

8093

Diag. Cht. Nos. 229 & 1206-2

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic
Field No. ECEP-1653 Office No. H-8093

LOCALITY

State New Hampshire
General locality Portsmouth
Locality Great Bay & Squamscott River

19 53-54

CHIEF OF PARTY

Clarence R. Reed

LIBRARY & ARCHIVES

DATE October 27, 1955

8093

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-8093

Field No. ECFP-1653

State New Hampshire

General locality Portsmouth, ~~New Hampshire~~

Locality Great Bay and tributaries
Squamscott River

Scale 1:10,000 Date of survey 4/29 - 7/1/53

Instructions dated 6 March 1953 8/2 - 8/11/54

Vessel East Coast Field Party

Chief of party Clarence B. Reed

Surveyed by L.D. Kelley & C.E. Horne

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

Fathograms scaled by Party personnel

Fathograms checked by L.D. Kelley

Protracted by Hugh L. Proffitt & W.W. Feazel

Soundings penciled by W.W. Feazel

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

REMARKS: See attached report for work done during the 1954 season.

943

NOTES FOR DESCRIPTIVE REPORT TO ACCOMPANY

Hydrographic Sheet No. H-8093, (FIELD NO. ECFP-1653)

Great Bay and Tributaries

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 a modern hydrographic survey of the coastal regions of New Hampshire and Northern Massachusetts.
- B. SURVEY LIMITS The survey on Sheet H-8093, (FIELD NO. ECFP 1653) covers an area bounded by the shorelines of the ^{Squamscott} Exeter and Lamprey Rivers and Great Bay and the portion of Little Bay south of Latitude 43°-06.5'. All rivers were surveyed to the head of navigation. Junction was made with contemporary survey on Sheet H-8094 (1953-54) on north (ECFP 1753). Work commenced 29 April, 1953 and was completed*1 July, 1953. Low tides and lack of roads to shoreline made signal building difficult and winds slowed hydrography considerably in this shoal area. *Add'l work in 1954 (see suppl. report)
- C. VESSELS AND EQUIPMENT Aluminum Launch No. 168 was used for the survey. The launch operated from moorings at Newfield in the ^{Squamscott} Exeter River and Dover Point. All echo soundings were obtained with Graphic Recorder No. 138SPX. The transducers were mounted inboard.
- D. TIDES AND CURRENTS The tidal note is attached to this report. No currents were observed.
- E. SMOOTH SHEET The smooth sheet is to be plotted by the Norfolk Processing Office.
- F. CONTROL STATIONS The control consisted mainly of triangulation and photogrammetric stations. The latter were transferred from Air Photo Compilation Sheets T-11142, T-11143, T-11145, and T-11146. Where Hydrographic stations were necessary, their positions were determined (1953-54) by sextant fixes at each station site.
- G. SHORELINE AND TOPOGRAPHY The shoreline and topographic details were transferred from Air Photo Compilation Sheets T-11142, T-11143, T-11145 and T-11146. Any inaccuracies were resolved in the field and sketched directly on the boat sheet. (1953-54)
- H. SOUNDINGS The depths were obtained with a graphic recorder, sounding pole and hand lead. Bottom samples were obtained with armed hand leads.
- I. 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. Fixes were taken at 1 to 1½ minute intervals. In the ^{Squamscott} Exeter and Lamprey Rivers where hydrographic control was lacking, positions of sounding lines were referred to distinctive shoreline details. Appropriate remarks were entered in the sounding volumes.

H-8094(1953-54)

J. ADEQUACY OF SURVEY This survey is complete and considered adequate to supersede prior surveys. The junction with the adjoining sheet is satisfactory as depth curves can be drawn and there are no holidays.

K. CROSSLINES Sufficient crosslines were run as prescribed.

L. COMPARISON WITH PRIOR SURVEYS A comparison with Sheet H-3525 and Chart 229 showed considerable change in shallow channels throughout Great Bay. Information from local fishermen reveals that eel grass holding channels left the Bay about ten years ago and the channels have filled in. Items mentioned in the Preliminary Review prepared by the Washington Office were investigated and are listed below together with other discrepancies.

