

8708

Diag.Cht. No.1211-2.

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT
(HYDROGRAPHIC)

Type of Survey Hydrographic.....
Field No. WAHI-10-3-61.....
Office No..... H-8708.....

LOCALITY

State Connecticut - Rhode Island.....
General Locality Fishers Island Sound.....
Locality Vicinity of Watch Hill and.....
Pawcatuck River

1961-62 & 1966

CHIEF OF PARTY

K. A. MacDonald, D. G. Rushford & A. J. Patrick.....

LIBRARY & ARCHIVES

DATE August 27, 1963.....

8708

WMS

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-8708

See Other Title
Sheet for
1966 Work

Field No. WAHI-10-3-61

State Connecticut, Rhode Island

General locality Fishers Is. Sound
~~Rhode Island and Connecticut Coast~~

Locality Vicinity of Watch Hill and Pawcatuck River
~~Pawcatuck River & Fishers Island Sound~~

Scale 1:10,000 Date of survey Aug. 1 - Oct. 9, 1961, June 16 - Sept. 5, 1962
1961-1962

Instructions dated 24 March 1960, 23 February 1962
May 4 - 17, 1966 (Work)

Vessel WAINWRIGHT & HILGARD Launch C 5-181 25K1A

Chief of party Kenneth A. MacDonald & Dewey G. Rushford

Surveyed by Clifford W. Randall, Renworth R. Floyd, William D. O'Neill

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

Fathograms scaled by Robert W. Larmour, LeRoy E. Greenlaw, & Robert Beal

Fathograms checked by Ship Personnel & Norfolk Office

Protracted by Lt. Richard E Alderman & A.G. Atwill

Soundings penciled by A.G. Atwill

Soundings in fathoms feet at MLW MLLW

REMARKS:

[Handwritten signature]

D E S C R I P T I V E R E P O R T

To Accompany
HYDROGRAPHIC SURVEY
H-8708
(Field No. WAHI 10-3-61)

- - -
PROJECT: OPR-414
Connecticut and Rhode Island Coast

- - -
SHIPS WAINWRIGHT AND HILGARD
Kenneth A. MacDonald, Commanding

- - -
1961 - 1962

Scale 1:10,000

A. PROJECT:

Project OPR-414, Rhode Island and Connecticut Coast, Long Island Sound. Original instructions dated 24 March 1960, Supplemental instructions dated 19 December 1960 and 23 February 1962.

B. AREA SURVEYED:

The area surveyed is bounded on the North by the Connecticut and Rhode Island Coasts. The survey limits are defined by the following points, beginning in the Northeast corner of the sheet, latitude $41^{\circ} 18.'9$ N, Longitude $72^{\circ} 50.'0$ W, then South to latitude $41^{\circ} 16.'5$ N, longitude $71^{\circ} 50.'0$ W, West to latitude $41^{\circ} 15.'7$ N, longitude $71^{\circ} 54.'0$ W and then North to latitude $41^{\circ} 20.'0$ N, longitude $71^{\circ} 54.'1$ W.

The survey makes junction with contemporary surveys WAHL-10-2-62 on the West and WAHL-20-1-62 on the South, and H-8616 (1961) on the east. *H-8908 (1962)*

The survey ~~makes junction with~~ *overlays portions of* prior survey H-1529, 1:40,000, 1882 ~~on the East, West and South.~~ *H-6443 (1939)* - *Superseded by the above as junctional survey.*

The survey covers an area previously covered by H-1577a, 1:10,000, 1883.

Field work began on 1 August 1961 and was completed Sept. 9, 1962

C. SOUNDING VESSELS:

The HILGARD, Launch CS-181 and a 16-foot aluminum skiff were used to develop this sheet. The WAINWRIGHT was used only for one days bottom samples.

The day letters for the HILGARD are upper case blue.

The WAINWRIGHT day letters are upper case red.

Day letters for Launch CS-181 are lower case blue.

Day letters for the aluminum skiff are lower case purple.

D. SOUNDING EQUIPMENT:

The 1961 field work was done using the 808 type fathometers. Echo sounder number 58S and 57-33 were used by the HILGARD during 1961. Launch work was done using fathometer number 58S.

New Raytheon echo sounders, type DE-723, were used for sounding during the 1962 field season. The HILGARD used fathometers numbers 139 and 215 during 1962. Launch CS-181 used fathometers number 178 and 215.

A 14-foot sounding pole was used for all skiff work with the exception of one day. An 808 type fathometer number 139SP was used for skiff work 20 June 1962.

Fathometer corrections were determined by bar checks taken daily, or as frequently as possible, and from monthly temperature and salinity observations. Curves were drawn from this data and the corrections then scaled.

Phase comparisons were also taken and applied. Corrections are listed in Attachment No. 1.

E. SMOOTH SHEET:

To be prepared by Norfolk District Office.

F. CONTROL:

All horizontal control was visual during this survey, using three-point fix method. Control was located by conventional methods, and the following photogrammetric manuscripts were used: RS-713, (RS-714), RS-721, & RS-722. (T-11451)
(T-11447) → 715 (F-11446) 723 (T-11452)

The signals used are tabulated in Attachment No. 2.

G. SHORELINE:

Projection was made in the Washington Office. Shoreline and signals were applied by the photogrammetric support party.

Due to small tidal range, steep drop off near the shoreline and normally heavy surf, it was not possible to establish the low water line by soundings. However, it was observed that in the seaward areas of this sheet there is very little

horizontal differences between high and low water lines, and that the shoreline computations are accurate.

In the case of the inshore (Pawcatuck River and Little Narragansett Bay) portions of the sheet shoreline was not run because of extensive marsh areas and areas too shoal to sound with the skiff. The projected shorelines, however, are adequate as compiled.

H. CROSSLINES:

The percentage of crosslines run was approximately 9%. The crosslines are in good agreement with the survey. Smooth corrections will alleviate any discrepancies.

I. JUNCTIONS:

There was generally good agreement at survey junctions. Where minor discrepancies were found, application of smooth correctors compensated.

J. COMPARISON WITH PRIOR SURVEYS:

The following pre-survey review items were investigated. These are listed by the number given them in the pre-survey review. Project CS 414, Chart 358 (Aug. 25, 58)

13. A 17-foot shoal reported in the vicinity of latitude $41^{\circ} 17.9' N$, longitude $71^{\circ} 51.7' W$ was reported but not confirmed. A 15-foot sounding was obtained in this vicinity. Approximately 100 meters southwest is a 12-foot sounding. *from L-132(50)* *see Review*

14. The SS PAWTUCKET reported hitting a submerged object at 1 hour 40 minutes after high water. The SS PAWTUCKET has a draft of 13-1/2 feet, and claimed to be midchannel approximately 100 yards west of Gangway Rock. This area is in the vicinity of latitude $41^{\circ} 18.0' N$, longitude $71^{\circ} 51.6' W$. There is a 9-foot sounding in this area and approximately 400 meters North is a 5-foot sounding. *L-592(1927)*

*No. 14 item on PSR copy of Chrt. 358, 1958 Ed. and 1968 Ed. has a dangerous sunken rock symbol at lat. $41^{\circ} 18.0'$, long. $71^{\circ} 51.5'$.
Supersede the sunken rock with present depths*

