

8091

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-1453 Office No. HA8091

LOCALITY

State New Hampshire

General locality Outer Coast

Locality Odiornes Point to Godfreys

Ledge

194 53

CHIEF OF PARTY

Clarence R. Reed

LIBRARY & ARCHIVES

DATE May 25, 1955

16080

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DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

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-8091

Field No. ECFP-1453

State New Hampshire

General locality ~~Bye, New Hampshire~~ Outer Coast

Locality ~~New Hampshire Outer Coast from~~ Odiornes Point to Godfreys Ledge

Scale 1:10,000 Date of survey 8/20 - 10/12/53

Instructions dated 6 March 1953

Vessel East Coast Field Party

Chief of party Clarence R. Reed

Surveyed by R.B. Noble

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

Fathograms scaled by Party personnel

Fathograms checked by R.B. Noble & Norfolk Processing Office

Protracted by W.M. Jonns

Soundings penciled by W.M. Jonns

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

REMARKS: This survey was smooth plotted in the Hydrographic Section
of the Norfolk Processing Office.

NOTES FOR DESCRIPTIVE REPORT TO ACCOMPANY
(1953)
Hydrographic Sheet H-8091, (FIELD NO. ECFP 1453)

New Hampshire outer coast from Odiornes Point to
Godfreys Ledge

EAST COAST FIELD PARTY

CLARENCE R. REED, CHIEF OF PARTY

PROJECT CS-355

1953

SCALE 1:10,000

* * * * *

- A. PROJECT This survey was accomplished under instructions dated 6 March 1953, calling for modern hydrographic surveys of the northern Massachusetts and New Hampshire coastal regions. ✓
- B. SURVEY LIMITS AND DATES The survey on this sheet covers the New Hampshire outer coast from Odiornes Point to just south of Godfreys Ledge. The area surveyed is as follows:
Bounded on the north by Latitude $43^{\circ}-02.90'$, on the east by a line from Latitude $43^{\circ}-02.90'$, Longitude $70^{\circ}-40.24'$ to Latitude $42^{\circ}-59.50'$, Longitude $70^{\circ}-43.60'$ thence to Latitude $42^{\circ}-56.80'$, Longitude $70^{\circ}-45.28'$, on the south by Latitude $42^{\circ}-56.80'$ and on the west by the New Hampshire Coast. Junctions were made with prior survey H-7140, 1947, scale 1:40,000 on the east and contemporary survey H-8092, (FIELD NO. ECFP 1553) on the north. A junction will be made by survey H-8097, (FIELD NO. ECFP 1353) on the south when that survey is completed. *H-8097 (1953-54) junction completed* ✓
- C. VESSEL AND EQUIPMENT Launch No. CS-82 was used for the hydrography. The launch operated from a mooring at the U.S. Coast Guard Station, Fort Constitution and one at Rye Harbor, New Hampshire. Graphic Recorder No. 138SPX was used with transducers mounted inboard. Soundings other than echo soundings were taken with sounding pole or hand lead. ✓
- D. TIDE AND CURRENT STATIONS The tide note is attached to this report. No current stations were observed. ✓
- E. SMOOTH SHEET The smooth sheet is to be plotted by the Norfolk Processing Office. ✓
- F. CONTROL STATIONS Control consisted mainly of triangulation and Photo-hydro stations, the latter were transferred from Air-Photo Compilation Sheets No. T-11147 and T-11148⁽¹⁹⁵³⁾. Three hydrographic stations were located by cuts taken from the launch while the two hydrographic stations on the west side of Rye Harbor were located by sextant fixes at the station sites. All hydrographic station locations are recorded in the sounding volumes. ✓
- G. SHORELINE AND TOPOGRAPHY The shoreline and topographic details were transferred from Air-Photo Compilation Sheets No. T-11147 and T-11148⁽¹⁹⁵³⁾. The low water line is not defined by the soundings in most areas due to the steepness of the banks and the danger of approaching such a shoreline too closely. ✓

