

H12082

NOAA Form 76-35A

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Survey

DESCRIPTIVE REPORT

Type of Survey: Basic Hydrographic Survey

Registry Number: H12082

LOCALITY

State: Rhode Island

General Locality: Narragansett Bay

Sub-locality: West Passage

2011

CHIEF OF PARTY
LTJG Matthew Nardi

LIBRARY & ARCHIVES

Date:

HYDROGRAPHIC TITLE SHEET

H12082

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

State: **Rhode Island**

General Locality: **Narragansett Bay**

Sub-Locality: **West Pasage**

Scale: **10000**

Dates of Survey: **06/06/2011 to 08/23/2011**

Instructions Dated: **10/24/2011**

Project Number: **OPR-B301-NRT5-11**

Field Unit: **Navigation Response Team 5**

Chief of Party: **LTJG Matthew Nardi**

Soundings by: **Multibeam Echo Sounder**

Imagery by: **Side Scan Sonar**

Verification by: **Pacific Hydrographic Branch**

Soundings Acquired in: **meters at Mean Lower Low Water**

H-Cell Compilation Units: ***meters at Mean Lower Low Water***

Remarks:

The purpose of this survey is to provide contemporary hydrographic and features information to update National Ocean Service (NOS) nautical charts. All separates are filed with the hydrographic data. Revisions and office processing notes (in red in the PDF version) were generated during office processing. The processing branch concurs with all information and recommendations in the DR unless otherwise noted. Page numbering may be interrupted or non-sequential in the PDF version of this report. All pertinent records for this survey, including this Descriptive Report, are archived at the National Geophysical Data Center (NGDC) and can be retrieved via <http://www.ngdc.noaa.gov/>. Note: The chart update product, submitted by the processing branches to the Marine Chart Division for updating the RNCs and ENC's, is also termed H-Cell or HCell.

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Descriptive Report to Accompany Survey H12082

Project: OPR-B301-NRT5-11

Locality: Narragansett Bay

Sublocality: West Passage

Scale: 1:10000

June 2011 - August 2011

Navigation Response Team 5

Chief of Party: LTJG Matthew Nardi

A. Area Surveyed

The survey limits of H12082 encompass the eastern inshore areas of West Passage in Narragansett Bay, from Wickford Harbor in the North to Plum Beach south of the Jamestown Verrazanno Bridge in the South. Complete multibeam echosounder (MBES) coverage or 200% Sidescan Sonar (SSS) coverage with concurrent Multibeam was obtained in the survey area to the Navigable Area Limit Line (NALL). Data were acquired as close to shore as safely possible, to the MHW Buffer, or to the 4-meter curve. Additional coverage was obtained in order to determine least depths over features or navigationally significant shoal areas. See Figure 1 on the following page for the survey limits. In accordance with the project instructions, a combination of 100% multibeam coverage and 200% side scan coverage with concurrent multibeam was acquired for this survey. See Table 2 for a summary of acquisition statistics.

A.1 Survey Limits

Data was acquired within the following survey limits:

Northeast Limit	Southwest Limit
41.5143166667 N	41.582825 N
71.4433083333 W	71.385625 W

Table 1: Survey Limits

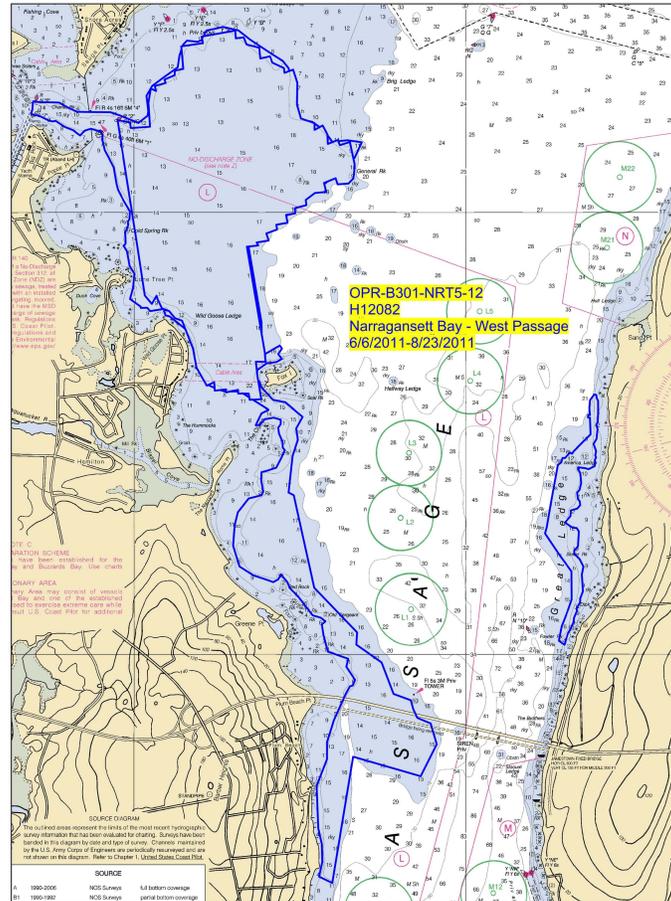


Figure 1: H12082 Survey Extents

Figure 1 represents the hydrographic survey limits. The limits of the survey for the chart update product differ slightly, and are defined by the M_QUAL meta area object.