Pre-survey Review Items

15. The CITY OF LOWELL struck a submerged object in the vicinity of latitude $41^{\circ} 18.0' N$, longitude $71^{\circ} 52.1' W$. The least depth obtained in this area was a 25-foot sounding. L71(1926)
10 ft. sounding
16. A wreck with two masts showing. There is a wreck at latitude $41^{\circ} 17.7'$ and longitude $71^{\circ} 51.95'$ although the two masts no longer show. The wreck has been marked by local skin divers with a small yellow buoy. SCUBA divers, of this Command, determined the least depth with a lead line to be 21 feet. from Coast Pilot
Inspect. L479(1925)
see Review
- 16A The vessel "MV SUNOCO" reported striking an uncharted object 20 September 1961, 1500 yards, 216° True from Watch Hill, R. I. This is at latitude $41^{\circ} 17'.6\frac{2}{3}$ longitude $71^{\circ} 52'.2\frac{2}{3}$. An extensive search was made of this area and no submerged object was located. The least depth obtained in this area is 38 feet. see Review #5
- 10 ft at $41^{\circ} 17.57' N$ $71^{\circ} 52.03' W$ L-570(49)*
17. An 8-foot rock reported in the vicinity of latitude $41^{\circ} 17'.6$, longitude $71^{\circ} 52'.7$. There is an 8-foot sounding approximately 75 meters NNW and a 7-foot sounding approximately 150 meters NNW of this area. Also investigated on EE-3(1963)
18. A 2-foot rock reported in local Notice to Mariners, source of information not quoted. This rock is in the vicinity of latitude $41^{\circ} 19'.5$, longitude $71^{\circ} 52'.0$ and its existence was verified with sounding pole. This rock should be charted. L-468(57)
- rock covered 2.4 ft MLW dp. in val. 20. 2RK on chart
two 8 RKs. $41^{\circ} 19.52' N$ $71^{\circ} 52.02' W$*
19. Rocks from Corps of Engineers surveys, circa 1930-1937, in the vicinity of latitude $41^{\circ} 19'.8$, longitude $71^{\circ} 53'.6$. The shore line has filled in about this vicinity and no rocks were found. Northern 8RK not charted in 8 ft channel.
- 7 ft. on H-8708 where second 8RK charted.*
20. A 5-foot shoal was reported in the vicinity of latitude $41^{\circ} 19'.7$, longitude $71^{\circ} 54'.0$. There is evidence of much shoaling throughout this area with many 6-foot soundings, and this area should be charted. shoalest dg. is 5' at
- Note "Shoaling" shown on 1968 Ed of chart 358 from NM30(1952)
should be superseded by present depths 53.9'*

Presurvey item A

from H-4043WD (1918-19)

20A. A 40-foot wire drag in the vicinity of latitude $41^{\circ} 18' .1$ N, longitude $71^{\circ} 50' .7$ hung but was not verified. The depths throughout this area was between 37 and ~~42~~ 44 feet, with no evidence of shoaler soundings.

The survey was compared to prior survey H-1577a, 1:10,000, 1883. This survey shows an extension of a spit of land beginning in the vicinity of latitude $41^{\circ} 18' .3$ N, longitude $71^{\circ} 53' .0$ W, extending northward to latitude $41^{\circ} 19' .6$ N, longitude $71^{\circ} 53' .3$ W. This extension is no longer existent.

There is an island beginning in the vicinity of latitude $41^{\circ} 19' .1$, longitude $71^{\circ} 52' .7$ and extending northwest to latitude $41^{\circ} 19' .7$, longitude $71^{\circ} 53' .8$. This island was not in existence when the prior survey, H-1577a was completed.

The survey is in general good agreement with the prior survey except as listed above.

K. COMPARISON WITH THE CHART:

Comparison with Chart 358, print date 6 August 1962, scale 1:20,000 showed general good agreement with the chart.

L. ADEQUACY OF THE SURVEY:

The survey is complete and adequate to supersede prior surveys for charting.

M. AIDS TO NAVIGATION:

See Attachment No. 3.

N. STATISTICS:

	<u>Number of Positions</u>	<u>Sounding Line Number Statute Miles</u>
HILGARD	765	137.7
Launch CS-181	1869	212.2
Aluminum skiff	1198	98.3
TOTAL	3832	448.2

Bottom Samples: 49

Investigations: 10

Q. REFERENCES TO REPORTS:

Photo Party 723 Report, OPR-414, 1961

ATTACHMENT NO. 1

ABSTRACT OF CORRECTIONS TO ECHO SOUNDINGS1961

HILGARD Fath. 57-33

Depth Correction

0.0	+0.2
16.4	+0.4
32.0	+0.6
51.0	+0.8
88.0	+1.0
137.0	+1.2
171.0	+1.4
on	

CS-181 Fath. 58S

Depth Correction

0.0	-0.6
3.0	-0.8
18.0	-1.0
59.0	-0.8
97.0	-0.6
133.0	-0.4
177.00	-0.2
236.0	0.0
on	

1962HILGARD &
CS-181 Fath 215 (DE-723)

4.0	+0.2
13.0	+0.4
22.0	+0.6
31.0	+0.8
40.0	+1.0
48.0	+1.2
56.0	+1.4
62.0	+1.6
70.0	+2.0

HILGARD Fath 139 (DE-723)

7.0	+0.6
11.0	+0.8
16.0	+1.0
23.0	+1.2
31.0	+1.4
42.0	+1.6
52.0	+1.8
60.0	+2.0
72.0	+2.5

(CONTINUED)

ATTACHMENT NO. 1 - Continued

1962

HILGARD &
CS-181 F_ath 215 (DE-723)

HILGARD Fath 139 (DE-723)

<u>Depth</u>	<u>Correction</u>
89	+2.5
106	+3.0
124	+3.5
142	+4.0
158	+4.5

<u>Depth</u>	<u>Correction</u>
89	+3.0
106	+3.5
124	+4.0
142	+4.5
158	

NORFOLK RECORDS PROCESSING UNIT
 LIST OF
 FLOATING AIDS TO NAVIGATION
 H-8708

<u>BUOY</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>POS. NO.</u>	<u>DEPTH</u>	<u>DATE</u>
<u>PAWCATUCK RIVER</u>					
Channel Buoy 28	41-21.66	71-50.29	13a(blu) 6	6.4	8/26/61
" " 27	21.43	50.28	14a "	12.0	"
" " 26	21.40	50.23	15a "	5.4	"
" " 24	21.17	50.11	16a "	8.6	"
" " 22	21.07	50.00	17a "	6.0	"
" " 20	20.98	49.89	18a "	11.6	"
" " 19	20.89 90	49.85	19a "	8.6	"
" " 17	20.81	49.83	20a "	5.8	"
" " 16	20.76	49.81	21a "	18.6	"
" " 14	20.53	49.82 4	22a "	6.8	"
" " 12	20.48	49.92	23a "	4.0	"
" " 10	20.28	50.16	24a "	6.4	"
" " 8	20.18	50.23	25a "	8.0	"
" " 7	19.90	50.63	26a "	7.6	"
" " 6	19.76	50.82	27a "	8.2	"
" " 4	19.61	50.97	28a "	10.8	"
Buoy 3	19.46	51.23	29a "	8.8	"
" 1	19.38	51.38	30a "	5.2	"

<u>BUOY</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>POS. NO.</u>	<u>DEPTH</u>	<u>DATE</u>
<u>LITTLE NARRAGANSETT BAY</u>					
Chan. L'td. Buoy 19	41-19.27	71-52.60	31a(blu) 6	7.8	"
Channel Buoy 18	19.25	51.67	32a "	8.2	"
Dennison Rock Buoy 2	19.06	52.27	31h(pur)	9.0	10/7/61
Channel Buoy 16	19.34	51.77	37a(blu)	10.2	8/26/61
Channel Buoy 14	19.45	51.95	38a "	7.0	"
Channel L'td. Buoy 13	19.47	51.91	39a "	6.6	"
Channel Buoy 12	19.58	52.28	41a "	7.2	"
" " 11	19.52	52.03	2n(pur)	-	9/9/62
" " 10	19.66	52.51	42a(blu)	6.2	8/26/61
Chan. L'td. Buoy 9	19.85	52.84	43a "	7.4	"
Channel Buoy 7	19.88	53.11	44a "	7.4	"
" " 6	19.85	53.18	45a "	8.6	"
" " 5	19.89	53.42	46a "	11.4	"
" " 5A	19.90	53.63	47a "	9.6	"
Entr. L'td. Buoy 3	19.90	53.85	48a "	8.6	"
Entr. Buoy 4	19.76	54.11	49a "	9.0	"
Academy Rk. L'td. Buoy 2	19.57	54.24	50a "	10.6	"
Stonington Breakwater Light Buoy	19.52	54.39	51a "	12.4	"
<u>WATCH HILL COVE</u>					
Chan. L'td. Buoy 2	18.88	51.72	33a "	11.4	"
Chan. Buoy 1	18.87	51.70	34a "	10.0	"
Chan. L'td. Buoy 3	18.73	51.70	36a "	10.2	"
Chan. Buoy 4	18.75	51.73	35a "	11.6	"