- H. SOUNDINGS Depths were measured with graphic recorders, sounding pole and hand lead. Bottom samples were obtained with an armed hand lead. ✓
- I. CONTROL OF HYDROGRAPHY The hydrography was controlled by the three-point-sextant-fix method. Fixes were taken at 1 to 1½ minute intervals. No unusual jumps were noted when changing control stations. Check angles were observed at detached positions when possible. ✓
- J. ADEQUACY OF SURVEY This survey is considered complete and adequate to supersede prior surveys. The junctions with adjoining surveys are satisfactory. ✓
- K. CROSSLINES Prescribed crosslines were run with satisfactory agreement at crossings. ✓
- L. COMPARISON WITH PRIOR SURVEYS As the surveys, with the exception of the wire drag surveys, covering this area are very old, it is felt that a detailed comparison with charts 329 and 1206 would be of more value than a comparison with the old surveys. Review, P 5
- M. COMPARISON WITH CHART Soundings were transferred from charts 329 and 1206 before beginning hydrography. These soundings are shown on the sheet in green ink. Present soundings and features which disagree with the charted information are discussed below. ✓
1. The 40 foot grounding in Latitude 43°-02.68', Longitude 70°-41.65' could not be verified despite the fact that the area was closely developed and considerable time spent drift sounding in the area. The least depth obtained was a handlead sounding of 44.0 feet on fine gray sand bottom which occurred 60 meters SSW of the charted 40 foot sounding. This sounding is recorded as position 47 r. In view of the fact that the charted 40 foot sounding originates from a modern wire drag survey it is recommended that the present charted depth be retained. (retained from W.D. survey) ✓
 2. The numerous wire drag soundings east of Pulpit Rock, shown on the preliminary review of Chart 329, were not individually investigated as none were considered dangerous to navigation, however, this entire area was closely developed. The soundings obtained by fathometer in this area verified the wire drag soundings closely and in some cases shoaler soundings were found close by. It is recommended that the wire drag soundings continue to be charted except where shoaler depths were found during this survey. (W.D. sdgs. retained on present survey) ✓
 3. A sunken rock in Latitude 43°-02.06', Longitude 70°-42.84' was found, located and recorded as position 32 s. This rock is 8 meters in diameter and is covered 2.0 feet at MLW. It is recommended that this rock be added to the chart. This rock is indicated on the Preliminary Review of Chart 329. (Rk. now charted) ✓
 4. A sunken rock was also found in Latitude 43°-01.55', Longitude 70°-43.40'. This rock, recorded as position 31 s, is 10 meters diameter and covered by 2.8 feet at MLW. This rock should be added to the chart. ✓
 5. A 30 foot shoal in Latitude 43°-01.77', Longitude 70°-42.60' was found and developed. The shoalest sounding obtained was a handlead sounding of 30.4 feet on coarse yellow sand and pebble bottom. This sounding, recorded as position 33 s, is probably a new position of the charted 29 foot shoal, 50 meters NNW. Since the charted sounding originates from a wire drag survey it is recommended that this sounding continue to be charted as at present. (29 carried fwd.) ✓

6. The 43 foot sounding in Latitude $43^{\circ}-02.83'$, Longitude $70^{\circ}-41.01'$ was found as charted. The least depth of 42.4 feet on rocky bottom is recorded as position 71 r. It is recommended that this new, shoaler depth be added to the chart. (*chart 41 close by from H-8092*) ✓
7. The charted 47 foot shoal in Latitude $43^{\circ}-01.72'$, Longitude $70^{\circ}-41.81'$ was found essentially as charted. The area was developed by additional sounding and the least depth found was a handlead sounding of 48.2 feet on coarse yellow sand and pebble bottom. This sounding, is recorded as position 72 r. It is recommended that the present sounding be retained on the chart. (*46 ft. close by*) ✓
8. A small shoal in Latitude $43^{\circ}-01.59'$, Longitude $70^{\circ}-41.92'$ was found and developed. While handlead sounding on this shoal to determine the least depth the lead became engaged on the bottom and was retrieved with much difficulty. Upon being brought to the surface the lead was examined and found to be streaked with dark red paint which the leadsmen states was not there prior to the sounding. The arming on the lead showed the same indentations usually obtained on rocky bottom. This sounding was the least depth found and is 46.0 feet, recorded as position 56 r. (*chart 44*) ✓
9. While it is possible that the lead became engaged in a wreck there is no definite proof of this; therefore it is recommended that this feature be added to the chart as a 46 foot sounding. (*least depth 44 ft.*) ✓
10. Gunboat Shoal in Latitude $43^{\circ}-01.40'$, Longitude $70^{\circ}-42.10'$ was found to be essentially as charted. This shoal was closely developed and the least depth found was a handlead sounding of 19.8 feet on rocky bottom, recorded as position 47 r. Depths of 22 feet, (shoaler than charted), were found near the south end of the shoal. It is recommended that the least charted depth of ~~19~~ 20 feet be retained and the new shoal sounding to the south be added to the chart. (*19 least depth*) ✓
11. The charted 11 foot shoal, item 18 of the preliminary review of Chart 329, was not found. This area was closely developed and considerable time spent in drift sounding. No evidence of any shoal was found at the position of this 11 foot sounding and it is recommended that it be deleted from the chart. (*Concur*) *in $\phi 43^{\circ}01.57'$, $\lambda 70^{\circ}43.03'$* Review, #5a.
12. The charted sunken rock, item 1 of the preliminary review of Chart 329, was not found. This area was closely developed and a lookout stationed to watch for evidence of this rock. No evidence of this rock was found after additional sounding and slow cruising in the vicinity. It is recommended that this rock be deleted from the chart. (*Concur; rk. charted in $\phi 43^{\circ}01.48'$, $\lambda 70^{\circ}43.22'$*) Review, #6
13. The charted sunken rock off Concord Point, in Latitude $43^{\circ}-01.02'$, Longitude $70^{\circ}-43.20'$ ¹⁶⁷ was not found. This area was carefully searched at low tide with a lookout detailed to watch for the rock. No rock was found but a shoal area 100 meters S^E was discovered and developed. The least depth found was a hand lead sounding of 12.8 feet on rocky bottom, recorded as position 109 v. A slightly shoaler sounding was obtained between positions 107 and 108 v but this could not be verified by a hand lead sounding. It is recommended that the charted sunken rock be deleted and the newly found shoal be added to the chart. (**least depth 11 ft.*) Review, #5a.
14. A reef which bares 3.5 feet at MLW in Latitude $43^{\circ}-00.70'$, Longitude $70^{\circ}-43.72'$ was located and described in the sounding volumes. This reef is at present charted as two separate rocks awash which also appear to be charted approximately 60 meters too far east. It is recommended that this reef be charted as shown on this survey sheet in the future. Several other rocks awash and sunken ledges were found to