Review, par. 5

M. COMPARISON WITH CHART CHART 229

LATITUDE	LONGITUDE	CHART	1953 SURVEY	REMARKS
(1) 43°-04.210	70°-52.867	8 ft	6 ft (pos. 1r)	Shoalest sounding ✓ chart 6
(2) 43°-05.21 ✓	70°-51.973	15 ✓	15 ✓	Shoalest sounding ✓ (Item 1)
(3) 43°-04.78 ✓	70°-51.75 ✓	* -	14 ft 1	Shoalest sounding - Prelim Review
(4) 43°-04.988	70°-51.84 ✓	* -	15 ft (4)	Shoalest sounding - Item 1 pos. 63g Rock pile Prelim Review
(5) 43°-00.75 ✓	70°-56.38 ✓	---	+55 (MHW)	Overhead cable ✓ - Item 12 ✓ Prelim Review
(6) 43°-02.58 ✓	70°-55.27 ✓	---	+50 (MHW)	Item 12 - New overhead cable ✓
(7) 43°-04.55 ✓	70°-55.6972	---	+70 (MHW)	Item 12 - New overhead cable ✓
(8) 43°-04.13 ✓	70°-55.29 ✓	---	---	Overhead cable - Non-existent (removed from chart)
(9) 43°-05.53 ✓	70°-51.875	---	13 (pos. 1s)	Shoalest sounding. This rock was reported by resident of area who owns small motor boat. It does not endanger navigation to Great Bay, but only to those using a small float at Adams Point. Signal "ARK" is on the inshore corner of this float. Piling which covers at 3/4 tide near entrance to draw bridge. (Piling now charted)

3-ft. Rk. charted by hand correction

(10) 43°-03.18²³ 70°-54.88⁷⁸ --- grp. piling (5)

N. LANDMARKS FOR CHARTS The charted landmark of "Stratham Hill Flagpole", Latitude 43°-02.38, Longitude 70°-053.44 should be changed to "Stratham Hill Fire Tower", 1941 triangulation at Latitude 43°-02:21.832" Longitude 70°53'26.053".

O. GEOGRAPHIC NAMES It was noted that on recent charts, the river leading into Great Bay from the south has been changed from Exeter to Squamscott River. Local people know this river as the Exeter River and no one of the several asked had ever heard it called Squamscott. It is recommended that the name be changed back to Exeter River on future charts.

Review, par. 6.

B.G.V. decision in 1950. 854 LH

Squamscott
P. MISCELLANEOUS Investigation at low water by skiff of the ~~Exeter~~ and Lamprey Rivers reveals small rocks and alewife traps along the sides of channels. These were not located because of lack of control. Within 3/4 mile of the Town of Exeter the river has 2 feet or less at low water with mud bottom with scattered boulders. Outboard motor pleasure skiffs operate in these rivers. Local knowledge is recommended for navigation. ✓
Clearance and location data for ^{*}bridges and transmission towers have been forwarded to the Chart Division in a separate report dated 20 January 1954. C.L. 58(1954) * See Review, #6

Respectfully submitted,

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

Q. NOTE: The mid channel line run from the south end of the sheet to Exeter in the ~~Exeter~~ ^{*Squamscott*} River shows negative soundings. However it was impossible to keep the launch in the winding, deepest part of the channel. ✓
A reconnaissance run up the river by skiff at low water indicates a winding channel about two feet deep at low water.

Approved and forwarded
with added note,

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

TIDAL NOTE TO ACCOMPANY

Hydrographic Survey Sheet H- 8093, (FIELD NO. ECFP 1653)

Observations were obtained at three tide stations where portable automatic tide gages were maintained. The gage at Oxbow Cut, Exter River was used in reducing soundings in the ^{Squamscott} Exter River to the highway bridge at Newfield. (latitude $43^{\circ}-02.4$, Longitude $70^{\circ}-55.7$). The gage at ^{Squamscott} Exter River Railroad Bridge was used to reduce soundings from Newfield through Great Bay to Furber Straits (Latitude $43^{\circ}-05.5$). The gage at Newington was used to reduce soundings from Furber Straits north. *Review, P 7c.*

Planes of reference were furnished by the Washington Office or computed from previous tidal Bench Marks.

STATIONS	LATITUDE	LONGITUDE	MLW ON STAFF
Oxbow Cut	$43^{\circ}-00.16$	$70^{\circ}-56.32$	-0.1
Exter River, RR Bridge	$43^{\circ}-03.16$	$70^{\circ}-54.77$	+3.8
Newington	$43^{\circ}-07.95$ 06	$70^{\circ}-48.71$	+2.6

STATISTICS TO ACCOMPANY

Hydrographic Sheet H-8093 , (FIELD NO. ECFP 1653)

DATE 19583	DAY LTR.	VOL. NO.	LEAD LINES	NO. OF POSITIONS	STAT. MI. SDGS.
28 May	a	1	17	57	10.5
29 May	b	1	18	28	3.1
1 June	c	1	38	27	1.4
2 "	d	1	168	38	4.0
3 "	e	1&2	299	61	7.1
4 "	f	2	255	75	7.8
5 "	g	2&3	466	134	18.4
8 "	h	3	117	63	7.4
9 "	j	3	27	23	3.2
12 "	k	3	6	71	10.9
15 "	l	4	299	87	11.5
16 "	m	4	135	108	14.9
18 "	n	4&5	67	75	7.6
24 "	p	5	0	6	0.9
25 "	q	5	138	129	17.5
26 "	r	5	75	40	4.0
1 July	s	2	2	---	---
TOTALS			2127	1022	130.5