Continued

FLOATING AIDS TO NAVIGATION
Continuation

<u>BUOY</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>POS. NO.</u>	<u>DEPTH</u>	<u>DATE</u>
<u>FISHERS I. SOUND</u>					
<u>MAIN CHANNEL</u>					
Napatree Pt. Ledge				val. _____	
L'td. Bell Buoy 4NP	41-18.00	71-53.31	1p (blu)	11 30.8	8/8/62
Gangway Rk. L'td					
Bell Buoy 2GR	17.99	51.49	9p "	19.2	"
Gangway Rock					
Nun 2GR	18.02	51.49	10p "	19.2	"
Watch Hill Reef					
Gong Buoy 1	17.70	51.73	7p "	22.6	"
Watch Hill Reef					
Passage Buoy	17.83	51.84	8p "	29.6	"
Wicapasset Rock					
Buoy 1B <i>falls off this survey on H-8908</i>	17.82	54.39	71d "	24.5	8/22/62
<u>FISHERS I. SOUND</u>					
<u>SOUTHEAST ENTRANCE</u>					
Catumb Passage				val. _____	
Buoy 1	17.43	52.94	3p (blu)	11 21.6	8/8/62
Catumb Passage					
Buoy 3	17.85	53.02	4p "	47.2	"
Catumb Passage					
Buoy 2	17.43	53.16	2p "	17.2	"
Lords Passage					
Buoy 2	17.55	54.04	1q "	12 16.4	8/22/62

A P P R O V A L S H E E T

WAHI 10-3-61 Reg. No. H-8708

All records of this survey, prior to smooth plotting,
are hereby approved.

This survey is considered complete and adequate for
charting.

Edwin K. McCaffrey by direction
for Kenneth A. MacDonald
Lt. Commander, C&GS
Commanding WAINWRIGHT
& HILGARD

KAM/jrb

HYDROGRAPHIC TITLE SHEET

H-8708

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

FIELD NO.

WA-HI-10-3-61

State CONNECTICUT

General locality FISHERS ISLAND SOUND

Locality WATCH HILL

Scale 1:10,000 Date of survey 5/4/66 - 5/17/66

Instructions dated 31 March 1966 Project No. OPR-414

Vessel Launch CS 1177

Chief of party LCDR. R.E. ALDERMAN, LCDR. A.J. PATRICK for 1966 work

Surveyed by W.H. PINER, C.A. DOWTY, R.D. CRUNK, T.L. DYE, W.L. GILL, A.L. COLE

Soundings taken by echo sounder, ~~hand level, pole~~

Graphic record scaled by PARTY PERSONNEL

Graphic record checked by PARTY PERSONNEL

Protracted by _____ Automated plot by _____

Soundings penciled by _____

Soundings in ~~XXXXXX~~ feet at MLW ~~XXXXX~~

REMARKS: This project consisted of additional work requested by the above mentioned Revised Project Instructions, section 20.

TABLE OF CONTENTS *H-8708 Additional Work*

A. Project.....	1
B. Area Surveyed.....	1
C. Sounding Vessel.....	1
D. Sounding Equipment.....	1
E. Smoothsheet.....	2
F. Control.....	2
G. Surveyed Items.....	2
H. Statistics.....	3
Appendix A. <i>List of signals</i>	4
Appendix B. <i>Corrections to Echo Sounding</i>	5
Appendix C. <i>Tidal Notes</i>	6
Appendix D. <i>Approval Sheet</i>	7

HYDROGRAPHIC FIELD PARTY 742

A. PROJECT

Work on sheet WA-HI-10-3-61, H-8708, was done in accordance with Revised Project Instructions, OPR-414, item 20, dated 31 March 1966.

B. AREA SURVEYED

The area in which this additional work was requested is in the general area of Fishers Island Sound, Watch Hill.

The work consisted of running additional lines (splits) in the areas of insufficient hydrography, verification of a reported twelve foot sounding, and the location of several rocks.

Field work commenced on this project on 4 May 1966 and was completed on 17 May 1966.

C. SOUNDING VESSEL

Launch CS-1177 was the only vessel used for the survey. The color used for day letters was blue.

D. SOUNDING EQUIPMENT

A Raytheon Fathometer, model DE-723, serial number 263, 20KC, was used to obtain soundings.

Corrections to be applied to echo soundings were determined from daily bar checks. An abstract of these corrections is contained in Appendix B of this report.

E. SMOOTHSHEET

The smoothsheet plotting will not be accomplished by HFP-742. ✓

F. CONTROL

Horizontal control was obtained by the standard visual three-point sextant fix method. ✓

The photo-hydro signals were located from manuscript T-11447. ✓

Appendix A of this report contains a complete list of control used and the quality and source of control. ✓

Also see Attachment 2 List of Signals used in 1961-62 seasons work

G. SURVEYED ITEMS

1. SPLITS

Additional lines of hydrography were run in the vicinity of ~~Lat. 41° 19.90'N, Long. 71° 53.89'W~~ *between Sandy Pt. & Ledwood Is.* and ~~Lat. 41° 19.17'N, Long. 71° 51.70'W.~~ *off Rhodes Pt.* ✓

Depths on lines of this survey crossing those of the WA-HI survey were within boat sheet accuracy, ei. adequate agreement was reached using predicted tides.

2. VERIFICATION OF 12 FOOT SOUNDING (Lat. 41° 17.37'N, Long. 71° 53.27'W) ✓

This 12 ft originates with misinterpretation of a stray from 1961-62 work of H-8708. The 12 sdg. deleted from chart thru NM 7(67) based on this 66 work.

12-ft. sounding considered discredited by this add'l. work. Chart 21-ft. depth nearby from H-8708

The best method using available equipment was to run a cart wheel in this area. A fathometer sounding of 14.2 Ft. (Corr. by smooth tide), 2 3/4 out from position 35d, was the shoalest depth

DLW 12/16/66

obtained.

For more details the reader is referred to the
boat sheet and accompanying sounding volume
records.

It is recommended that this area be further
investigated by wire drag.

3. ROCKS - DETACHED POSITIONS *near south end of Ledswood Is.*

DAY	POSITION	REMARKS
22e	41° 20.06' N 71° 53.30' W	Bares 6.2' @ MLW (Corr.) <i>islet bares 4' MHW</i>
23e	41° 20.05' N 71° 53.39' W	Awash @ MLW (Corr.) *(0)
24e	41° 20.04' N 71° 53.41' W	Bares 1.0' @ MLW (Corr.) *(1)
25e	41° 19.98' N 71° 53.51' W	Bares 1.6' @ MLW (Corr.) *(2)
26e	41° 19.93' N 71° 53.59' W	Bares 0.6' @ MLW (Corr.) *(1)

The above DP's were taken to show the perimeter
of a rocky area. The remarks column of the
sounding volume gives a complete description of
this area.

It is recommended that this area be charted.