- the south and west of this reef. These rocks were described, located and are recorded in the sounding volumes. It is recommended that the charting of this entire area be revised to agree with this survey. ✓
15. Shoaler soundings than charted were found in Latitude 43°-00.38', Longitude 70°-43.75'. This area was developed and revealed a small shoal with a least depth of 21.6 feet on rocky bottom, recorded as position 51's. Chart 1206 shows 28 foot depths in this area. ✓ Chart 21
16. The charted sunken rock in Latitude 43°-00.02' Longitude 70°-44.48' was found as charted, located and recorded as position 2 t. This rock is 5 meters in diameter and covered 1.8 feet at MLW. It is recommended that this rock be charted as a 2 foot, rocky sounding. ✓
17. Several small shoals were found and developed SE of Rye Harbor. The shoalest sounding on the farthest offshore shoal was a hand lead sounding of 21.6 feet on rocky bottom. A 19 foot sounding on a sounding line 15 meters south could not be verified after much drift sounding in the area. It is recommended that the charted soundings in this area be revised to agree with this survey. ✓ in 42°58.12', 70°48.6'
18. A small shoal 300 meters south of Rye Ledge was found and developed by additional sounding lines. ~~No hand lead~~ soundings were taken in this area. Air-Photo Compilation Sheet No. T-11148 shows a group of rocks awash in this area. No rocks awash were found after a thorough search. It is recommended that the charted soundings in this area be revised to agree with this survey. ✓ See Review, #6
19. A rock awash symbol is shown on Air-Photo Compilation Sheet T-11148 in Latitude 42°-58.20', Longitude 70°-45.73'. A thorough search was made of this area but no rock awash was found, however, a sunken rock was found 70 meters ESE. This rock, recorded as position 87 u, is 4 meters in diameter and is covered 1.4 feet at MLW. A sunken rock was also found and located 210 meters SE. This rock, recorded as position 86 u, is 8 meters in diameter and covered 5.4 feet at MLW. A rock awash symbol shown on the Air-Photo Compilation Sheet, in Latitude 42°-58.38', Longitude 70°-45.54' was also searched for, but not found after an exhaustive search of the area at near low water. It is recommended that only the rocks located during this survey in this area be charted. ✓ See Review, #6
20. The charted 12 foot sounding in Latitude 42°-57.23', Longitude 70°-45.90' item 12 of the preliminary review of chart 1206, was investigated by additional sounding lines and drift sounding in the area. No evidence of this shoal sounding was found. It is recommended that this sounding be deleted from the chart. ✓ Concur, Review, #5a.
21. Chart 1206 shows an island in Latitude 42°-57.35', Longitude 70°-46.15', while Air-Photo Compilation Sheet No. T-11148 shows a large reef in this location. Both are incorrect. There is actually a large reef here that is completely covered at all stages of tide except for one small, high point of rock near the north end. This area was thoroughly developed by closely spaced sounding lines run at near high tide. It is recommended that this feature be charted as shown on this survey. chart revised accordingly ✓
22. A small shoal in Latitude 42°-57.30', Longitude 70°-45.60' was found and developed. A hand lead sounding of 22.6 feet on gravel bottom was the shoalest depth found. Although a 20 foot sounding 40 meters NNE was obtained on an earlier sounding line this could not be verified. ✓ Review, #6
*20 ft. on boat sheet; subsequently revised to 24 (stray) chart 22 45
least depth

by hand lead sounding. It is recommended that this shoal be added to the chart. ✓