Area in statute 8.0 sq. statute miles

FATHOMETER CORRECTIONS

PROJECT CS-355

Hydrographic Survey Sheet H-8095, (FIELD NO. ECFP 1653)

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. 138 SPX

28 May - 1 July 1953

Launch No. 168

Correction	Depth	
	From	To
A Range		
+0.2	3.0	42.0
0.0	42.1	90.0

The following corrections apply to the soundings taken in fathoms, and converted to feet, using Fathometer No. 138 SPX.

Correction	Depth	
	From	To
0.0	0.0	24.0
-0.2	24.1	37.8
-0.4	37.9	50.5
-0.6	50.6	63.0
-0.8	63.1	75.0

APPROVAL SHEET

HYDROGRAPHIC SURVEY H-8093

The records and boat sheets for Hydrographic Survey
H-8093 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-8093

TRIANGULATION STATIONS

BARN ~~XXXXXX~~ YELLOW BARN CUPOLA, 1908-43
FIELD NEWFIELDS UNIVERSALIST CHURCH, TALL, SLENDER SPIRE, 1908
HAM STRATHAM HILL FIRE TOWER, 1941 (*landmark*)
KET NEWMARKET CATHOLIC CHURCH SPIRE, (FRENCH GRADE SCHOOL), 1908
NEW NEWMARKET INDUSTRIAL ASSOC. TANK, 1943 (*landmark*)

TOPOGRAPHIC STATIONS

SOURCE T-11142

Bus	Gat	Hit	Hop	Irk	Jon	Len	Lum	Max	Pen	Pod
Red	Sen	Tio	Vim	Wet	Hig	Zip	Zoo			

SOURCE T-11143

Ark	Bug	Cap	Cub	Dar	Det	Edd	Fly	Hay	Lin	Low
Mac	Mal	May	Mel	Nel	Nic	Pal	Par	Pat	Pil	Pup
Rye	Sam	Say	Tom	Wat	Wax	Zed				

SOURCE T-11145

Abe	Ale	Bag	Cab	Cat	Cul	Daw	Ear	Elm	End	Far
Gab	Gad	Hag	Ice	Jap	Ked	Lad	Mar	Nat	Oak	Own
Pie	Pop	Rid	Sho	Sig	Sil	Tow				

SOURCE T-11146

Rim	Rot	Tee	Wes	Yaw						
-----	-----	-----	-----	-----	--	--	--	--	--	--

HYDROGRAPHIC STATIONS

*How Vol. 1, pg. 47
*Tan Vol. 1, pg. 32

*Transferred from compilation T-11145

FLOATING AIDS TO NAVIGATION
H-8093

<u>NAME</u>	<u>LAT.</u>	<u>METERS</u>	<u>LONG.</u>	<u>METERS</u>	<u>DEPTH</u>	<u>POS. NO.</u>	<u>DATE</u>
*Great Bay Entr. Buoy 5	43-04	866	70-52	307	17'	1f	6-4-53 ✓
N6 <i>Buoy 5 shown as C-7 on chart</i>	43-05	163	70-52	110	5'	7a	8-2-54 ✓

ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8093 (Field No. ECFP-1653)

CONTROL

Hydrographic fixes were generally strong from Longitude 70-53' to the Eastward. West of this line and including the Lamprey and ^{Squamscott} ~~Exeter~~ Rivers, approximately 25% of the fixes were either swingers or were plotted on such slender angles that exact positioning was impossible. Much time and effort was spent on the soundings in this area and it is believed a reasonable adjustment has been obtained. Appropriate notes have been entered in the volumes where weak fixes have been used.

All positions have been smooth plotted and all soundings penciled with the following exceptions:

- Positions 40 to 4²~~e~~, pg. 9, vol. 2
- Positions 1 to 2g, pg. 46, vol. 2 (plotted satisfactorily)
- Positions 16 to 18a, pg. 10, vol. 1 (see note in volume (off limits of survey sheet on south))

Respectfully submitted,

Hugh L. Proffitt
Hugh L. Proffitt
Cartographer.

-1.0 0.0 +1.0

Corrections in Feet

5

10

15

20

25

30

35

40

45

50

Depth in Feet

Velocity Corrections

ECSP project CS-355

Fathometer No. 138 SPX

May 28 to July 1 for launch 168

Sheet 1653

plotted by C.E.H.