Survey Limits were acquired in accordance with the requirements in the Project Instructions and the HSSD.

A.2 Survey Purpose

The purpose of project OPR-B301-NRT5-11 survey H12082 was to provide contemporary surveys to update National Ocean Service (NOS) nautical charts in Narragansett Bay and around Newport, RI.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

The digital data submitted with H12082 is sufficient to update all previous data and charted sounding and contours.

A.4 Survey Coverage

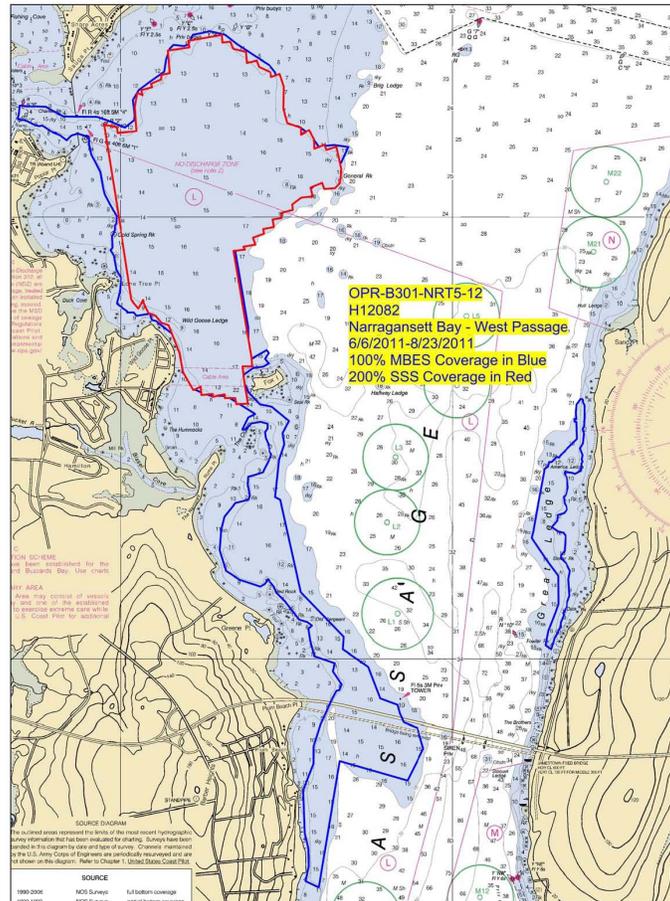


Figure 2: H12082 Coverage Graphic

Survey Coverage was in accordance with the requirements in the Project Instructions and the HSSD.

A.5 Survey Statistics

The following table lists the mainscheme and crossline acquisition mileage for this survey:

	HULL ID	<i>s3002</i>	<i>Total</i>
LNM	SBES Mainscheme	0.00	0.00
	MBES Mainscheme	117.4	117.4
	Lidar Mainscheme	0.00	0.00
	SSS Mainscheme	0.00	0.00
	SBES/MBES Combo Mainscheme	0.00	0.00
	SBES/SSS Combo Mainscheme	0.00	0.00
	MBES/SSS Combo Mainscheme	38.1	38.1
	SBES/MBES Combo Crosslines	9.1	9.1
	Lidar Crosslines	0.00	0.00
	Number of Bottom Samples		5
Number of DPs		4	
Number of Items Items Investigated by Dive Ops		0	
Total Number of SNM		1.47	

Table 2: Hydrographic Survey Statistics

The following table lists the specific dates of data acquisition for this survey:

<i>Survey Dates</i>
06/06/2011
06/07/2011
06/10/2011
06/20/2011
06/21/2011
06/22/2011
06/23/2011
08/22/2011
08/23/2011

Table 3: Dates of Hydrography

Multibeam crosslines for this survey totaled 9.1 linear nautical miles (LNM), comprising 5.85% of the 117.4 LNM of mainscheme MBES hydrography. Both main scheme and crossline mileage are summarized in Table 3 above. Surface differencing in CARIS was used to assess crossline agreement with main scheme lines. Crosslines agree with main scheme lines within the total allowable vertical and horizontal uncertainty in their common areas.

A.6 Shoreline

Limited shoreline verification was conducted to determine the inshore limit of hydrography and for feature verification of H12082, as per section 3.5.5.3 of the Field Procedures Manual April 2012 (FPM). Shoreline features were given S-57 attribution and included for submission in the Pydro Survey Session and exported to the S-57 file H12082_FFF.000. Inclusion of all features from the assigned features file (AFF) was not possible due to a limitation in compatibility of Pydro and Hypack ENC Editor S-57 formats. All features without designation are intended to be retained as charted.

A.7 Bottom Samples

Bottom Samples were acquired in accordance with the Project Instructions or the HSSD.

B. Data Acquisition and Processing

B.1 Equipment and Vessels

Refer to the Data Acquisition and Processing Report (DAPR) for a complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods. Additional

information to supplement sounding and survey data, and any deviations from the DAPR are discussed in the following sections.