- N. DANGERS AND SHOALS Newly found dangers and shoals have been covered under COMPARISON WITH CHART except for the following item:

A 3 foot sounding was obtained between Pos. 6 and 7 x on a sounding line in the entrance to Rye Harbor. This sounding was later verified by a pole sounding of 2.6 feet on rocky bottom. Although the water was not clear enough at the time of the pole sounding to determine whether or not this was a single rock or boulder, the appearance of the fathogram indicates that it was. This danger was report in the Coast Pilot Report dated 23 October 1953. It is recommended that this danger be added to the chart. (shown as + on ch. 1206) ✓

- O. COAST PILOT INFORMATION Submitted as a special report dated 23 October 1953.

- Q. LANDMARKS FOR CHARTS The following additional landmarks should be charted on chart 1206. ✓

Concrete watch tower in Latitude 43°-02.00'
Longitude 70°-43.27' (Hydrographic signal CON)

The following landmarks should be charted on proposed new charts 211 and 212, in addition to concrete watch tower above. ✓

OCEAN WAVE HOTEL CUPOLA, 1898 (Hydrographic signal WAVE) ^{43°00.83'}
70°44.15'

Flagpole on Straw Pt. (Hydrographic signal HAY) ^{42°59-55'}
70°45.11'

- R. GEOGRAPHIC NAMES There are no new or additional geographic names to report.

Respectfully submitted

Robert B. Noble
Robert B. Noble
ENS. USC&GS

Approved and forwarded

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

TIDE NOTE TO ACCOMPANY

Hydrographic Survey Sheet H- 8091, (FIELD NO. ECFP 1453)

Portable automatic tide gages were maintained at Jaffrey Point and Hampton River Entrance, New Hampshire.

No differences of time or height were applied to the observed tides. Planes of reference were furnished by the Washington Office or computed from elevations of previous tidal bench marks.

<u>STATION</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>MLW ON STAFF</u>
Jaffrey Point, N.H.	43°-03.44'	70°-42.94'	1.39
Hampton River Ent., N.H.	42°-53.75'	70°-49.03'	2.1

FATHOMETER CORRECTIONS

PROJECT CS-355

Hydrographic Survey Sheet H- 8091, (FIELD NO. ECFP 1453)

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.

Launch 82

FATHOMETER NO. 138 SPX

¹⁷
~~20~~ August - ¹⁹
~~12~~ October 1953

Corrections	Depth	
	From	To
A Range		
+0.6	0.0	5.0
+0.4	5.1	14.0
+0.2	14.1	24.0
0.0	24.1	33.0
-0.2	33.1	42.0
-0.4	42.1	50.0
-0.6	50.1	55.0
B Range		
-3.0	35.0	57.0
-3.2	57.1	90.0
C Range		
-5.2	all depths	

Bar check graphs are filed with H-8092
"L" log has bar check

STATISTICS TO ACCOMPANY

Hydrographic Sheet H-8091, (FIELD NO. ECFP 1453)

DATE 1953	DAY LTR.	VOL. NO.	LEAD LINES	POLE SDGS	NO. OF POSITIONS	STAT.MI. SDG.
20 Aug.	a	1	--	1	115	16.0
24 "	b	1&2	--	4	140	15.2
26 "	c	2	--	--	106	15.4
28 "	d	2&3	1-	--	228	34.3
31 "	e	3&4	1	--	192	27.6
1 Sept.	f	4&5	--	8	195	26.8
2 "	g	5&6	1	6	130	17.6
3 "	h	6	--	5	132	18.2
9 "	j	6&7	--	1	198	28.0
10 "	k	7&8	--	2	195	28.6
11 "	l	9	--	2	110	15.3
14 "	m	9	6	--	6	0.0
22 "	n	9&10	--	--	180	18.2
23 "	p	10&11	--	1	165	15.9
24 "	q	11	--	--	168	19.3
28 "	r	12	6	--	84	7.8
29 "	s	12	3	2	56	2.5
30 "	t	12	1	1	4	0.0
1 Oct.	u	12&13	--	2	183	21.3
2 "	v	13	3	8	119	10.4
7 "	w	14	1	1	21	1.5
8 "	x	14	--	--	93	11.0
9 "	y	14	3	--	73	8.5
12 "	z	14	6	1-	7	0.0
TOTALS			32	45	2900	359.4

Area surveyed 11.3 square stat. miles

APPROVAL SHEET

HYDROGRAPHIC SURVEY H-8091

The records and boat sheets for Hydrographic Survey
H-8091 have been inspected by me and are approved.

