
(Hydrographic Sheet H-8097 (Field No. ECFP 1353))

DATE 1954	DAY LTR	VOL. NO.	LEAD LINES	NO. OF POSITIONS	STAT. MI. OF SDG. LINES
22 June	a 82 119	1	0	17	2.2
24 "	b ↓ ↓	1	0	121	16.5
25 "	c ↓ ↓	1&2	0	87	13.1
28 "	d 82 77	2	0	85	11.4
8 July	e ↓ ↓	2	0	31	4.8
9 "	f ↓ ↓	2&3	0	27	3.7
13 "	g ↓ ↓	3	0	112	12.3
14 "	h ↓ ↓	3	0	60	6.8
15 "	j ↓ ↓	3&4	0	59	7.8
TOTALS			0	599	78.6

Sq. stat. mi. of area: 3.0

FLOATING AIDS TO NAVIGATION
H-8097 (1953)

<u>BUOY</u>	<u>LAT.</u>	<u>LONG.</u>	<u>DEPTH</u>	<u>POS.NO.</u>	<u>DATE</u>
South High Rock Buoy 6	42-53.39	70-48.14	24'	5h	9-9-53
Channel Rock Buoy 6A	42-53.45	70-48.26	13'	4h	9-9-53
Town Rock Buoy 8	42-53.56	70-48.24	7'	2h	9-9-53
White Rock Buoy 1	42-53.52	70-48.26	13'	3h	9-9-53
Gun Rock Buoy 3	42-53.66	70-48.81	12'	1g	9-4-53
Bridge Rock Buoy	42-53.78	70-49.08	7'	1h	9-9-53
Hampton Hbr. Gong Buoy 2	42-53.86	70-47.08	72'	2e	9-2-53
Hampton Hbr. Ltd. Bell Buoy 4	42-53.09	70-47.50	65'	1e	9-2-53
Breaking Rocks Buoy 2	42-51.82	70-47.88	33'	1c	8-26-53

*See IT Aids to Navigation "H's"
Descriptive Report.*

LIST OF SIGNALS
H-8097 1953

TRIANGULATION STATIONS

BOAR LITTLE BOAR, 1953
STAN GREAT BOARS HEAD STANDPIPE, 1917-41
BEACH SALISBURY BEACH CATHOLIC CHURCH, 1912-33
JEAN SALISBURY BEACH YELLOW GUPOLA RED ROOF, 1928

TOPOGRAPHIC STATIONS

Ale	T-11149	Ken	T-11149	Son	T-11149
Bat	"	Low	T-11151	Sox	"
Bun	"	Man	"	Tank	T-11151
Cap	"	Mud	T-11149	Ten	T-11149
Con	"	Nic	"	Tim	T-11148
Cow	T-11148	Par	T-11151	Use	T-11151
Day	T-11149	Pat	"	Wes	T-11149
Edd	T-11151	Pie	T-11149	Zag	"
Egg	T-11149	Pit	"	Zoo	T-11148
Far	T-11148	Pol	T-11151		
Gab	T-11149	Pot	T-11149		
Gin	T-11151	Reb	"		
Gro	T-11149	Red	"		
Gus	"	Sam	T-11148		
Han	"	Sha	T-11149		
Him	T-11151	Sid	"		
Hud	T-11149	Sino	T-11151		

HYDROGRAPHIC STATIONS

Sue From survey H-8091

TIDAL NOTE TO ACCOMPANY

Hydrographic Sheet H- 8097, (FIELD NO. ECFP 1353)

Observations were obtained at two tide stations where portable automatic gages were maintained. The gage at Merrimack River Entrance was used to reduce soundings south of Latitude 42° -51.6. The remaining soundings were reduced from the gage at Hampton Harbor Entrance. Planes of references were furnished by the Washington Office or computed from levels of previous tidal bench marks.

STATION	LATITUDE	LONGITUDE	MLW ON STAFF
Merrimack River Entrance	42° -49.01	70° -49.24	+3.2
Hampton Harbor Entrance	42° -53.75	70° -49.03	+2.1

APPROVAL SHEET

1953

HYDROGRAPHIC SURVEY H-8097

The records and boat sheets for Hydrographic Survey
H-8097 have been inspected by me and are approved.