H. STATISTICS

Number of Positions..... 104

Statute miles of soundings..... ~~7~~ 9.3

Respectfully submitted,

Walter H. Piner

Walter H. Piner, Survey Technician

APPENDIX B

Corrections to Echo Soundings

Additional Work on Hydrographic Survey H-8708

Launch CS 1177

Echo Recorder Number: 263

Corrections to be applied throughout entire survey.

'A' Scale:	Depth (ft.)	Correction (ft.)
	6.0 - 28.2	-0.2
	28.3 - 31.7	0.0
	31.8 - 36.0	+0.2
'B' Scale:	40.0 - 45.0	0.0
	45.1 - 52.0	+0.2
	52.1 - 60.0	+0.4
	60.1 - 66.0	+0.6
	66.1 - 70.4	+0.8
	70.5 - Deeper	+1.0

APPENDIX D

Approval Sheet to Accompany

~~Additional Work~~

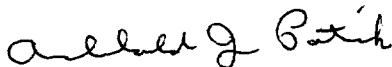
Hydrographic Sheet H-8708 (WA-HI-10-3-61)

The field and office work was accomplished under my supervision.

The hydrography was performed and the descriptive report was written by Mr. Walter H. Piner.

The report and records for this survey are complete and adequate to the best of my knowledge.

Approved and forwarded,



Archibald J. Patrick
LCDR., USESSA
Officer-in-Charge

TIDE NOTE FOR HYDROGRAPHIC SHEET

December 11, 1963

Nautical Chart Division: R. H. Carstens

Plane of reference approved in
21 volumes of sounding records for

HYDROGRAPHIC SHEET 8708 (1961-62 work)

Locality Pawcatuck River & Fishers Island, Connecticut, and
Rhode Island.

Chief of Party: K. A. MacDonald (1961-1962)

Plane of reference is mean low water, reading

- 2.2 ft. on tide staff at Watch Hill^{Point}, R.I. (1961) *lat. 41°18.3', long. 71°51.6'*
- 1.9 ft. on tide staff at Watch Hill, R.I. (1962)
- 11.2 ft. below B.M. No. 1 (1939)
- 0.7 ft. on tide staff at Westerly^{Point} *lat. 41°22.9', long. 71°49.9'*
- 5.7 ft. below B.M. No. 1 (1917)

Height of mean high water above plane of reference is: 2.5 ft.

Condition of records satisfactory except as noted below:

NOTE: Tide reducers for positions listed below have been re-
vised in red and verified.

<u>VOL.</u>	<u>POS.</u>
4	1F to 100F

*The 1966 additional work for H-8708 used the tide station
at Naantk, Conn. 41°19.5', long. 71°59.1'*

J. M. Symons
Chief, Tides and Currents Branch

TIDE NOTE

The standard gage used for basic control at New London, Connecticut, latitude $41^{\circ} 21'.5$ N, longitude $72^{\circ} 00'.5$ W. *off limits of H-8708*

Portable tide gages were located at (Pawcatuck River, Westerly, Rhode Island) and (Watch Hill Point, Rhode Island).

The Pawcatuck tide gage was at latitude $41^{\circ} 22'.9$ N, longitude $71^{\circ} 49'.9$. *off limits of H-8708* Mean Low Water is 0.66 feet on the tide staff.

The Watch Hill tide gage was at latitude $41^{\circ} 18'.36$ N, longitude $71^{\circ} 51'.6$. ⁵⁵ Mean Low Water on the staff was 2.2 feet for 1961, for 1962 it was 1.9 feet on the staff.

The Pawcatuck gage was used only during the 1961 field season. In 1961 the Pawcatuck gage was used East of line beginning $41^{\circ} 20'.0$, $71^{\circ} 53'.7$ to $41^{\circ} 19'.8$, longitude $71^{\circ} 53'.7$ then along the Island to $41^{\circ} 19'.2$, $71^{\circ} 52'.4$, then along line formed by longitude $71^{\circ} 52'.4$ to $41^{\circ} 18'.6$.

TIDE NOTE FOR HYDROGRAPHIC SHEET

February 21, 1967

~~Nautical Chart Division~~

R. H. Carstens

Plane of reference approved in
1 volume of sounding records for

HYDROGRAPHIC SHEET 8708 ~~Add.~~ Wk.

Locality: Fishers Island Sound, Connecticut

Chief of Party: A. J. Patrick 1966

Plane of reference is mean low water

Tide Station Used (Form C&GS-681): Noank, Connecticut *1966 season*
lat. 41°19.5', long. 71°59.1', off limit of sheet.

Height of Mean High Water above Plane of Reference is as follows:

Noank = 2.3 feet

Remarks

For the 1961-62 work the following tide stations used
Watch Hill Pt., Rhode Is. lat. 41°18.3', long. 71°51.6'
Westerly, Rhode Is. lat. 41°22.9', long. 71°49.9'

J. M. Symons
Chief, Tides and Currents Branch

APPENDIX C

TIDAL NOTES

~~Additional~~ Work on Hydrographic Survey H-8708 *of 1966*

Tide control for the survey was furnished by a tide gage located at Noank, Connecticut.

Gage Location: Latitude 41 19.5'N

Longitude 71 59.1'W

Gage Type: Bubbler

Staff: Veitrified Scale

MLW corresponds to 3.0 feet on the staff.

Corrections: No time or height corrections were applied.

Time Meridian: 75th

GEOGRAPHIC NAMES
Survey No. H-8708

Name on Survey	358										
	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			
Barn Island ✓				x						1	
Colonel Willie Cove ✓ x										2	
Foster Cove ✓ x										3	
Ledwoods Island ✓ x										4	
Little Narragansett Bay ✓ x										5	
Napatree Point ✓ x										6	
Pawcatuck Point ✓ x									x	7	
Pawcatuck River ✓ x									x	8	
Potter Cove ✓ x										9	
Sandy Point ✓ x										10	
Watch Hill Cove ✓ x										11	
Watch Hill Point ✓ x										12	
Wequetequock Cove ✓ x									x	13	
Awendale ✓										14	
Barbock Cove ✓										15	
Cattumb Passage ✓										16	
Cattumb Rocks ✓										17	
Certain Draw Point ✓										18	
Clarks Village ✓										19	
East Beach ✓										20	
Edwards Point ✓										21	
Fishers Island Sound ✓										22	
Gavitt Point ✓										23	
Gangway Rock ✓										24	
Graves Neck ✓										25	
Mastuxet Cove ✓										26	
Napatree Beach ✓										27	

George Inbee
Geographic Names Section
8 November 1963

APPROVED BY
R. J. [Signature]
CHIEF GEOGRAPHER

PREPARED BY
Frank [Signature]
CARTOGRAPHIC TECHNICIAN

GEOGRAPHIC NAMES

Survey No.

Name on Survey												
	A	B	C	D	E	F	G	H	K			
Axecasset Brook ✓												1
Asbrook Cove ✓												2
Stanton Weir Point												3
PERCH ISLAND ✓		✓										4
DEANWILSON ROCK ✓		✓										5
												6
												7
												8
												9
												10
												11
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												25
												26
												27

PREPARED BY

James W. Ricketts
CARTOGRAPHIC TECHNICIAN

APPROVED BY

4/30/79 C&H
A. Joseph Wright
CHIEF GEOGRAPHER

GEOGRAPHIC NAMES

Survey No.