B.1.1 Vessels

The following vessels were used for data acquisition during this survey:

Hull ID	<i>S3002</i>
LOA	30 feet
Draft	3.5 feet

Table 4: Vessels Used



Figure 3: Survey Vessel S3002

S3002 is a 30 ft aluminum hulled SeaArk Commander, powered by twin 200hp outboard engines.

B.1.2 Equipment

The following major systems were used for data acquisition during this survey:

Manufacturer	Model	Type
Kongsberg	EM3002	MBES
Applanix	POS/MV	Vessel Attitude System
Applanix	POS/MV	Positioning System
Trimble	DSM212L	Positioning System
Seabird	Seacat 19+	Sound Speed System
Odom	Digibar Pro	Sound Speed System

Table 5: Major Systems Used

Positioning, attitude, and heading, are measured by the Applanix POS/MV inertial navigation system. The Trimble DSM212L receives Coast Guard beacon RTCM messages, and transmits them to the POS/MV via RS232 connection. The Seabird Seacat 19+ is typically used to collect SVP casts, while the Odom Digibar Pro measures surface sound speed in real time, transmitting the values to the EM3002 for beam forming via RS232 connection.

B.2 Quality Control

B.2.1 Crosslines

Visual crossline comparison was performed in Caris subset editor. In general, the agreement between crosslines and mainscheme is excellent, with no discernible difference between crosslines and mainscheme.

B.2.2 Uncertainty

Hull ID	Measured - CTD	Measured - MVP	Surface
S3002	2meters/second		0.5meters/second

Table 6: Survey Specific Sound Speed TPU Values

Tides and tidal uncertainty were applied using TCARI, therefore no tidal uncertainty was input when calculating TPU in Caris.

B.2.3 Junctions

The assigned survey junction of H11988 does not coincide with H12082.

There are no contemporary surveys that junction with this survey.

B.2.4 Sonar QC Checks

Sonar system quality control checks were conducted as detailed in the quality control section of the DAPR.

B.2.5 Equipment Effectiveness

B.2.5.1 None Exist

There were no conditions or deficiencies that affected equipment operational effectiveness.

B.2.6 Factors Affecting Soundings

B.2.6.1 Crab Pots Appearing in Surface

Several areas, particularly south of the Jamestown Verazzano Bridge as depicted in Figure 4, showed significant amount of crab pots appearing in the final BASE surfaces. Although these were visible both in the field and in the final surface, extra scrutiny was given to any shoal soundings to ensure there was not inappropriate representation of final charted depths. Although all efforts were made to discern crab pots from the ocean bottom, there were several areas where the hydrographer retained field acquired soundings when any doubt remained. The hydrographer recommends updating all charted depths and contours per the digital data.

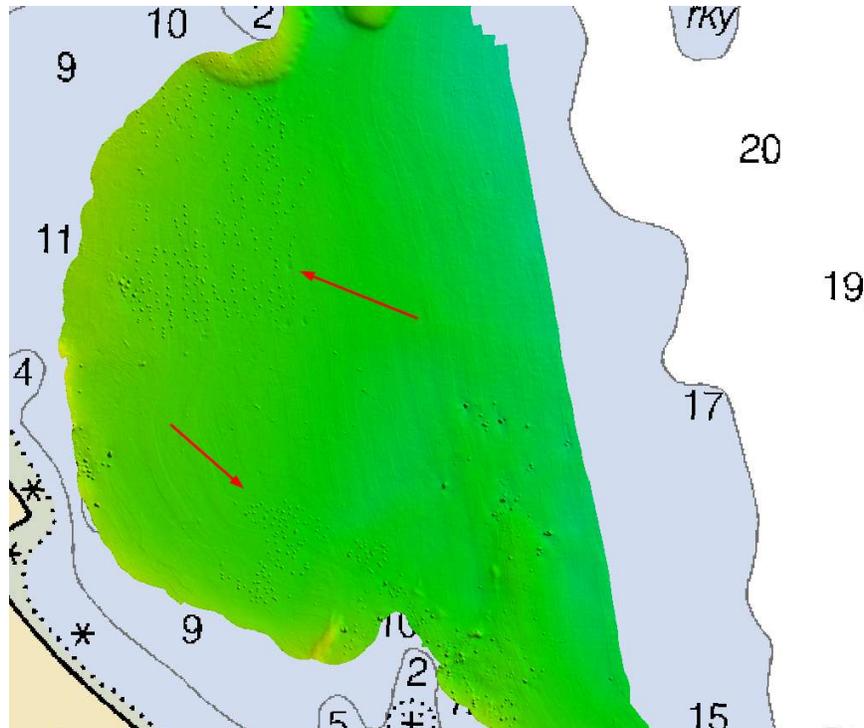


Figure 4: Crab Pot Areas visible in Final Base Surface, 1m Resolution Exaggerated 7x

In areas of smooth seafloor with numerous crab pots (as described above) some sounding selections for the chart update product may falsely represent the top of a crab pot rather than the seafloor. Rocky areas with crab pots are delineated as rocky seabed areas in the chart update product.

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: Sound Speed Cast Frequency: SVP casts were taken, at a minimum, every four hours, or when there was an indication that the sound velocity had changed, such as a change in the surface sound speed, or if smiling/frowning of the data was observed.

Due to the system configuration of S3002, it is not possible to post process SVP corrections in Caris HIPS. All SVP correction was performed in SIS in real time. If a sound speed variation was suspected, the appropriate cast would be manually selected in SIS before logging data.