Corrections (A scale)

Depth		Correction
From	to	
3.0	42.0	+0.2
42.1	- Limit A Scale	0.0

Wash office

SUPPLEMENT TO DESCRIPTIVE REPORT

(Field Party Notes From Boat Sheet)

HYDROGRAPHIC SHEET ECFP-1653 (H-8093)

New Hampshire - Great Bay and Tributaries

1953 & 1954

Chief of Party - Clarence R. Reed

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. H-8093

Field No. ECFP-1653

State New Hampshire

General locality Portsmouth, New Hampshire

Locality Great Bay and ^{Squamscott River} tributaries

Scale 1:10,000 Date of survey 4/29 - 7/1/53
8/2 - 8/11/54

Instructions dated 6 March 1953, Supplemental Instructions dated 2 April 1954 (Subject: Additional Field Work in Areas Surveyed in 1953)
dated 29 Jan. 1954, and letter

Vessel East Coast Field Party

Chief of party Clarence R. Reed

Surveyed by L.D. Kelley & C. E. Horne

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

Fathograms scaled by Party personnel

Fathograms checked by L.D. Kelley & C. E. Horne

Protracted by Hugh L. Proffitt & W.W. Feazel

Soundings penciled by W.W. Feazel

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

REMARKS: This survey started in 1953 and completed in 1954

NOTES FOR SUPPLEMENTAL DESCRIPTIVE REPORT

To Accompany Hydrographic Sheet H-8093 (Field No. ECFP 1653)

Great Bay and Tributaries

EAST COAST FIELD PARTY

CLARENCE R. REED, CHIEF OF PARTY

PROJECT CS-355

1953 & 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 AND EQUIPMENT For the supplemental field work done on this sheet in 1954, a catamaran was used. It consisted of two aluminum skiffs (one 16', the other 14') held rigidly parallel to one another approximately 1½' apart by bolts to two 2" X 6" planks and a 2" X 4" which were laid across the skiffs.

Echo soundings were obtained with graphic recorder No. 77. The transducers were mounted in a fish which was secured between the skiffs.

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.

COMPARISON WITH CHART 229 A comparison with Chart 229 indicates that the depths, charted in the Lamprey River and in Great Bay, east of a line between Woodman Point and Weeks Point are for the most part too deep.

It is recommended that the depths found by this survey supersede those that are charted, for this is a silty changeable area.

MISCELLANEOUS All soundings on "a day" in the catamaran, were made with sounding pole.

Respectfully submitted,

Charles E. Horne

Charles E. Horne
ENS., USC&GS

Approved and forwarded,

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

Clarence R. Reed

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. 119S

2 August - 11 August 1954

Catamaran

Depth		Correction
From	To	A Range
0.0	55.0	+0.8

SUPPLEMENTAL STATISTICS TO ACCOMPANY
 Hydrographic Sheet H-8093 (Field No. ECFP 1653)

DATE 1954	DAY LTR.	VOL. NO.	LEAD LINES	NO. OF POS.	STAT. MI. OF SDG. LINES
2 Aug.	a	1	0	40	3.7
4 "	b	1	0	48	4.8
6 "	c	1	0	61	5.5
11 "	d	1	0	72	6.2
TOTALS			0	221	20.2

Sq. stat. mi. of area: Uncertain
 (Sounding consisted of development
 and splits on work done previously)

ADDITIONAL APPROVAL SHEET FOR
1954 WORK ON HYDROGRAPHIC SURVEY H-8093

The records and boat sheet for 1954 work on
Hydrographic Survey H-8093 (ECFP-1653) have also
been inspected by me and are approved.

Clarence R. Reed

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

GEOGRAPHIC NAMES

Survey No. H-8093

Name on Survey	Sources													
	A	B	C	D	E	F	G	H	K					
	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						
<u>New Hampshire</u>				} for title					SGY	1.				
<u>Portsmouth</u>											2			
										3				
<u>Great Bay</u> ✓										4				
<u>Squamscott River</u> ✓				(this is a 1950 B&N decision)					BNY	5				
<u>Lamprey River</u> ✓										6				
<u>Adams Point</u> ✓										7				
<u>Furber Strait</u> ✓									BNY	8				
<u>Little Bay</u> ✓										9				
<u>Weeks Point</u> ✓										10				
<u>Woodman Point</u> ✓										11				
<u>Oxbow Cut</u> ✓										12				
NEWFIELDS ✓				Names approved 10-31-55. L. Hock						13				
NEWMARKET ✓														14
				(any other names on 1-26-53 print of chart 229 are also approved)						15				
														16
														17
										18				
										19				
										20				
										21				
										22				
										23				
										24				
										25				
										26				
										27				

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. .8993...

Records accompanying survey:

Boat sheets .1...; sounding vols. .6...; wire drag vols.;
bomb vols.; graphic recorder rolls .5-Envs.
special reports, etc. .1-Smooth sheet, and 1-Descriptive Report;.....
.....