Clarence R. Reed

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

LIST OF SIGNALS
H-8091

TRIANGULATION STATIONS

BACK	WHALEBACK LIGHTHOUSE, 1878
CAST	WENTWORTH HOUSE CUPOLA, 1898
JEFF	JAFFREY POINT DAYBEACON, 1953
NECK	RAGGED NECK, 1943
PIPE	CAMP LANGDON STANDPIPE, 1941
POLE	FORT STARK FLAGPOLE, 1941
TAR	PULPIT ROCK 142, 1941-43
VANE	FARRAGUT HOTEL, WEATHER VANE, 1943
WAVE	OCEAN WAVE HOTEL CUPOLA, 1898
WOOD	WOOD ISLAND COAST GUARD CUPOLA, 1917

TOPOGRAPHIC STATIONS

Cob	T-11148	Hay	T-11148	Red	T-11147
Con	T-11147	Him	T-11147	Rot	T-11147
Cow	T-11148	How	T-11148	Sam	T-11148
Cro	T-11147	Lag	T-11147	Sin	T-11148
Cup	"	Low	T-11147	Tim	T-11148
Eat	T-11148	Man	T-11148	Top	T-11148
Far	"	Ola	T-11147	Wit	T-11147
Fox	T-11147	Pit	T-11148	Yel	T-11148
Gab	T-11148	Rag	T-11147	Zoo	T-11148
Gra	T-11148	Ram	T-11147		

HYDROGRAPHIC STATIONS

Gun	Vol. 1, pg. 68
Mud	Vol. 7, pg. 35-36
Put	Vol. 14, pg. 3
Sow	Vol. 14, pg. 3
Sue	Vol. 9, pg. 17

FLOATING AIDS TO NAVIGATION
H-8091

NAME	LAT. & LONG.	METERS	DEPTH	POS. NO.	DATE
Kitts Rocks Lighted	43-02	1837			
Whistle Buoy 2KR	70-41	672	-	9a	8-20-53 <i>this approx pos.</i>
Gunboat Shoal Bell	43-01	856			
Buoy 1	70-41	1154	55'	102d	8-28-53
Foss Ledge Whistle	40-00	1307			
Buoy 1A	70-43	355	45'	94e	8-31-53
Rye Harbor Whistle	42-59	1110			
Buoy 1B	70-43	1060	54'	32g	9-2-53
Little Boars Head	42-57	12			
Buoy 1C	70-45	507	70'	30y	10-9-53
<i>Whistle Buoy 2KR 43°02' 1770 from H-8092 pos. 109V</i>					
<i>70°41' 680</i>					

ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8091 (Field No. ECFP-1453)

GENERAL

This appears to be a very good basic survey in an area of extremely irregular bottom. The soundings checked very well at crossings and no un-usual difficulties were experienced during the smooth plot. ✓

ROCKS & LEDGES

It is recommended that the positions and elevations of all rocks and reefs be carefully verified. The data shown on the smooth sheet was taken from *Review,* *P1* the boat sheet, air-photo compilations and from various notes and references ✓ in the sounding volumes. In some instances, notes were entered on the smooth sheet to assist the verifiers in determining the source of the locations and elevations. ■

Respectfully submitted,

Hugh L. Proffitt
Hugh L. Proffitt
Cartographer.

Norfolk, Va.
10 May 1955

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. .8091....

Records accompanying survey:

Boat sheets ..1...; sounding vols. .14...; wire drag vols.;
bomb vols.; graphic recorder rolls 12 Env.
special reports, etc. .1-Smooth sheet.....
.....

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

Number of positions on sheet	2900
Number of positions checked	75
Number of positions revised	2
Number of soundings revised (refers to depth only)	✓
Number of soundings erroneously spaced	✓
Number of signals erroneously plotted or transferred	✓
Topographic details	Time	20
Junctions	Time	40
Verification of soundings from graphic record	Time	40

Verification by *J. T. Bullard*.....Total time 585... Date Nov. 28, 56

Reviewed by *J. A. Dinsmore*..... Time 64... Date 14 Jan. 1957

GEOGRAPHIC NAMES

Survey No. H-8091

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>New Hampshire</u>									D.F.N.	1
<u>Odiornes Point</u> ✓										2
<u>Concord Point</u>										3
<u>Foss Ledges</u> *										4
<u>Rye Harbor</u>										5
<u>Straw Point</u> ✓										6
<u>Rye Ledge</u> *										7
<u>Little Boars Head</u> ✓										8
<u>Godfreys Ledge</u> *										9
										10
										11
* to be applied after soundings are inked - see chart 1206.										12
										13
										14
										15
										16
Tide stations.										17
<u>Taffrey Point</u>									B.G.N.	18
<u>Hampton Harbor Entrance</u>										19
										20
										21
										22
										23
										24
										25
										26
										27