Name on Survey	Source of Name											
	A	B	C	D	E	F	G	H	K			
Napatree Point ✓												1
Napatree Pt. Ledge ✓												2
Powcatuck ✓												3
Powcatuck Rock ✓												4
Ram Point ✓												5
Rhodes Point ✓												6
Stanton Weir Point ✓												7
Stonington ✓												8
Stonington Point ✓												9
Sugar Reef ✓												10
Sugar Reef Passage ✓												11
Thompson Cove ✓												12
Watch Hill ✓												13
Watch Hill Passage ✓												14
Watch Hill Reef ✓												15
Westerly ✓												16
Greenhaven Shore ✓												17
Hall Cove ✓												18
Lords Passage ✓												19
Oxecosset Brook ✓												20
Rhodes Folly ✓												21
Duck Channel ✓												22
Goat Island ✓												23
Greenhaven Shore ✓												24
Hall Island ✓												25
Horace Island ✓												26
Major Island ✓												27

PREPARED BY

Frank W. Fickett
CARTOGRAPHIC TECHNICIAN

APPROVED BY

A. Joseph Whittier
CHIEF GEOGRAPHER

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8708

Records accompanying survey: Smooth sheets 1;
 boat sheets 1; sounding vols. 21; wire drag vols.;
 (boat sheet in 2 parts)
 Descriptive Reports 1; graphic recorder envelopes 18;
 special reports, etc. 4-Hydrography overlays and 1 Cahier -
 Velocity Corr. Computations.

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

Number of positions on sheet	104 (1966) 3832 3936
Number of positions checked	555
Number of positions revised	0
Number of soundings revised (refers to depth only)	0
Number of soundings erroneously spaced	0
Number of signals erroneously plotted or transferred	0
Topographic details	Time 12 hrs
Junctions	Time 4 "
Verification of soundings from graphic record	Time 4
Special adjustments	Time 0

Verification by *G.K. Myers (1966)* Total time 244 hrs Date 16 Nov. 64
G.B. Lambert (1964-62) 8
 Reviewed by *J.T. Gallahan* Time 150 Date 2-10-78
George E. Myers 194 hrs Date 1-18-71

Verification of 1966 additional work by reviewer.
 Inspected *J.T. Gallahan* 237 hrs 2-10-78
R.H. Carstens 59 hrs 6/10/78

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. 8708 ¹⁹⁶⁶ _{Wk}

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET		BOAT SHEETS	1
DESCRIPTIVE REPORT	1	OVERLAYS	1

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES	1					
CAHIERS						
VOLUMES	1					
BOXES						

T-SHEET PRINTS (List)

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES
The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				
POSITIONS CHECKED				
POSITIONS REVISED				
DEPTH SOUNDINGS REVISED				
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS				
JUNCTIONS				
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS				
SPECIAL ADJUSTMENTS				
ALL OTHER WORK				
TOTALS				
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY	BEGINNING DATE		ENDING DATE	
REVIEW BY	BEGINNING DATE		ENDING DATE	

REGISTRY NO. H-8708

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

H-8708

Items for Future Presurvey Reviews

This is a survey covering the east end of Fishers Island Sound, Little Narragansett Bay, Pawcatuck River, and Wequetequock Cove. The Fishers Island Sound has a generally stable bottom with several prominent off-shore shoal features. Little Narragansett Bay is a shallow basin subject to change due to accretion and erosion affecting large segments of the outer spits. Pawcatuck River and Wequetequock Cove are generally stable except for changes resulting from dredging and shifting of maintained and natural channels. Inshore areas have numerous rocks awash and sunken rocks which are hazardous to small-craft navigation. Any future survey should investigate the several charted shoals transferred to the present survey from prior survey H-1577a (1883-1907) and listed in the review.

<u>Position Index</u>		<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
411	0720	4	5	25 years
412	0720	3	5	25 years

OFFICE OF MARINE SURVEYS AND MAPS

HYDROGRAPHIC SURVEYS DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8708

FIELD NO. WA/HI-10-3-61

Connecticut and Rhode Island--Fishers Island Sound, Vicinity of Watch Hill and Pawcatuck River

SURVEYED: August 1 - October 9, 1961; June 16 - September 1962; May 4-17, 1966

SCALE: 1:10,000

PROJECT NO.: OPR-414

SOUNDINGS: 808 Echo Sounder, DE-723 Echo Sounder, Pole, and Lead Line

CONTROL: Sextant fixes on Shore Signals

Chief of Party K. A. MacDonald (1961-62)
..... D. E. Rushford (1961-62)
..... A. J. Patrick (1966)
Surveyed by C. W. Randall, D. L. Campbell
..... J. T. Maldari, R. R. Floyd
..... E. D. Schwantes, R. J. Land
..... W. D. O'Neil
Protracted by R. E. Alderman, A. G. Atwill
Soundings Plotted by A. G. Atwill
Verified and Inked by J. C. Chambers, G. K. Myers
Reviewed by G. K. Myers
Date: December 28, 1970
Inspected by J. T. Gallahan

1. Description of the Area

This is an inshore survey of the east end of Fishers Island Sound, Little Narragansett Bay, Pawcatuck River, and Wequetequock Cove. The survey limits extend from latitude 41°16' northward, and from longitude 71°50' westward to longitude 71°54'.

Survey depths are generally shoaler than 12 feet except in the area of Fishers Island Sound which is considerably deeper attaining depths of 140 feet. There are several offshore shoal features in the Fishers Island Sound area. Several federal project channels marked by buoys direct marine traffic in the changeable shoal areas of Little Narragansett Bay and Pawcatuck River. Little Narragansett Bay is a shallow basin which is subject to continuous change resulting from converging currents and other forces. An example is Sandy Point Island; this mile long sand spit which is continuously shifting was nonexistent on the early surveys.

The predominant bottom characteristics are sand, mud, and gravel. There are numerous foul areas characterized by rocks along the inshore areas.

2. Control and Shoreline

The source of control is adequately described in part F of the Descriptive Report for the respective years.

The shoreline originates with 1960 revision surveys RS-714, RS-715, RS-722, and RS-723 on the base of topographic surveys T-11446, T-11447, T-11451, and T-11452 of 1954. The small area north of latitude 41°22'30" is from T-11443 (1954).

The revision surveys used on the present survey are of an intermediate nature and differ from the final revision surveys carrying the same identification numbers but having dates 1965-66.

Changes in the shoreline of Sandy Point are from hydrographic information.

The shoreline shown is contemporary with the hydrography.

3. Hydrography

- a. Depths at crossings are in adequate agreement.
- b. The usual depth curves are adequately delineated except for the lesser depth curves which were frequently not defined due to the foul nature of inshore shoal areas and to the proximity of the low water line to the high water line.
- c. The supplemental 3-foot curve was added to more accurately depict the configuration of the bottom.
- d. The development of the bottom configuration is considered adequate except for several shoal features from prior surveys which were not investigated on the present survey.

4. Condition of Survey

The plotting, sounding records, and Descriptive Report are generally adequate and conform to the requirements of the Hydrographic Manual except as follows:

- a. Numerous strays and excessively heavy profile traces on the DE-723 fathograms occurred on some sounding lines. These were rescanned and the soundings changed by the reviewer.

b. The statement MRV (middle reed vibrating) should be recorded when an actual check is made during the utilization of the 808 Fathometer. In some instances, bottom traces were extremely light which can be attributed to a poorly adjusted gain setting.

c. Numerous position numbers on the verified smooth sheet were illegible and were touched up during review.

d. The 1966 additional work was transferred from overlay tracings to the smooth sheet.

e. There were numerous minor corrections to the verified smooth sheet affecting islets, rocks, and elevations.

5. Junctions

An adequate junction has been effected with H-8908 (1962-66) on the west, H-8616 (1961) on the east, and H-6443 (1939) on the south. Minor shoreline differences between H-8908 (1962-66) and the present survey may be attributed to the fact that later editions of revision surveys RS-714 (T-11446) and RS-722 (T-11451) were applied to the junctional survey.