Clarence R. Reed

Clarence R. Reed
CDR, USC&GS
OinC, East Coast Field Party

APPROVAL SHEET FOR 1954 ADDITIONAL
WORK ON HYDROGRAPHIC SURVEY H-8097 (ECFP-1353)

The 1954 records and boat sheet for Hydrographic
Survey H-8097 (ECFP-1353) have also been inspected by
me and are approved.

Clarence R. Reed

Clarence R. Reed
CDR, USC&GS
OinC, East Coast Field Party

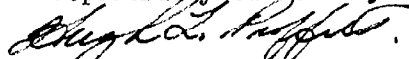
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8097 (Field No. EGFP-1353)

GENERAL

This appears to be an excellent basic survey, except for the occasional use of "swingers" and the constant use of slim angles on the off-shore ends of lines during the 1953 field season. The slim angles probably caused some position displacement in a north and south direction, how-ever, they were plotted with extreme care and while the placement is usually different from the boat sheet, the soundings checked very well at crossings considering the extremely irregular nature of the bottom.

Respectfully submitted;



Hugh L. Proffitt
Cartographer.

Norfolk, Va.
13 May 1955

GEOGRAPHIC NAMES

Survey No. H - 8097

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K
<u>Massachusetts</u>			} for title						1
<u>New Hampshire</u>									2
									3
<u>Salisbury Beach</u>									4
<u>Seabrook Beach</u>									5
<u>Hampton Harbor</u>									6
<u>Blackwater River</u>									7
<u>Browns River</u>									8
<u>Hampton River</u>									9
<u>Hampton Beach</u>									10
<u>Great Boars Head</u>									11
<u>North Beach</u>									12
									13
									14
									15
									16
									17
<u>Hampton Harbor</u>									18
<u>Entrance</u>									19
(tide station)									20
Names approved									21
6-7-55. L. Heck									22
									23
									24
									25
									26
									27

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. .8097....

Records accompanying survey:

Boat sheets .1...; sounding vols. .14..; wire drag vols.;
bomb vols.; graphic recorder rolls .13 ^{Env.};
special reports, etc. 1-Smooth sheet, 1-Descriptive report.....
.....

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

Number of positions on sheet		3830.
Number of positions checked		...95.
Number of positions revised		...6.
Number of soundings revised (refers to depth only)	✓
Number of soundings erroneously spaced	✓
Number of signals erroneously plotted or transferred	✓
Topographic details	Time	...25.
Junctions	Time	...40.
Verification of soundings from graphic record	Time	...25.

Verification by J. J. Gallagher Total time .483.. Date Aug. 11 1956

Reviewed by Stirni Time .36... Date 7/27/56
In Zestek 71 8-16-56

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8097

FIELD NO. ECFP-1353

New Hampshire and Massachusetts, Hampton Harbor and Approaches

Project No. CS-355

Surveyed - Aug., 1953 - July, 1954

Scale 1:10,000

Soundings:

Control:

808 Fathometer

Sextant fixes on
shore signals

Chief of Party - C. R. Reed

Surveyed by - R. B. Noble, L. D. Kelley and C. E. Horne

Protracted by - R. D. Lynn

Soundings plotted by - R. D. Lynn

Verified and inked by - J. T. Gallahan

Reviewed by - I. M. Zeskind 8-16-56

Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with reviewed air-photographic surveys T-11148, T-11149 and T-11151 of 1952-53.

The source of the control is given in the Descriptive Report.

2. Sounding Line Crossings

The sounding line crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves supplemented by the 3-ft., 24-ft. and 36-ft. curves are adequately delineated.

The bottom is generally very irregular. Submarine features such as ledges, reefs, pinnacles and shoals contribute to the bottom irregularity.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-7140 (1947) on the east and with H-8096 (1953-54) on the south. In several of the overlapping areas on the east it was necessary to make butt junctions between H-7140 and the present survey, because of minor differences of 1 - 4 ft. in depths. The present survey supersedes the hydrography on H-7140 in the overlapping areas where butt junctions were effected.