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8091

FIELD NO. ECFP-1453

New Hampshire, Outer Coast, Odiornes Pt. to Godfreys Ledge

Project No. CS-355

Surveyed - August - October 1953

Scale 1:10,000

Soundings:

Control:

808 Fathometer
Hand lead
Pole

Sextant fixes on
shore signals

Chief of Party - C. R. Reed
Surveyed by - R. B. Noble
Protracted by - W. M. Jonns
Soundings plotted by - W. M. Jonns
Verified and inked by - J. T. Gallahan
Reviewed by - T. A. Dinsmore 14 January 1957
Inspected by - R. H. Carstens

1. Shoreline and Signals

The shoreline originates with the reviewed manuscripts of air-photographic surveys T-11147 and T-11148 of 1953. The locations and heights of numerous rocks awash shown on the air-photo surveys are superseded by the present survey information.

The origin of the signals is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in good agreement considering the irregularities in the bottom.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated. Where not otherwise shown, the low-water line is represented by the outer limits of the ledge symbolization.

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

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-8092 (1953-54) on the north, H-7140 (1947) on the southeast and H-8097 (1953-54) on the south. In a portion of the overlapping area on the southeast, it was necessary to make a butt junction between H-7140 and the present survey because of minor differences of 1 - 4 ft. in depths. In this locality, the present survey depths supersede the depths shown on H-7140.

There are no contemporary surveys registered at this time on the northeast. Charted depths, however, are in harmony with depths at the limits of the present survey.

5. Comparison with Prior Surveys

- | | | |
|----|---------------------------------|-------------------------------|
| a. | H-294 (1851) 1:20,000 | H-1068 (1870) 1:10,000 |
| | <u>H-627 (1857-85) 1:20,000</u> | <u>H-2361 (1898) 1:20,000</u> |

These prior surveys taken together cover the area of the present survey. A comparison of the prior and present surveys reveals no appreciable changes in bottom. However, the old sounding lines which are widely spaced failed to reveal much critical information disclosed by the closer development on the present survey.

The following discrepancies are noted:

(1) The 15-ft. sounding charted in lat. $43^{\circ}02.02'$, long. $70^{\circ}42.7'$, from H-1068 should be disregarded. Falling in present depths of 20 ft., the unsupported prior sounding is considered to be out of position and should actually fall on the shoal about 75 meters northward where comparable depths were obtained on the present survey.

(2) The 4-ft. sounding charted in lat. $43^{\circ}01.54'$, long. $70^{\circ}43.47'$, from H-1068 should be disregarded. Falling in 18-ft. depths on the present survey, the prior sounding is probably out of position on the sharp slope and should fall inside the 6-ft. curve slightly northward. The 3-ft. rock to the eastward and the 5-ft. shoal southeastward adequately reveal the dangers in the locality.

(3) The 11-ft. sounding charted in lat. $43^{\circ}01.57'$, long. $70^{\circ}43.03'$, from H-294 should be disregarded. Falling in depths of 33 ft. on the present survey, the prior sounding is considered to be out of position and should actually fall on the shoal 120 meters northwestward. The 11 and the following sounding of 21 ft. were preceded and followed by 30-ft. soundings on a line running NNE. The soundings were obtained two thirds of the three quarter-mile distance between position fixes. The area was closely developed on the present survey.

(4) The 28-ft. sounding charted in lat. $43^{\circ}01.33'$, long. $70^{\circ}43.24'$, from H-1068 should be disregarded. Falling in depths of 35 ft. on both the prior and present surveys, the prior unsupported sounding is probably 1 fm. in error. The bottom is smooth and sloping.

(5) The sunken rock charted in lat. $43^{\circ}01.02'$, long. $70^{\circ}43.67'$, from H-1068 where it falls in an unsurveyed area, should be disregarded. Falling in present depths of 23 ft., the prior information is probably out of position and was intended to represent the 11-ft. rocky shoal 120 meters southeastward on the present survey. The locality was closely developed and carefully searched on the present survey.

(6) The 24-ft. sounding charted in lat. $42^{\circ}59.12'$, long. $70^{\circ}44.4'$, from H-627 should be disregarded. Falling in present depths of 35 ft., the prior unsupported sounding is considered to be out of position and should actually fall about 170 meters northwestward where comparable depths were obtained on the present survey.

(7) The 12-ft. sounding charted in lat. $42^{\circ}57.69'$, long. $70^{\circ}45.87'$, from H-1068 should be disregarded. Falling in 25-ft. depths on both the prior and present survey, the unsupported prior sounding is considered to be erroneous. Present development in relatively smooth bottom is adequate to discredit the prior sounding.