FE 3 (1963) is a hydrographic-wire drag survey which falls inside present survey limits. This field examination investigated a reported obstruction (Presurvey Review Item 16A) at latitude $41^{\circ}17.63'$, longitude $70^{\circ}52.12'$. A comparison of depths between 1961-62 hydrography on the present survey and that on FE 3 (1963) reveals general agreement; however, differences of several feet were noted which may be attributed to the irregular character of the bottom and displacement on steep slopes. Soundings were transferred from FE 3 (1963) to the present survey to fill voids or represent shoaler depths in the area. No conflicts exist between the present survey and the effective drag depths. However, in the area cleared to 10 feet, the present survey has a shoal depth of 10.4 feet.

6. Comparison with Prior Surveys

a. Fishers Island Sound area

H-85	(1847)	1:20,000
H-86	(1839)	1:20,000
H-91	(1839)	1:20,000

These prior surveys taken together cover the common area with the present survey in Fishers Island Sound. A comparison of depths between the present and prior surveys reveals general agreement although differences as great as 15 feet are noted in the deeper depths. These differences may

be attributed to the less accurate survey methods used on the early prior surveys. The more complete development on the larger scale present survey revealed numerous shoal features not detected on the prior surveys.

Symbols of rocks in the area of rocky reefs off Watch Hill Point, apparently were used to portray the character of the bottom on the earlier surveys and are considered only descriptive.

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

b. Little Narragansett Bay and Pawcatuck River

H-96 (1839) 1:20,000

H-97 (1839) 1:10,000

H-98 (1839) 1:10,000

H-99 (1839) 1:10,000

These early prior surveys taken together cover the common area with the present survey in Little Narragansett Bay and the lower half of Pawcatuck River. A comparison of depths between the present and prior surveys ranges from agreement to differences as great as plus or minus 15 feet in the deeper areas. The bay area is especially subject to great change as evidenced by the creation of the present mile long Sandy Point Island and the retreat of the spit at Napatree Point which formerly extended 1,400 meters north of present position.

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

c. H-1529a (1882-86) 1:40,000

This smaller scale prior survey with only a few soundings falling within the common area of Fishers Island Sound is of little value for comparative purposes. The present survey is adequate to supersede this prior survey within the common area.

d. H-1577a (1883-1907) 1:10,000

This prior survey is the most recent and extensive coverage of the common areas of Fishers Island Sound, Little Narragansette Bay, and Wequetequock Cove.

A comparison of depths between the present and prior surveys in the area of Fishers Island Sound indicates general agreement. However, there is some local shifting of several offshore shoal areas with present depths

generally shoaler. Several offshore shoal depths and the rk awash at Gangway Rk have been carried forward to the present survey as have several inshore soundings to delineate the lesser depth curves.

The Little Narragansett Bay area is subject to great change as evidenced by the continuous accretion and erosion of the shoreline (see paragraph 6.b). A comparison of depths between the present and prior surveys varies from agreement to differences of plus or minus 5 feet. The charted 2 sounding at latitude 41°19.06', longitude 71°52.27' (Dennison Rk) from this prior survey has not been discredited and has been carried forward to the present survey.

In the common area of Wequetequock Cove a comparison of depths between the present and prior shows variations from agreement to differences of plus or minus 3 feet especially in areas of the natural channels which have shoaled considerably.

The charted rk awash at latitude 41°20.09', longitude 71°52.32' originates with a 1 1/2 Rk from this prior survey and has been carried forward to the present survey as a rock awash covered 1 ft MLW.

Several charted shoal depths and rocks awash, which have not been discredited, have been carried forward from this early source to the present survey.

With the additions noted the present survey is adequate to supersede this prior survey within the common area.

e.	H-4042 WD	(1918-19)	1:50,000
	<u>H-4043 WD</u>	<u>(1918-19)</u>	<u>1:20,000</u>

These wire-drag surveys cover the southern portion of the present survey. No conflicts exist between the present depths and the effective drag depths.

f.	T-1734	(1882-83)	1:10,000
	<u>T-9085</u>	<u>(1948)</u>	<u>1:10,000</u>

Several charted rocks awash from these prior topographic surveys, which have not been discredited, have been carried forward to the present survey.

7. Comparison with Chart 13214 (358), latest print date October 21, 1972

a. Hydrography

The charted hydrography originates with previously discussed prior surveys which require no further consideration, supplemented by the partial

application of information from the boat sheet and the verified smooth sheet of the present survey and surveys by the Corps of Engineers. Several soundings in the area of latitude $41^{\circ}18.7'$, longitude $71^{\circ}51.6'$ at Watch Hill Cove are from subsequent 1965 Corps of Engineers surveys (Bp-68585-68590) and should be retained as charted.

Attention is directed to the following:

(1) There is a single rock awash charted at latitude $41^{\circ}21.63'$, longitude $71^{\circ}50.38'$. The present survey indicates the existence of an islet and two rocks awash in this area. The chart should be revised to agree with the present survey.

(2) The rock awash charted at latitude $41^{\circ}21.65'$, longitude $70^{\circ}50.29'$ originates with a 4-foot on the present survey erroneously interpreted as a 1-foot. The 1966 field editor's note on RS-715 (Bp-67339) mentions that this rock could not be located. This rock awash should be deleted from the chart.

(3) The cluster of 3 sunken rocks charted at latitude $41^{\circ}21.28'$, longitude $71^{\circ}50.17'$ is from a 1966 field editor's notation on RS-715 (Bp-67339). The present survey has two rocks awash and a rock pile area at this location. The sunken rocks should be deleted and the charted rock information revised to agree with the present survey.

(4) The charted 4 rocks awash in the vicinity of latitude $41^{\circ}20.55'$, longitude $71^{\circ}49.70'$ are from T-9048 (1948) and the boat sheet of the present survey. The charted rock information should be revised to show the islet and rocks awash as shown on the present survey.

(5) The inshore submerged rock and rock awash charted at latitude $41^{\circ}19.75'$, longitude $71^{\circ}50.8'$ and the submerged rocks at latitude $41^{\circ}19.2'$, longitude $71^{\circ}51.1'$ and latitude $41^{\circ}19.35'$, longitude $71^{\circ}51.05'$ are from T-1734 (1882-83). These rocks are superseded by rocks on subsequent topographic surveys T-9085 (1948) and RS-715 field edited in 1966. They should be deleted from the chart and the chart revised to agree with the rock information as shown on the present survey.

(6) The cluster of submerged rocks and rocks awash charted south of Barn Island at latitude $41^{\circ}19.63'$, longitude $71^{\circ}52.15'$ and latitude $41^{\circ}19.65'$, longitude $71^{\circ}52.25'$, are from T-1734 (1882-83). These rocks do not appear on subsequent topographic surveys T-9085 (1948) or T-11447 (1954-60). However, the charted rocks should be retained but revised to agree with contemporary rock information as shown on the present survey.