B.2.8 Coverage Equipment and Methods

All Equipment and survey methods were used as detailed in the DAPR.

B.3 Echo Sounding Corrections

B.3.1 Corrections to Echo Soundings

All data reduction procedures conform to those detailed in the DAPR.

B.3.2 Calibrations

All sounding systems were calibrated as detailed in the DAPR.

B.4 Backscatter

Backscatter was not collected for this survey.

B.5 Data Processing

B.5.1 Software Updates

The following software updates occurred after the submission of the DAPR:

Manufacturer	Name	Version	Service Pack	Hotfix	Installation Date	Use
Caris	HIPS/SIPS	7	1	2	07/18/2011	Processing
Caris	HIPS/SIPS	7	1	3	01/11/2012	Processing

Table 7: Software Updates

The following Feature Object Catalog was used: NOAA Extended Attributes

All attribution was completed using the 2012 FPM and HSSD specifications. Due to this a separate feature report is not necessary. All attributions are contained within H12082_FFF.000 and the associated H12082.pss pydro file.

During office processing a file, H12082_FFF_Office.hob, was generated using the PSS and .000 files submitted by the field, which included all features, properly attributed, needed for office review and for creation of the chart update product. During office processing a new 1 meter finalized Surface was generated. This Surface was used for evaluation and verification of depths and features, creation of rock and rocky submerged features, and compilation of the chart update product.

B.5.2 Surfaces

The following CARIS surfaces were submitted to the Processing Branch:

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
H12082_1m	CUBE	1 meters	0 meters - 20 meters	NOAA_1m	Complete MBES
H12082_1m_Final_0_20	CUBE	1 meters	0 meters - 20 meters	NOAA_1m	Complete MBES
H12082_SSS_100	SSS Mosaic	1 meters	0 meters - 20 meters	N/A	100% SSS
H12082_SSS_200	SSS Mosaic	1 meters	0 meters - 20 meters	N/A	200% SSS

Table 8: CARIS Surfaces

Cube surface resolutions and depth ranges were selected in accordance with Complete Coverage requirements set forth in HSSD 5.2.2.2

C. Vertical and Horizontal Control

Additional information discussing the vertical or horizontal control for this survey can be found in the accompanying HVCR.

C.1 Vertical Control

The vertical datum for this project is Mean Lower Low Water.

Standard Vertical Control Methods Used:

TCARI

The following National Water Level Observation Network (NWLON) stations served as datum control for this survey:

Station Name	Station ID
Newport, RI	8452660
Quonset Point, RI	8454049

Table 9: NWLON Tide Stations

There was no Water Level file associated with this survey.

File Name	Status
B301NRT52011.tc	Final

Table 10: Tide Correctors (.zdf or .tc)

A request for final approved tides was sent to N/OPS1 on 08/25/2011. The final tide note was received on 09/09/2011.

The preliminary TCARI grid B301NRT52011.tc was accepted as the final grid. An initial tide request was sent through on 08/25/2011 and a final tide note received on 09/09/2011 using the survey number H11930. Due to a clerical error, the initial request was sent through using the incorrect sheet number, H11930. This was rectified with a subsequent query to COOPS on 9/27/2011, as documented in the correspondence H12082_H11930_COOPS_Email.pdf located in Appendix IV. A final tide note for the corrected survey sheet name (H12082) was received on 9/29/2011.

C.2 Horizontal Control

The horizontal datum for this project is North American Datum of 1983 (NAD83).

All positioning as part of H12082 were corrected real time using DGPS correctors. POSPAC processing software was unavailable for H12082.

The following DGPS Stations were used for horizontal control:

DGPS Stations
Acushnet, MA Freq 306 kHz

Table 11: USCG DGPS Stations

D. Results and Recommendations

D.1 Chart Comparison

D.1.1 Raster Charts

The following are the largest scale raster charts, which cover the survey area:

Chart	Scale	Edition	Edition Date	LNM Date	NM Date
13223	1:20000	42	02/2012	04/24/2012	05/05/2012

Table 12: Largest Scale Raster Charts

13223

H12082 has good general agreement with chart 13223. Inshore there are several areas of isolated soundings that will require the adjustment of the depth contours. The common area of the survey north of Fox Island is generally deeper than charted depths inside the 18 foot contour in many areas. Hydrographer recommends updating charted depths and contours per the digital data.

The same chart and edition, but NTM 08/11/2012, was used during office processing. ENC US5RI22M, Edition 20, was also used. A thorough chart comparison performed during survey acceptance review revealed additional notable discrepancies between the chart and survey depths, contours and features. Compilation of the chart update product is based on the H12082 digital data.

D.1.2 AWOIS Items

No AWOIS items were investigated as part of H12082.

During field operations, two charted rock features, Dick Rock (41°32'12.9"N Lat., 71°23'19.5"W Long.) and Sinker Rock (41°32'28.6"N Lat., 71°23'20.3"W Long.), were not found at the center of their charted positions using 100% multibeam. The two features were retained as charted in the chart update product due to insufficient hydrographic coverage inshore of the features. It is recommended that the two rocks be included in the AWOIS database for further investigation. In addition, during office processing a feature was discovered just outside the survey limits in the 100% side scan sonar data. No multibeam coverage was available to provide a least depth and associated geographic position. The feature is included in the chart update product, at 41°33'28.81"N Lat., 71°25'14.58"W Long., as an obstruction, position approximate. It is recommended that the feature be added to the AWOIS database. See Appendix 2 - Survey Feature Reports.