The junction with H-8091 (1953) on the north will be considered in the review of that survey.

5. Comparison with Prior Surveys

- a. H-627 (1857-85), 1:40,000
H-1068 (1870), 1:10,000
H-1069 (1870), 1:10,000

These early reconnaissance surveys cover the area of the present survey. On the outer coast only minor differences in depths of 1 - 3 ft. between the prior and present surveys are noted, except in the vicinity to the entrance to Hampton Harbor, where greater differences in depths occur. Here, as a result of the construction of jetties and the depositing of sediment the bottom configuration has changed and the shoreline has eroded. Some land has been reclaimed. The axis of the natural channel through the entrance has shifted from the northeastward to the south-southeastward. In Hampton River the natural channel has widened as much as 150 meters and shifted both northward and westward with the resultant changes in bottom configuration and depths.

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

- b. H-4892 (1928), 1:10,000
Bp-49117 (1951), 1:20,000

This survey covers Hampton River, its entrance and the outer coast in the vicinity of the entrance. On the outer coast only minor 1 - 2 ft. differences in depths between the prior and present surveys are noted, except in the vicinity of the entrance to Hampton Harbor, where the construction of a jetty on each side of the entrance has caused a change in the shoreline and the bottom configuration. The axis of the channel through the entrance has shifted about 150 meters northward with the resultant changes in depths. However, the controlling depth through the entrance

channel has only changed one foot, from a prior depth of 4 ft. to a present depth of 5 ft. The shoreline adjacent to both jetties has filled in. The greatest amount of accretion occurs adjacent to the north jetty where it amounts to about 250 meters. In Hampton River and Hampton Harbor, the natural channels have shifted in position with the resultant changes in depths. Several rocks, rock elevations and soundings from H-4892 (1928), 2 rocks each from T-1023 (1866) and a 1951 air-photographic revision of survey T-8534 on Bp. 49117, have been carried forward to the present survey.

With the addition of the above-mentioned rocks, rock elevations and soundings, the present survey is adequate to supersede the prior surveys within the common area.

6. Comparison with Chart 1206 (latest print date 8-1-55)

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys, with the present survey before verification and review and with the Mass. Dept. of Public Works' survey of 1931 (Bp. 25951).

The following charted critical depths have been revised 1 ft. deeper during the verification and review of the present survey:

<u>Charted depth</u>	<u>Chart Location</u>		<u>Survey depth</u>
<u>feet</u>	<u>Latitude</u>	<u>Longitude</u>	<u>feet</u>
8	42°53.9'	70°47.3'	9 ✓
5	42°51.9'	70°48.2'	6 ✓
24	42°55.8'	70°46.9'	25 ✓
11	42°56.1'	70°47.3'	12 ✓
6	42°56.4'	70°47.2'	7 ✓

The following discrepancies are noted:

1. A 33-ft. sounding on the present survey in lat. 42° 56.48', long. 70°46.30', falling in depths of 42-45 ft. has not been charted.

2. The sunken rock charted in lat. 42°53.95', long. 70° 48.0', from H-4892 (1928), should be shown as a rock awash at M. L. W. The rock was shown on H-4892 as a sunken rock covered $\frac{1}{2}$ -ft.

3. The 31-ft. sounding charted in lat. $42^{\circ}55.47'$, long. $70^{\circ}46.93'$, from H-1069 (1870), falls in present depths of 43 - 46 ft. Adequate development of the area on the present survey fails to reveal a 31-ft. depth. The 31-ft. sounding is believed to be 2-fms. in error and should be disregarded (see page 1 of Descriptive Report, 1954 work).

4. The 48-ft. sounding charted in lat. $42^{\circ}56.1'$, long. $70^{\circ}46.1'$, from H-1069 (1870), falls on the present survey in depths of 63 - 65 ft. Development of the area on the present survey fails to indicate a 48-ft. depth. The 48-ft. sounding originates with a single line of soundings on an adjacent crossing line of soundings. The charted sounding is considered to be 2-fms. in error and should be disregarded.