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

Number of positions on sheet	.....	1243
Number of positions checked	.....	35
Number of positions revised	.....	0
Number of soundings revised (refers to depth only)	.....
Number of soundings erroneously spaced	.....	0
Number of signals erroneously plotted or transferred	.....	0
Topographic details	Time	10
Junctions	Time	12
Verification of soundings from graphic record	Time	25

Verification by John T. Gallahan..... Total time 31.7... Date Feb. 28, 1957

Reviewed by J. A. Dinmore..... Time 40... Date 4 April 1957

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8093

FIELD NO. ECFP-1653

New Hampshire, Portsmouth, Great Bay and Squamscott
River

Project No. CS-355

Surveyed - 4/29-7/1/53 and
8/2-8/11/54

Scale 1:10,000

Soundings:

Control:

808 Fathometer
Hand lead
Pole

Sextant fixes on
shore signals

Chief of Party - C. R. Reed
Surveyed by - L. D. Kelley and C. E. Horne
Protracted by - H. L. Proffitt and W. W. Feazel
Soundings plotted by - W. W. Feazel
Verified and inked by - J. T. Gallahan
Reviewed by - T. A. Dinsmore 4 April 1957
Inspected by - R. H. Carstens

1. Shoreline and Signals

The shoreline originates with the reviewed manuscripts of air-photographic surveys T-11142, T-11143, T-11145 and T-11146 of 1951-54.

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

2. Sounding Line Crossings

Depths at crossings are in good agreement after making the corrections noted in paragraph 7 of this review.

3. Depth Curves and Bottom Configuration

The depth curves for the most part are adequately delineated. However, in a few localities, the sounding lines are insufficient to clearly define the channels. Conspicuous examples are found in lat. $43^{\circ}04.1'$, long. $70^{\circ}54.22'$, and lat. $43^{\circ}04.05'$, long. $70^{\circ}52.2'$. Except for the expansive mud flats in Little and Great Bays, the bottom is irregular. Pinnacle rocks and shoals contribute to the bottom irregularities throughout the navigable channels.

4. Junctions with Contemporary Surveys

An adequate junction was effected with H-8094 (1953-54) on the north.

5. Comparison with Prior Surveys

H-3524 (1913) and H-3525 (1913) 1:10,000

Except for the Lamprey River and the lower part of the Squamscott River, these prior surveys cover the present survey area. A comparison of the prior and present surveys reveals that many of the prior tributary channels in Great Bay are now filled in. Notable changes in bottom are indicated in the following comparison:

<u>Latitude</u>	<u>Longitude</u>	<u>Prior depths</u>	<u>Present depths</u>
43°05.47'	70°52.35'	8	0
43°04.72'	70°53.35'	6-9	0-1
43°03.96'	70°50.98'	9-10	2
43°03.7'	70°50.99'	9-10	4
43°03.6'	70°51.46'	9	3
43°03.87'	70°52.3'	7-9	1
43°03.85'	70°51.73'	12-16	4

The above changes are attributed principally to the natural deposition of silt.

Present depths along the axis of the Squamscott River and natural channel through Great Bay are generally from 1 to 3 ft. less than prior depths. These differences may be partially due to the fact that the 1913 survey depths were reduced from tides observed at Dover Point on the north in the Piscataqua River which differ by as much as 3 ft. with actual tides in Great Bay as used on the present survey.

The following discrepancy is noted:

(1) The 3-ft. sounding charted in lat. 43°06.4, long. 70°51.8', from H-3524 should be disregarded. Falling in 8-ft. depths on the present survey, the prior sounding is considered to be out of position and should actually fall about 35 meters westward where comparable depths were obtained on the present survey.

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

6. Comparison with Chart 229 (Latest print date 1/26/53)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 chart prior to verification and review through advance information shown on blueprint 51184 (copy of the boat sheet). Numerous revisions in depth of 1 to 3 ft. have been made to smooth-sheet soundings during verification.

The rock awash charted in lat. $43^{\circ}04.78'$, long. $70^{\circ}51.75'$, from advance print of T-8531 (1943) should be disregarded. T-8531 does not now show the rock nor does T-11143 (1951-54). Although the present survey reveals no rock in the above position, it does however, locate a rock pile about 180 meters southwestward which should be charted.

The charted clearance of the swing bridges in lat. $43^{\circ}02.35'$, long. $70^{\circ}55.73'$, and lat. $43^{\circ}03.15'$, long. $70^{\circ}54.75'$, originate with the Corps of Engineers' Bridge Book and information furnished in Chart Letter 405 (1950), respectively. No information pertaining to the clearances was obtained on the present survey.

Except as noted in the preceding paragraph, the present survey entirely supersedes the charted information.