(7) The two submerged rocks charted at latitude $41^{\circ}19.72'$, longitude $71^{\circ}51.1'$ originate with an early unknown source. The most recent revision survey RS-715 (Bp-67339) has a rock awash here. Therefore, the charted submerged rocks should be replaced with a rock awash from this survey. ✓

(8) The 15 charted in latitude $41^{\circ}17.77'$, longitude $71^{\circ}52.7'$ from the present survey before review has been revised in position and should be disregarded. ✓

(9) The beacon (subsequently removed) in latitude $41^{\circ}17.68'$, longitude $71^{\circ}52.75'$ on the present survey is on a 2-foot shoal which should be charted. ✓

(10) The chart 1-foot sounding at latitude $41^{\circ}19.60'$, longitude $71^{\circ}50.95'$ originates with early Bp-14349 of about 1912. This shoal depth has been discredited by the present survey and the numerous Corps of Engineers surveys of the area. Therefore, the 1 sounding should be deleted from the chart. ✓

(11) The charted rock awash in Foster Cove at latitude $41^{\circ}18.90'$, longitude $71^{\circ}51.35'$ is from H-1577a (1883-1907). Subsequent Revision Survey 715 (Bp-67339) field edited in 1966 has an islet bearing 2 feet MHW at this approximate location which has been transferred to the present survey. The rock awash should be removed from the chart and replaced with the islet. ✓

(12) The Watch Hill Cove area was not adequately developed on the present survey and depths from this source should be used to supplement the charted soundings from Corps of Engineers surveys. ✓

(13) Several charted rocks and soundings east of the Pawcatuck River channel in the vicinity of latitude $41^{\circ}21.6'$ to $41^{\circ}21.9'$, longitude $71^{\circ}50.2'$ originate with 1965 Corps of Engineers surveys. These items have not been discredited by the present survey and should be retained as charted. ✓
check BP-103216

(14) The area of the side channel in Pawcatuck River at latitude $41^{\circ}21.33'$, longitude $71^{\circ}50.13'$ was not developed on the present survey and the charted information should be retained. ✓

(15) The Stake PA charted at latitude $41^{\circ}17.70'$, longitude $71^{\circ}52.82'$ originates with Chart Letter 1256 of 1966 (USPS report) and Notice to Mariners 47 of 1966. This information is subsequent to the present survey and the stake should be retained as charted. ✓

(16) The charted 6 sounding at latitude $41^{\circ}19.35'$, longitude $71^{\circ}51.17'$ and the 3 sounding at latitude $41^{\circ}19.42'$, longitude $71^{\circ}51.24'$ originate with early Corps of Engineers surveys. These depths have not been disproved and should be retained on the chart. ✓

(17) The Obstr rep PD (Presurvey Review Item 0) charted at latitude $41^{\circ}17.44'$, longitude $71^{\circ}54.03'$ originates with Notice to Mariners 13 of 1962 reporting a vessel with a draft of 10 feet striking bottom about 200 yards, 170 degrees from buoy N"2L." As this is only about 50 meters from a developed shoal on the present survey, it is assumed that this shoal was struck. Therefore "Obstr rep PD" and symbol should be deleted from the chart. AW015 #7251 ✓

(18) The legend Rks and the 8 sounding (Presurvey Review Item 19) charted at latitude $41^{\circ}19.85'$, longitude $71^{\circ}53.6'$ are from Corps of Engineers surveys circa 1930-37. After a 1962 investigation the hydrographer states "There are no rocks in the area." The 1966 additional work verified 7-foot depths here. Therefore, the legend Rks and the 8 sounding should be deleted from the chart and the shoaler 7 sounding added. -?? check! bl ✓

(19) The note shoaling (Presurvey Review Item 20) at latitude $41^{\circ}19.75'$, longitude $71^{\circ}54.00'$ originates with Notice to Mariners 30 of 1952. There is adequate hydrographic development in the area from the present survey and junctional survey H-8908 (1962-66). Therefore the note shoaling should be deleted from the chart and replaced with depths from these contemporary surveys. ✓

(20) The sunken wreck (Presurvey Review Item 16) charted at latitude $41^{\circ}17.72'$, longitude $71^{\circ}51.96'$ originates with Chart Letter 479 of 1925 (Coast Pilot Inspection).^{43.2} ✓ AW015 #1859

An investigation by divers on the present survey located this wreck with a least depth of 26 feet over it at latitude $41^{\circ}17.76'$, longitude $71^{\circ}51.95'$ and 80 meters north of the charted position. Therefore the charted sunken wreck symbol should be deleted and the present 26 depth with the danger curve and Wk. be shown on the chart.

(21) The 17 sounding (Presurvey Review Item 13) charted at latitude $41^{\circ}17.93'$, longitude $71^{\circ}51.70'$ originated with Chart Letter 132 of 1950 (Coast Pilot Inspection). The 17-foot depth falling on a detached 26-foot shoal on the present survey is not considered disproved and should be retained as charted. ✓

(22) Numerous charted islets, rocks, and ledge were transferred to the present survey from RS-714 (1965-66) Bp-69463 and RS-715 (1965-66) Bp-67339. These revision surveys used 1965 photography and were field edited in 1966.

Except as noted the present survey is adequate to supersede the charted hydrography within the common area.

b. Topography

Numerous miscellaneous piers and piles were charted subsequent to the present survey from revision surveys RS-714 (1965-66) and RS-715 (1965-66). These piers and piles should be retained as charted.

The black shapes charted at latitude $41^{\circ}19.7'$, longitude $71^{\circ}51.8'$ originate with T-1734 (1886) and were not investigated on the present survey. These black shapes should be deleted and revised to agree with revision survey RS-715 (Bp-67339) and the present survey. Numerous rocks and black shapes appear in the charted area of the present survey which originate with early topographic and hydrographic surveys and do not appear on subsequent surveys. Unless previously discussed these items are considered adequately superseded by symbols on the present survey and may be deleted from the chart.

There remains considerable differences between the shoreline and the topographic features as shown on the chart and that on the present survey. The charted topographic features were applied from updated editions of revision surveys RS-714, RS-715, RS-722, and RS-723 using 1963-65 photography and field edited in 1966. Therefore these topographic features should be retained as charted.

c. Controlling Depths

The Little Narragansett Bay and Pawcatuck River federal project channels fall in the area of the present survey. Charted controlling depths for these channels are from Corps of Engineers surveys subsequent to present survey information.

d. Aids to Navigation

The fixed and floating aids on the present survey are in substantial agreement with the charted positions and adequately mark the features intended. However, the following exceptions are noted:

(1) Watch Hill Passage red and black nun buoy on the present survey at latitude $41^{\circ}17.84'$, longitude $71^{\circ}51.84'$ has been deleted from the chart through Notice to Mariners 32 (1965).

(2) Red nun buoy "2GR" located on the present survey at latitude $41^{\circ}18.02'$, longitude $71^{\circ}51.48'$ is not shown on the chart and is not identified in the 1962 Light List. This buoy is used as a replacement for the nearby Gangway Rock Lighted Bell buoy in case of ice.

(3) Black can buoys C"3" and C"5" charted at latitude 41°17.88', longitude 71°51.70' and latitude 41°17.75', longitude 71°52.64' were not located on the present survey. These buoys charted from Notice to Mariners 32 of 1965 are subsequent to present survey hydrography and should be retained.

8. Compliance with Instructions

The survey failed to develop a great many inshore features as well as a number of offlying soundings shown on the prior surveys and on the chart. Disposition of several features charted from Corps of Engineers surveys was incomplete.

9. Additional Field Work

This survey as supplemented with prior information is considered a good basic survey. However, any future survey of the area should investigate the following items transferred to the present survey from H-1577a (1883-1907):

<u>Item</u>	<u>Latitude</u>	<u>Longitude</u>
4 ft.	41°19.17'	71°51.76'
3 ft.	41°19.19'	71°51.98'
rock awash	41°18.1'	71°51.55'

In addition the following items charted from Corps of Engineers surveys should be investigated.