D.1.3 Charted Features

No significant charted features exist that are not addressed in other areas of this report.

D.1.4 Uncharted Features

No uncharted features exist that are not addressed in other areas of this report.

D.1.5 Dangers to Navigation

The following DTON reports were submitted to the processing branch:

DTON Report Name	Date Submitted
H12082 DTon Report	2011-07-25

Table 13: DTON Reports

Danger to Navigation Reports are included in Appendix I of this report.

DTON #1.2, a critical ATON correction for Wickford Harbor light 1, was reported by NRT 5 to the Nautical Data Branch on 7/25/2011. All corrections to this ATON have since been properly applied to the USCG Light List, Volume 1, Atlantic Coast, #19135. The geographic position was updated on the RNCs and ENC, however, some ENC attribution is encoded incorrectly. The HCell Report, which accompanies the chart update product, details proposed corrections which will bring the feature's ENC attribution into alignment with the field's observations and the updated USCG Light List.

D.1.6 Shoal and Hazardous Features

Several shoals exist outside of the reported dangers to navigation previously reported. Figure 5 depicts the new position of the charted named Old Sergeant Rock. Figure 6 below depicts new rocks in the vicinity of the charted 12 foot rock North of Greene Point. Figure 7 below depicts isolated shoaling south of Fox Island with an offshore 8 foot sounding. Figure 8 below depicts a 3 foot rock surveyed offshore of the 6 foot contour. The hydrographer recommends updating all charted depths and contours per the digital data.