5. The 2 rocks awash charted in lat. $42^{\circ}55.4'$, long. $70^{\circ}47.9'$, originates with Bp. 49117. a 1951 air-photographic revision of survey T-8534 (1943). These rocks were not located on the present survey, or are they shown on contemporary air-photographic survey T-11149 (1952-53). An examination of the photographs of the area with a stereoscope, however, indicates the probability of the existence of these rocks. The rocks have, therefore, been carried forward to the present survey and should be retained on the chart, because their existence is not considered disproved by the present survey.

6. The south jetty at the entrance to Hampton Harbor shown on the present survey has not been charted.

7. The 3 rocks awash located on the present survey in the vicinity of lat. $42^{\circ}53.8'$, long. $70^{\circ}48.95'$, are not charted.

8. The 2 rocks awash charted in the vicinity of lat. $42^{\circ}54.8'$, long. $70^{\circ}48.2'$, originate with the advance print of T-11149 (1952-53). These rocks awash were revised to rocks covered by 2 ft. and 4 ft. on the present survey.

B. Aids to Navigation

The present survey positions of aids to navigation are in substantial agreement with the charted positions and adequately mark the features intended, except for the following channel buoys which are not charted because the channel in the entrance to Hampton Harbor is subject to continual changes and the buoys are frequently shifted in position:

<u>Buoy</u>	<u>Survey Location</u>	
	<u>Latitude</u>	<u>Longitude</u>
C-1	42°53.52'	70°48.27'
N-8	42°53.56'	70°48.24'
C-3	42°53.66'	70°48.82'
C-R&B	42°53.77'	70°49.08'

7. Condition of Survey

a. The sounding records and Descriptive Report are complete and comprehensive.

b. The smooth plotting was accurately done.

c. As noted in par. 4, minor differences of 1 - 4 ft. were found in some areas where the hydrography on the present survey overlapped the hydrography on H-7140 on the east. An examination of the records of both surveys produced no conclusive solution as to the cause of the discrepancies. The discrepancies are probably due to one or a combination of several causes, such as instrumental errors, bottom changes or minor irregularities in the bottom. Occurring in depths of 65 - 90 ft. the discrepancies are considered of little importance. They have been largely eliminated by effecting ^{2 bull-} butt junctions between the two surveys in the several effected areas whereby the larger-scale present survey supersedes the overlapping portions of the earlier small-scale offshore survey.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended

This is a basic survey and no additional field work is recommended.

Examined and Approved:

H. R. Edmonston

H. R. Edmonston
Chief, Nautical Chart Branch

Charles A. Schanck
Charles A. Schanck
Chief, Chart Division

J. C. Bull

J. C. Bull
Chief, Hydrography Branch

Samuel B. Grenell

Samuel B. Grenell
Chief, Division of Coastal Surveys

ZAC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

15 June 1955

Division of Charts: R. H. Carstens

Plane of reference approved in
14 volumes of sounding records for

HYDROGRAPHIC SHEET 8097

Locality New Hampshire and Mass.

Chief of Party: C. R. Reed in 1953

Plane of reference is mean low water, reading
3.2 ft. on tide staff at Merrimack River Entrance
14.1 ft. below B. M. 2 (1953)

2.0 ft. on tide staff at Hampton River Entrance
15.6 ft. below B.M. 1 (1928)