3 ft.	41°19.33'	71°51.24'
6 ft.	41°19.37'	71°51.19'

Examined and Approved:

a J Patrick
 Chief
 Hydrographic Surveys Division

R. H. Houten
 Associate Director
 Office of Marine Surveys
 and Maps

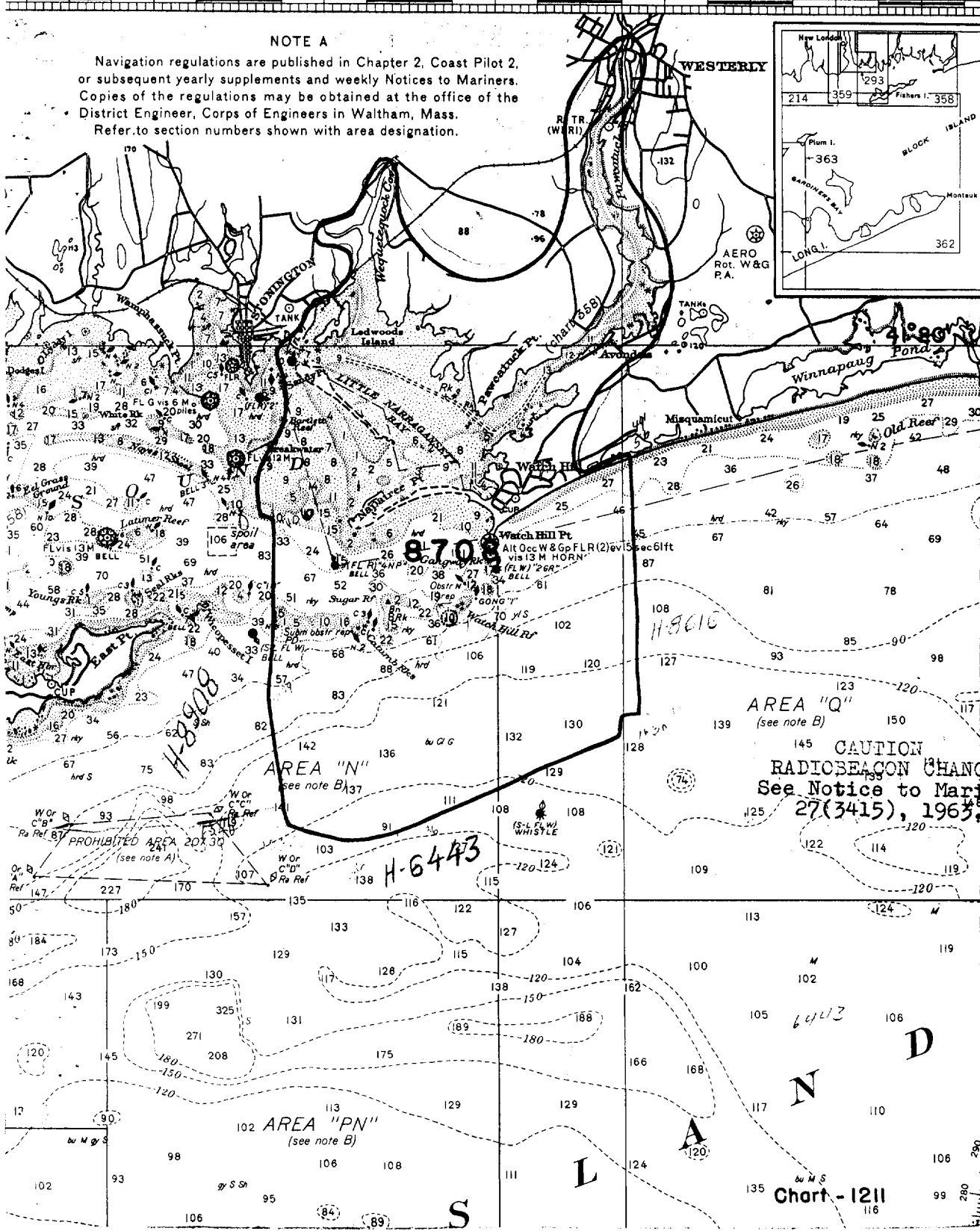
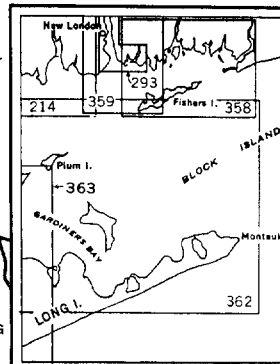
55'

71°50'

8616-1961

NOTE A

Navigation regulations are published in Chapter 2, Coast Pilot 2, or subsequent yearly supplements and weekly Notices to Mariners. Copies of the regulations may be obtained at the office of the District Engineer, Corps of Engineers in Waltham, Mass. Refer to section numbers shown with area designation.



AREA "Q"
(see note B)
145 CAUTION
RADIOBEACON CHANGE
See Notice to Mar
27(3415), 1963

AREA "N"
(see note B)

AREA "PN"
(see note B)

Chart - 1211

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8708

INSTRUCTIONS

- A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
 2. In "Remarks" column cross out words that do not apply.
 3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
358	9-20-63	L. Van Zant	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Revisions confined to Reef Area (Watch Hill Pt To Lords Passage) as per instructions</i>
116-A	9-27-63	A. J. Hoffman	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Examined; added a few shoal snags & least depth over a wreck</i>
1211	10-17-63	John Kneop	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Partial Application made thru Chart 358 drawing # 23</i>
70	10/20/63	L.A.M.	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Exam. only</i>
1108	10-17-63	R.E.E.	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>No revision before</i>
271	3/11/66	H.J.K.	Full Part Before After Verification Review Inspection Signed Via Drawing No. 1. <i>(When applying review, go over all soundings for changes) Not all changed on 3/11/66</i>
116-SC-A	6-20-67	D.J.K.	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>applied only that information considered critical</i>
358	8/8/68	John P. Wein	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Critical corrections only</i>
1211	6/2/71	Joe Esterreicher	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>#40, Critical corrections only</i>
358	8-21-72	Spencer R. Everhart	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>#28 EXAM REVIEW FOR CRITICAL CORRECTION ONLY.</i>
1165C	10-2-72	Spencer R. Everhart	PART. APP'D BEFORE INSPECTION VIA DWG #13. EXAM REVIEW FOR CRITICAL CORR. APP'D THRU CHT 358 #28.
70	1-31-73	O. Chapman	Exam. NO hydro in common area (considered Fully applied) Dwg No. 3X
271	2-21-73	Robert G. Mackley	PART APP'D BEFORE INSPECTION THRU CHT 358 #28. EXAM FOR CRIT CORR. NO CORR.

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8708

INSTRUCTIONS

- A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
 2. In "Remarks" column cross out words that do not apply.
 3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
1211	1-19-67	W. H. Howell	Full Part Before After Verification Review Inspection Signed Via Drawing No. 35 Exam No Corr
271	1-24-67	H. A. R. Riddle	Full Part Before After Verification Review Inspection Signed Via Drawing No. 2 consider fully app'd (hydro fells on west edge of chart) No corr
116-SC"A"	6-20-67	D. J. Kennen	Full Part Before After Verification Review Inspection Signed Via Drawing No. Exam no correction at this stage
358	8/8/68	John P. Wein	Full Part Before After Verification Review Inspection Signed Via Drawing No.
1211	6/2/71	Joe Esterreicher	Full Part Before After Verification Review Inspection Signed Via Drawing No. #40 critical corrections only
358	8-21-72	Lyle R. Eckhart	Full Part Before After Verification Review Inspection Signed Via Drawing No. #28 EXAM. REVIEW FOR CRITICAL CORRECTIONS ONLY.
116 SC PAGE "A"	10-2-72	Lyle R. Eckhart	Full Part Before After Verification Review Inspection Signed Via Drawing No. #13 ^{Proof} EXAM. REVIEW FOR CRITICAL CORRECTION ONLY, APP'D THRU CHART 358 # 28
70	1-31-73	J. O. Chapman	Full Part Before After Verification Review Inspection Signed Via Drawing No. 38 NO hydro in common area consider Fully applied
271	2-21-73	Robert O'Healy	Full Part Before After Verification Review Inspection Signed Via Drawing No. 6 NO HYDRO IN COMMON AREA
¹²¹⁰⁵ 1211	10-1-79	JOSEPHINE R. NARRIS	Full Part Before After Verification Review Inspection Signed Via Drawing No. #48, EXAM FOR CRITICAL CORRECTIONS ONLY - PART APP'D AFTER VER. REV. & INSP. THRU CHART 12372 (116-SC"A")