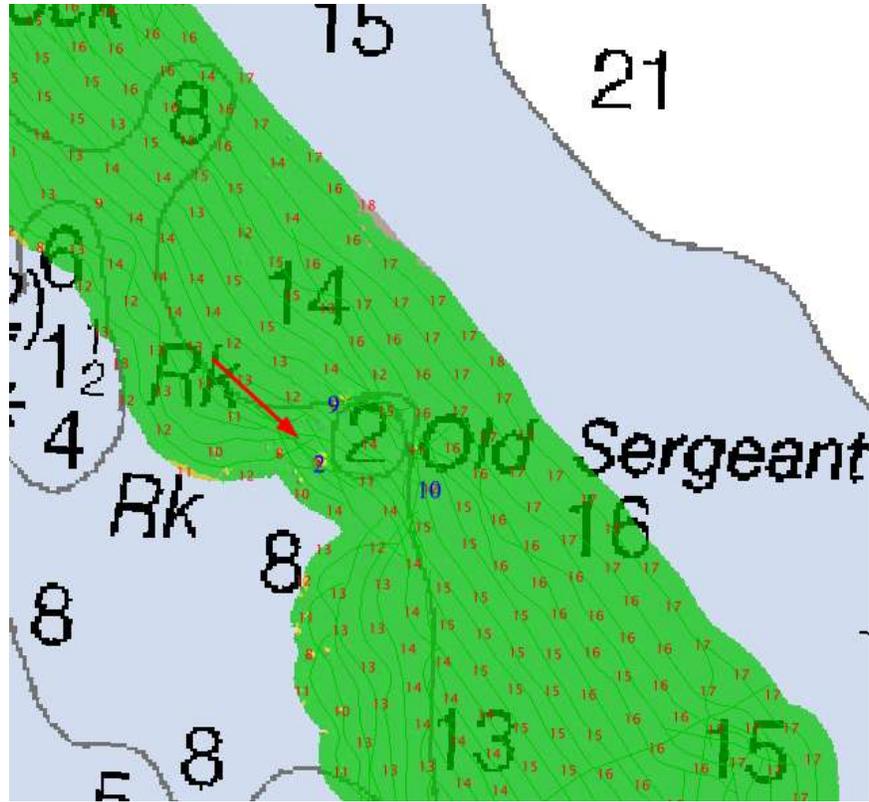


Figure 5: Old Sergeant Rock new position

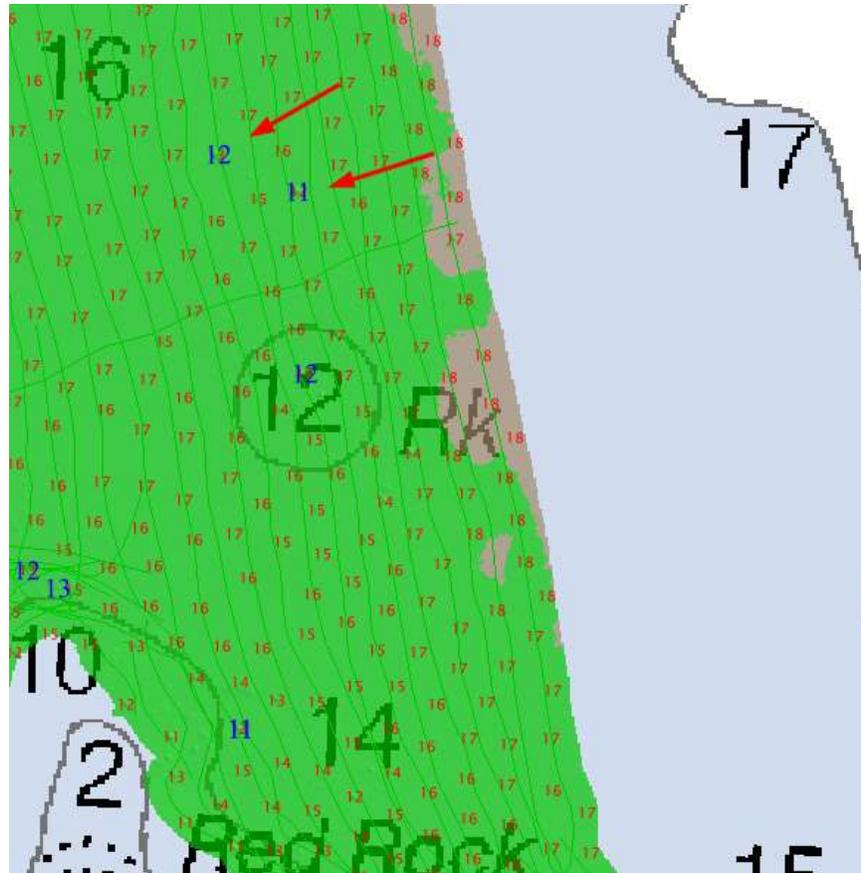


Figure 6: New Rocks North of Greene Pt

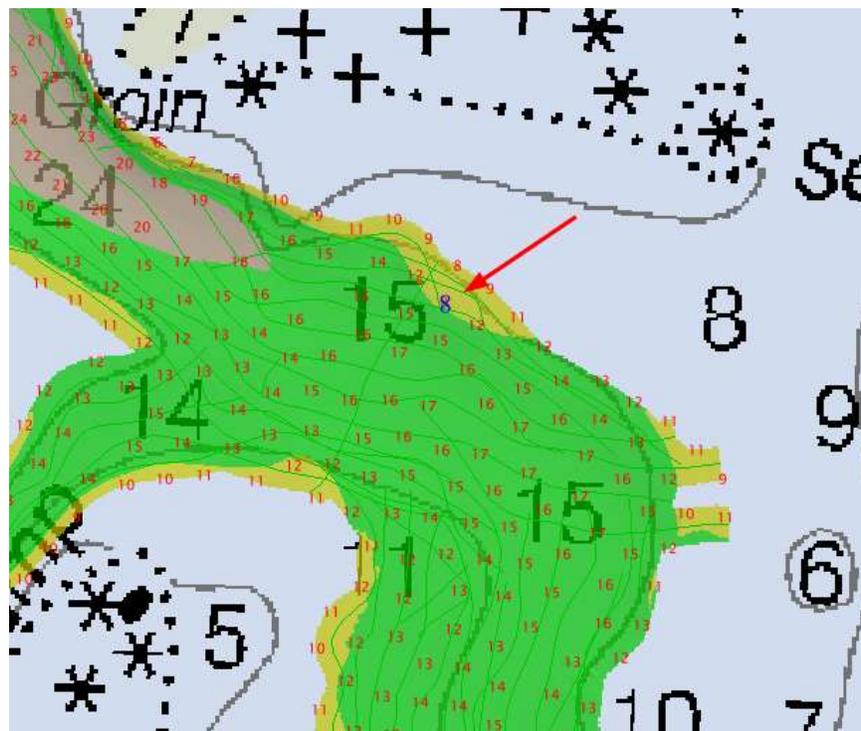


Figure 7: Shoaling South of Fox Island

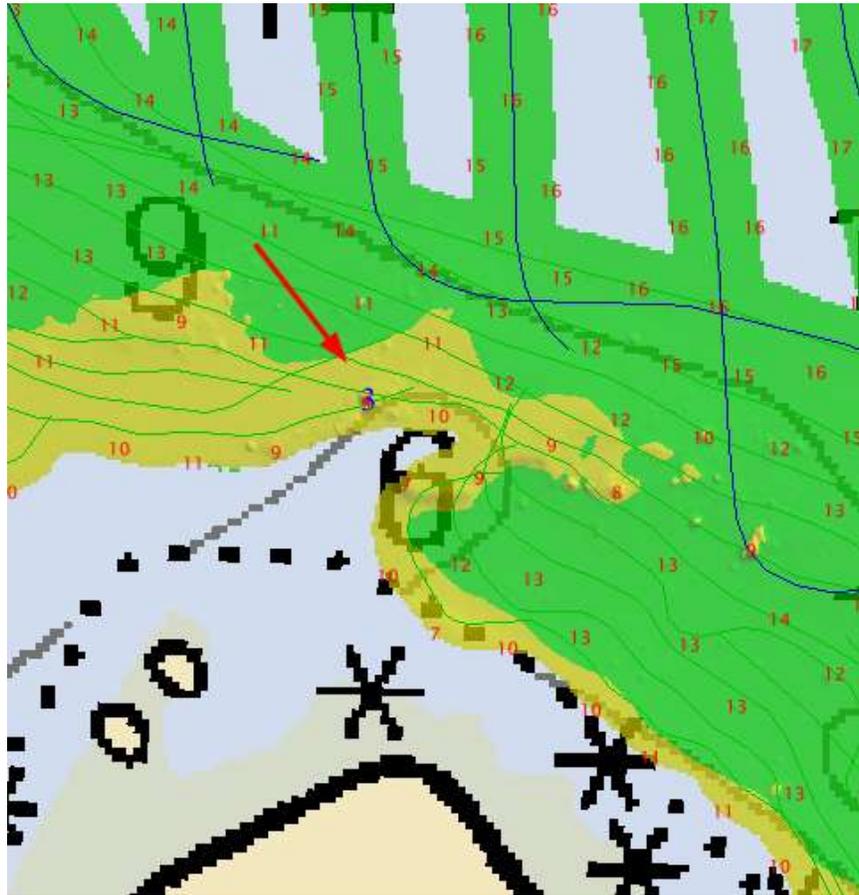


Figure 8: New Rock North of Wild Goose Pt

D.1.7 Channels

No channels exist in the common area of H12082.

D.2 Additional Results

D.2.1 Shoreline

Shoreline investigations were conducted in accordance with the April 2012 revisions of the NOAA HSSD and FPM. All investigated features were given proper attribution and are annotated in the H12082.PSS and the H12082_FFF.000 files.

D.2.2 Prior Surveys

Prior survey comparisons exist for this survey, but were not investigated.

D.2.3 Aids to Navigation

Aids to navigation (ATONs) exist for this survey and were visually verified in the field to be serving their intended purpose.

See comment in section D.1 under DTONS (Dangers to Navigation).

D.2.4 Overhead Features

Overhead features exist for this survey, but were not investigated.

D.2.5 Submarine Features

No submarine features exist in the common area of H12082.

D.2.6 Ferry Routes and Terminals

No ferry routes are charted and none were observed to be operating in the common area of H12082.

D.2.7 Platforms

No platforms exist in the common area of H12082.

D.2.8 Significant Features

No additional significant features aside from those previously mentioned in this report exist for H12082.

D.2 Construction and Dredging

No construction or dredging was observed during acquisition of H12082.

E. Approval Sheet

As Chief of Party, Field operations for this hydrographic survey were conducted under my direct supervision, with frequent personal checks of progress and adequacy. I have reviewed the attached survey data and reports.

All field sheets, this Descriptive Report, and all accompanying records and data are approved. All records are forwarded for final review and processing to the Processing Branch.

The survey data meets or exceeds requirements as set forth in the NOS Hydrographic Surveys and Specifications Deliverables Manual, Field Procedures Manual, Standing and Letter Instructions, and all HSD Technical Directives. These data are adequate to supersede charted data in their common areas. This survey is complete and no additional work is required with the exception of deficiencies noted in the Descriptive Report.

Report Name	Report Date Sent
Data Acquisition and Processing Report	2012-05-03