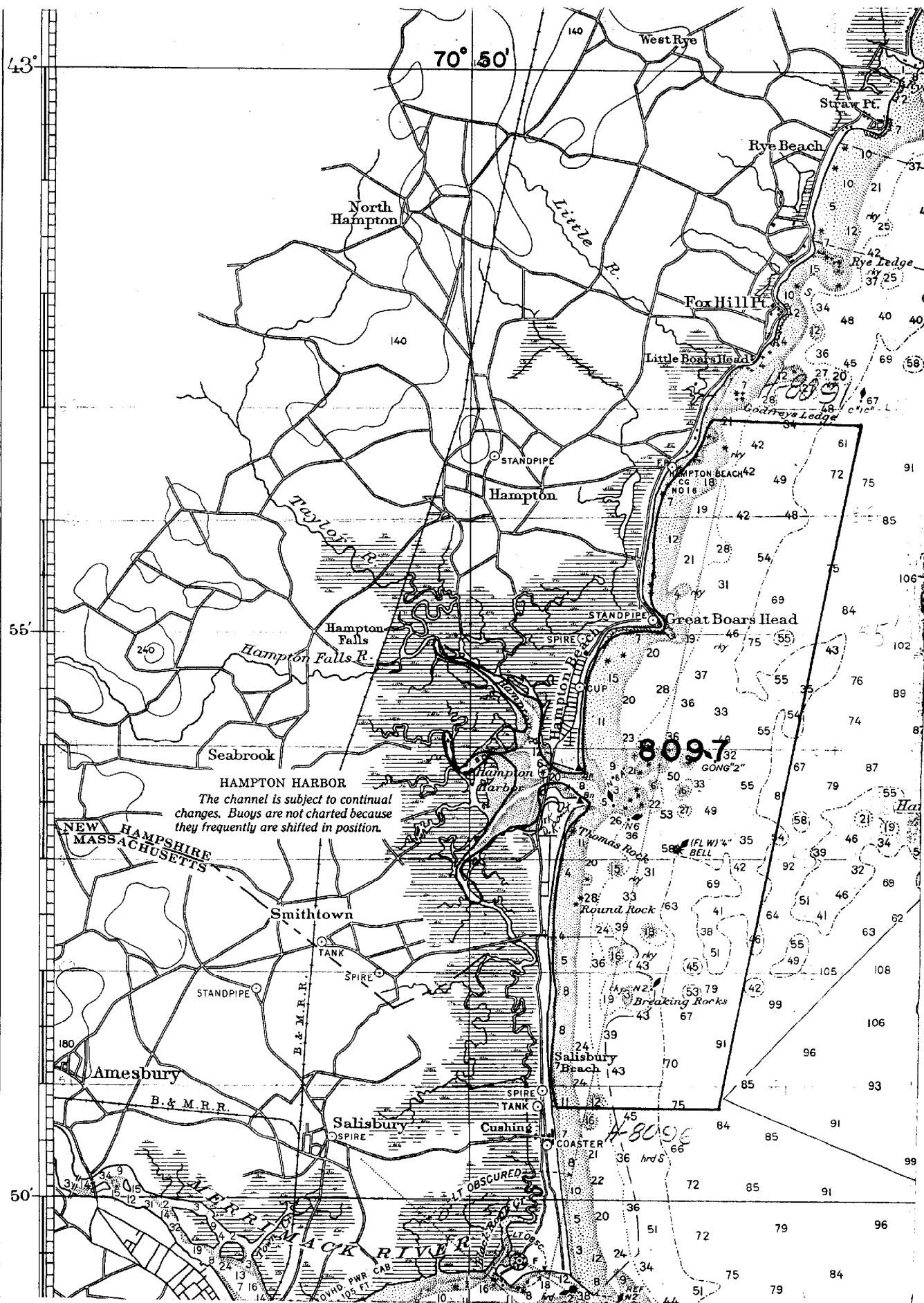
Height of mean high water above plane of reference is as follows:

Merrimack River Entrance: 8.3 feet
Hampton River Entrance : 8.3 feet

Condition of records satisfactory except as noted below:

E. C. McKay
Tides Branch

Chief, Division of Tides and Currents.



NAUTICAL CHARTS BRANCH

SURVEY NO. H - 8097

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
5-25-55	1206	L. S. Straw	Before After Verification and Review <i>partial</i>
10-23-58	1206 (INSET)	Wittmann	Before After Verification and Review (Inset only) <i>now</i>
6-14-62	1206	O. Sorensen	Before After Verification and Review (Completely
	C Nat	applied at this time	REE 11-2-62
5-13-64	1206	Hebebrand Radde	Before After Verification and Review Fully applied
			(in part thru chrt. 1206 INSET)
5/26/66	1106	M. H. Mad	Before After Verification and Review Applied hydro
			in area of note (Note moved onto Togo) <i>(over only)</i>
8-22-68	613-SC	F. B. Powers	Before After Verification and Review Fully appld.
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.