Although the delineation of bottom features is quite complete on the present survey, several prior soundings have been carried forward to supplement present depths. A few bottom characteristics were also retained from the prior surveys.

The present survey, with the indicated additions, is adequate to supersede the prior surveys within the common area.

b. H-3975 W.D. (1917) 1:20,000
H-3976 W.D. (1917) 1:10,000

H-3977 W.D. (1917) 1:20,000

Present survey depths are in harmony with the effective wire-drag depths in the common area. Several critical soundings have been retained from the wire-drag surveys to supplement the present survey coverage.

6. Comparison with Chart 329 (Latest print date 11/14/55)
Chart 1206 (Latest print date 8/13/56)

A. Hydrography

Charted hydrography originates principally with the previously discussed surveys which need no further consideration. The present survey has been partially applied to the charts prior to verification and review. Numerous revisions of 1 - 2 ft. have been made to smooth-sheet soundings during verification.

The following discrepancies are specifically noted:

(1) The sunken rock charted in lat. $43^{\circ}01.48'$, long. $70^{\circ}43.22'$, originates with a questionable marking or imperfection in the paper on T-1047 (1870). Close development and diligent searching on the present survey adequately disproves the doubtful feature which should be removed from the chart. Smooth-bottom depths of 28 ft. were obtained in the above locality on the present survey.

(2) The rock awash charted in lat. $42^{\circ}59.35'$, long. $70^{\circ}45.5'$, from air-photo revisions to T-8534 shown on blueprint 49117 (1951) should be disregarded. The charted information is superseded by the present survey and T-11148 (1953) which shows no rock in the above position.

(3) The rock awash charted in lat. $42^{\circ}58.12'$, long. $70^{\circ}45.6'$, originates with a small group of rocks awash on T-11148. A thorough search of the locality on the present survey revealed no rocks awash. However, a sunken rock with least depth of 5 ft. was found in the immediate vicinity. The present survey adequately disproves the charted feature which should be removed from the chart.

(4) The 20-ft. sounding charted in lat. $42^{\circ}57.3'$, long. $70^{\circ}45.56'$, originates with the present survey prior to verification. This sounding was subsequently revised to 24 ft. during verification. A 22-ft. sounding closeby should be charted to replace the erroneous 20-ft. sounding.

The present survey entirely supersedes the charted information.

B. Aids to Navigation

The aids to navigation located on the present survey are in substantial agreement with the charted aids and adequately mark the features intended.

7. Condition of Survey

a. The sounding records are complete; the Descriptive Report is exceptionally thorough in its recommendations regarding the charted information encircled for investigation on the preliminary reviews of charts 329 and 1206.

b. The smooth plotting was neat and accurate.

c. As noted in paragraph 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 southeast. 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 50 - 80 ft., the discrepancies are considered of little importance. They have been largely eliminated by effecting butt junctions between the two surveys in the affected areas whereby the larger-scale present survey supersedes the overlapping portions of the earlier small-scale offshore survey.

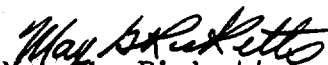
8. Compliance with Project Instructions

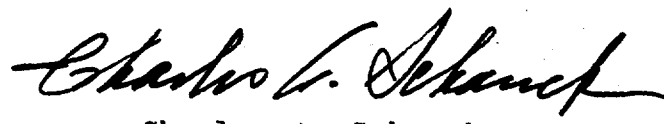
The survey adequately complies with the Project Instructions.

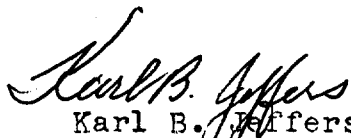
9. Additional Field Work

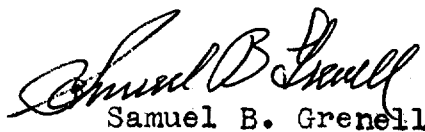
With the retention of several soundings from the prior surveys, the present survey is considered to be an excellent basic survey and no additional field work is recommended.