Coast Pilot Report	2012-04-20

Approver Name	Approver Title	Approval Date	Signature
Matthew Nardi	Chief of Party	05/03/2012	 Matthew Nardi I am the author of this document 2012.05.02 19:20:40 -04'00'
Matthew Nardi	Sheet Manager	05/03/2012	

F. Table of Acronyms

Acronym	Definition
AFF	Assigned Features File
AHB	Atlantic Hydrographic Branch
AST	Assistant Survey Technician
ATON	Aid to Navigation
AWOIS	Automated Wreck and Obstruction Information System
BAG	Bathymetric Attributed Grid
BASE	Bathymetry Associated with Statistical Error
CO	Commanding Officer
CO-OPS	Center for Operational Products and Services
CORS	Continually Operating Reference Station
CTD	Conductivity Temperature Depth
CEF	Chart Evaluation File
CSF	Composite Source File
CST	Chief Survey Technician
CUBE	Combined Uncertainty and Bathymetry Estimator
DAPR	Data Acquisition and Processing Report
DGPS	Differential Global Positioning System
DP	Detached Position
DR	Descriptive Report
DTON	Danger to Navigation
ENC	Electronic Navigational Chart
ERS	Ellipsoidal Referenced Survey
ERZT	Ellipsoidally Referenced Zoned Tides
FOO	Field Operations Officer
FPM	Field Procedures Manual
GAMS	GPS Azimuth Measurement Subsystem
GC	Geographic Cell
GPS	Global Positioning System
HIPS	Hydrographic Information Processing System
HSD	Hydrographic Surveys Division
HSSDM	Hydrographic Survey Specifications and Deliverables Manual

Acronym	Definition
HSTP	Hydrographic Systems Technology Programs
HSX	Hypack Hysweep File Format
HTD	Hydrographic Surveys Technical Directive
HVCR	Horizontal and Vertical Control Report
HVF	HIPS Vessel File
IHO	International Hydrographic Organization
IMU	Inertial Motion Unit
ITRF	International Terrestrial Reference Frame
LNM	Local Notice to Mariners
LNM	Linear Nautical Miles
MCD	Marine Chart Division
MHW	Mean High Water
MLLW	Mean Lower Low Water
NAD 83	North American Datum of 1983
NAIP	National Agriculture and Imagery Program
NALL	Navigable Area Limit Line
NM	Notice to Mariners
NMEA	National Marine Electronics Association
NOAA	National Oceanic and Atmospheric Administration
NOS	National Ocean Service
NRT	Navigation Response Team
NSD	Navigation Services Division
OCS	Office of Coast Survey
OMAO	Office of Marine and Aviation Operations (NOAA)
OPS	Operations Branch
MBES	Multibeam Echosounder
NWLON	National Water Level Observation Network
PDBS	Phase Differencing Bathymetric Sonar
PHB	Pacific Hydrographic Branch
POS/MV	Position and Orientation System for Marine Vessels
PPK	Post Processed Kinematic
PPP	Precise Point Positioning
PPS	Pulse per second