B. Aids to Navigation

The buoy charted in lat. $43^{\circ}04.41'$, long. $70^{\circ}52.26'$, was located about 110 meters northeastward on the present survey. The charted buoy appears to serve the purpose intended.

Except as noted, 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 covers all matters of importance.

b. The smooth plotting was accurately done.

c. Additional tide corrections amounting to as much as 2 ft. were applied to some of the 1953 sounding lines in Little Bay in order to eliminate conflicts between sounding lines run at

different stages of the tide. The conflicts between the soundings indicated that the tides in Little Bay are more closely related to the tidal characteristics of Great Bay than to the characteristics of Piscataqua River as used by the field party.

Additional corrections of 1-ft. were applied to some extra development lines of 1954 in Great Bay in order to obtain harmony with the main development of 1953. The Piscataqua River tides used in reducing the 1954 soundings probably did not reflect the actual tidal conditions in Great Bay, resulting in conflicts with the 1953 soundings reduced with Great Bay tides as determined at Squamscott River Bridge in 1953.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

The survey is considered to be basic and no further field work is recommended.

Examined and Approved:

Max G. Ricketts

Max G. Ricketts
Chief, Nautical Chart Branch

Charles A. Schanck

Charles A. Schanck
Chief, Division of Charts

Karl B. Jeffers

Karl B. Jeffers
Chief, Hydrography Branch

Samuel B. Grenell
by J. Bowie

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Chief, Division of Coastal Surveys

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Charts, Coast and Geodetic Survey~~

4 November 1955

Division of Charts: R. H. Carstens

Plane of reference approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 8093

Locality Great Bay, N. H.

Chief of Party: C. R. Reed in 1953-1954
Plane of reference is mean low water, reading
2.6 ft. on tide staff at Newington —
13.8 ft. below B. M. 1 (1953)

-0.1 ft. on tide staff at Oxbow Cut
17.8 ft. below B.M. 3 (1953)

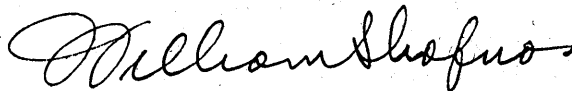
→ 3.8 ft. on tide staff at Squamscott (Exeter) River R.R. Bridge
9.7 ft. below B.M. 1 (1926)

Height of mean high water above plane of reference is:

"G" day — Newington : 6.5 ft.
Oxbow Cut : 6.9 ft.
Squamscott R. : 6.9 ft.

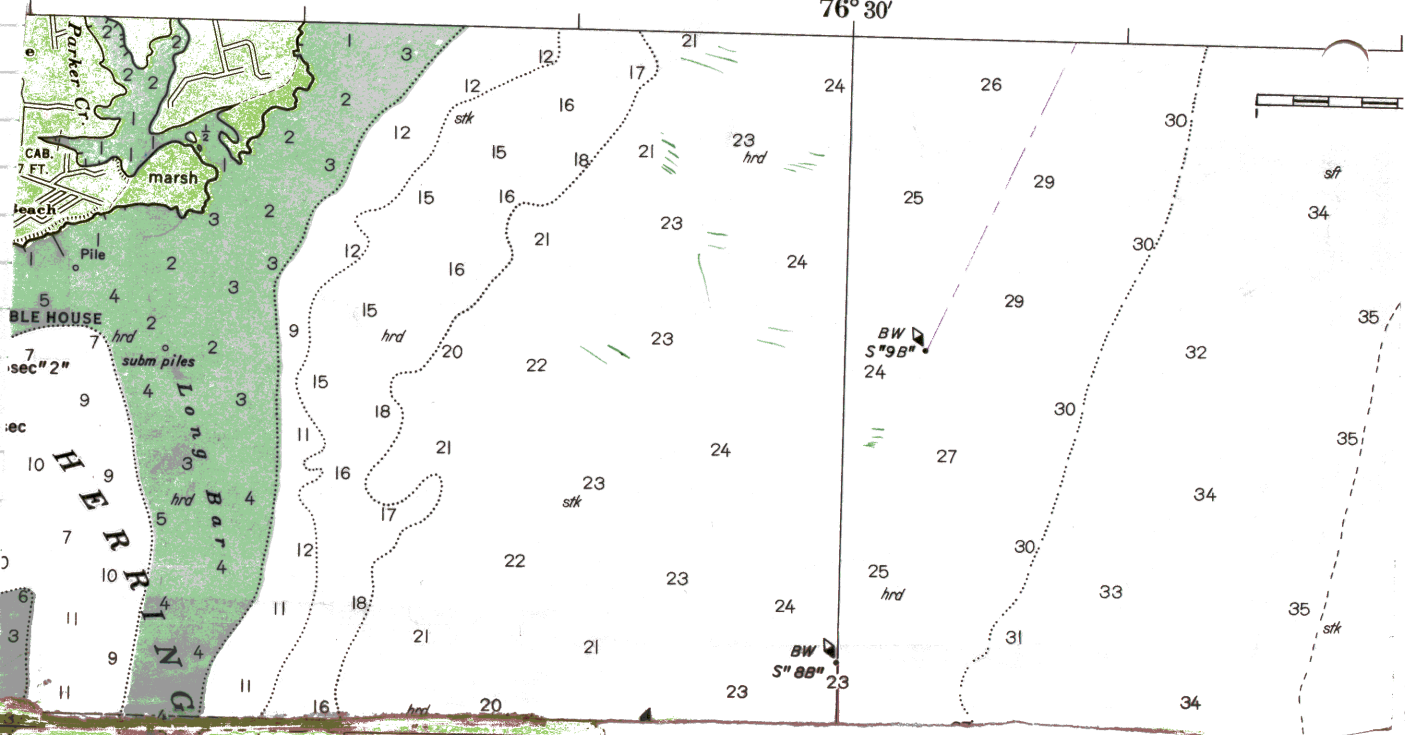
Condition of records satisfactory except as noted below:

NOTE: Tide reducers for Volume 6, b, c and d days have been revised and verified.



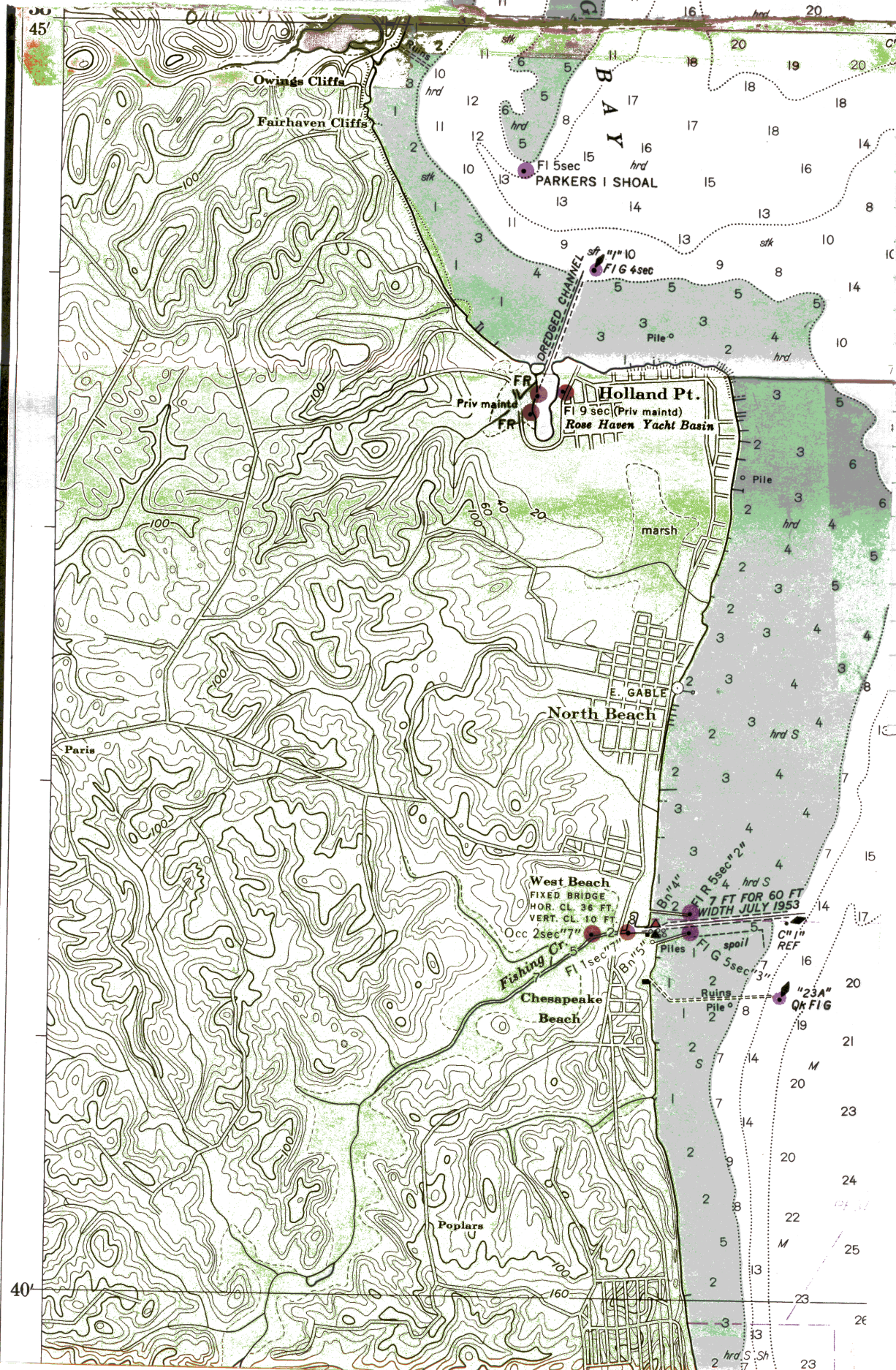
Acting Chief, ~~Division of~~ Tides ~~and~~ ~~Charts~~ Branch