Examined and Approved:


Max G. Ricketts
Chief, Nautical Chart Branch


Charles A. Schanck
Chief, Division of Charts


Karl B. Jeffers
Chief, Hydrography Branch


Samuel B. Grenell
Chief, Division Coastal Surveys

R17C

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

14 June 1955

Division of Charts: R. H. Carstens

Plane of reference approved in
14 volumes of sounding records for

HYDROGRAPHIC SHEET 8091

Locality New Hampshire

Chief of Party: C. R. Reed in 1953
Plane of reference is mean low water, reading
1.8 ft. on tide staff at Jaffrey Point
20.0 ft. below B. M. 1 (1919)

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:

Jaffrey Point : 8.7 feet

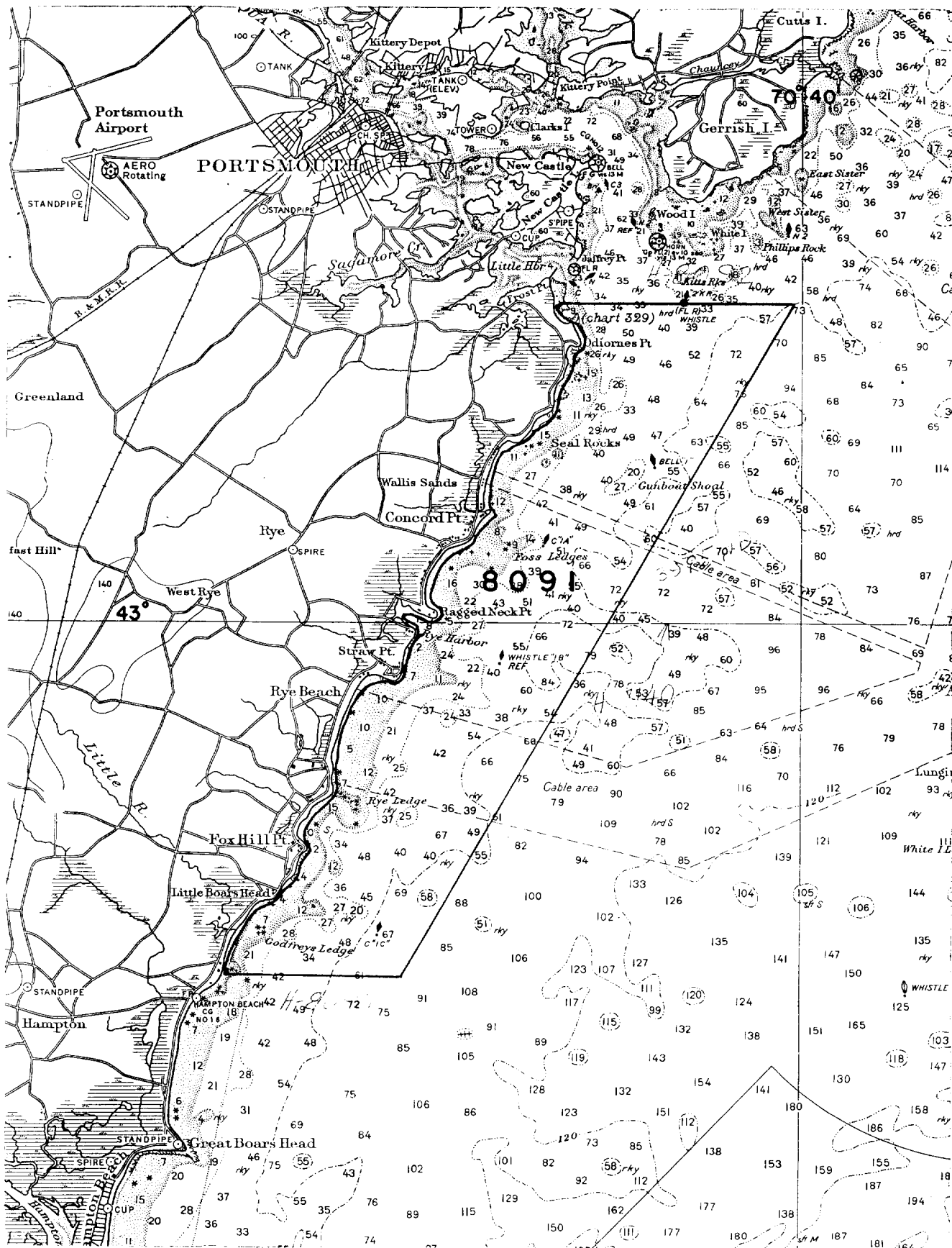
Hampton River Ent. : 8.3 feet

Condition of records satisfactory except as noted below:

E. C. McKay

Tides Br.

Chief, Division of Tides and Currents.



NAUTICAL CHARTS BRANCH

SURVEY NO. H-8091

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
5-23-55	1206	L.S.S	Before After Verification and Review
6-27-55	329	R.K. DeLauder	Before After Verification and Review
4-11-56	1205	J.M. Albert	Before After Verification and Review
27 Sept 57	211	H. MacSwen	Before After Verification and Review
21 Aug 59	1205	R.K. DeLauder	Before After Verification and Review
5/5/62	4205	O. Svendsen	Before After Verification and Review
		Not applied at this time	REE 11-2-62
4-23-64	1206	Hebeard Rodden	Before After Verification and Review
8-22-68	613-SC	J.B. Powers	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.