76° 30'



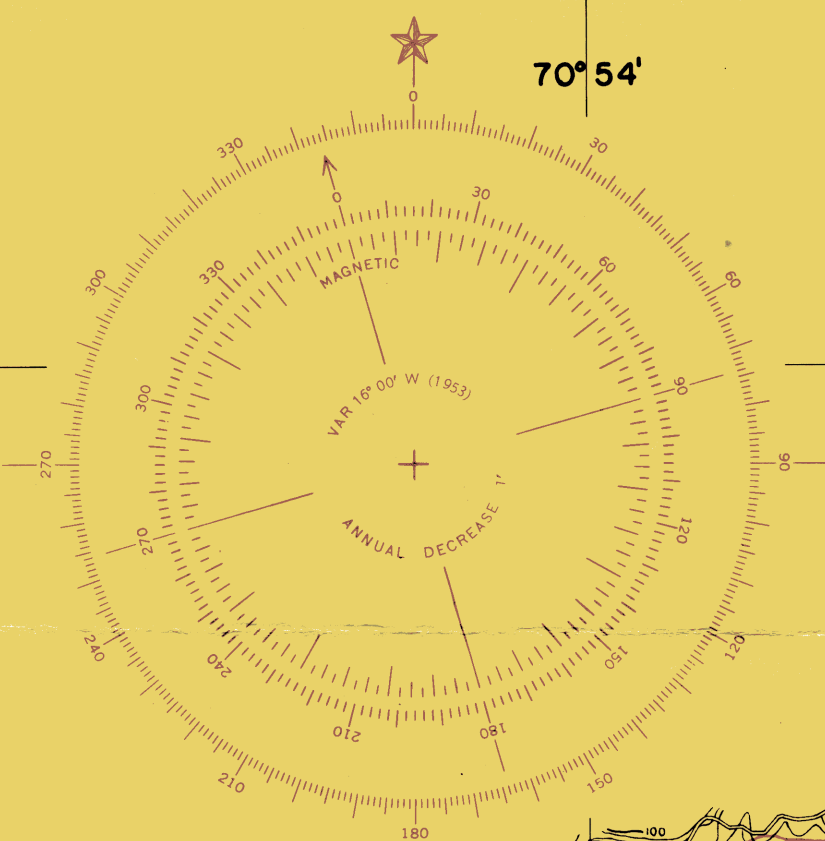
H8093

H8093



40'

70° 54'



LITTLE BAY

Newmarket

TANK O' STACK

Upper Narrows

Lower Narrows

OVHD PWR CAB CL 70 FT.

Lamprey River

Moodys Pt.

Shackford Pt.

Rockingham

B. & M.R.R.

OVHD PWR CAB CL 50 FT.

SWING BRIDGE HOR. CL. 50 FT. VERT. CL. 9 1/2 FT.

SQUAMSCOTT RIVER

Newfields

OVHD PWR CAB CL 55 FT.

Oxbow Channel

Stratham

Stratham Sta.

LOOK TR. Stratham Hill

Weeks Pt.

Bayside

Greenland

Chart - 229

CAUTION

Temporary defects in aids to navigation are not indicated on this chart except where a buoy replaces a fixed aid. See Notice to Mariners.

TIDES (referred to mean low water):

Mean high water	7.8 ft.	Dover Point 6.4 ft.
Mean sea level	3.9 ft.	3.2 ft.
Lowest tide to be expected	-3.0 ft.	-3.5 ft.

(250)

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see C. & G. S. Chart No. 1):

Lights: F. fixed, FL. flashing, Qk. quick, I. Qk. interrupted quick, S-L. short-long, Occ. occulting, Alt. alternating, Gp. group, W. white, R. red, G. green, m. nautical miles, min. minutes, sec. seconds, ev. every, WHIS. whistle, DIA. diaphone, vis. visible; SEC. sector; OBSC. obscured; AERO. aeronautical light, D. destroyed, to be reestablished; Lights are white unless otherwise indicated.

Buoys: C. can, N. nun, S. spar, W. white, REF. reflector, T.B. temporary buoy, Day Beacons: Δ. white unless otherwise indicated.

PORTSMO