Acronym	Definition
PRF	Project Reference File
PS	Physical Scientist
PST	Physical Science Technician
RNC	Raster Navigational Chart
RTK	Real Time Kinematic
SBES	Singlebeam Echosounder
SBET	Smooth Best Estimate and Trajectory
SNM	Square Nautical Miles
SSS	Side Scan Sonar
ST	Survey Technician
SVP	Sound Velocity Profiler
TCARI	Tidal Constituent And Residual Interpolation
TPU	Total Propagated Error
TPU	Topside Processing Unit
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
UTM	Universal Transverse Mercator
XO	Executive Officer
ZDA	Global Positioning System timing message
ZDF	Zone Definition File



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : September 29, 2011

HYDROGRAPHIC BRANCH: Pacific
HYDROGRAPHIC PROJECT: OPR-B301-NRT5-2011
HYDROGRAPHIC SHEET: H12082

LOCALITY: Narragansett Bay and Approaches, RI
TIME PERIOD: June 06 - August 23, 2011

TIDE STATION USED: Newport, RI 845-2660
Lat. 41° 30.3' N Long. 71° 19.6' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.099 meters

TIDE STATION USED: Quonset Point, RI 845-4049
Lat. 41° 35.2' N Long. 71° 24.6' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.174 meters

REMARKS: RECOMMENDED GRID

Please use the TCARI grid "B301NRT52011.tc" as the final grid for project OPR-B301-NRT5-2011, H12082, during the time period between June 06 - August 23, 2011.

Refer to attachments for grid information.

Note 1: Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time on the 1983-2001 National Tidal Datum Epoch (NTDE).

Note 2: Due to inaccurate shoreline around Narragansett Bay, survey tracklines fall outside of the TCARI grid boundaries in some areas. TCARI will extrapolate the tide corrector to cover these soundings.

Gerald Hovis

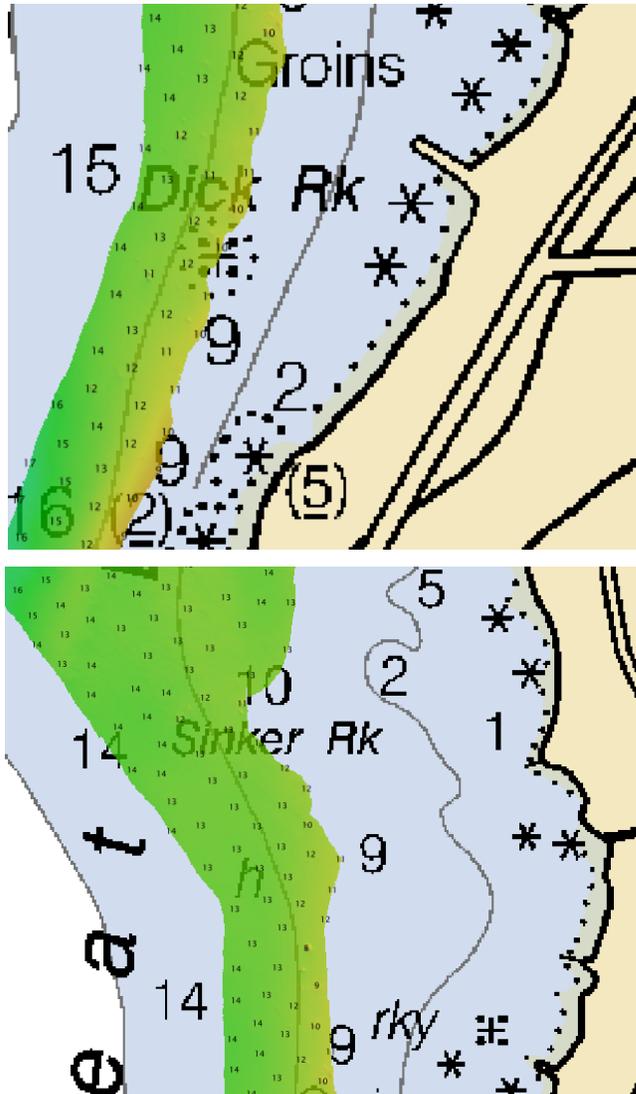
Digitally signed by Gerald Hovis
DN: cn=Gerald Hovis, o=Center for Operational
Oceanographic Products and Services,
ou=NOAA/NOS/CO-OPS/OD/PSB,
email=gerald.hovis@noaa.gov, c=US
Date: 2011.09.30 15:59:03 -04'00'

CHIEF, PRODUCTS AND SERVICES BRANCH



Features Recommended for Further AWOIS Investigation

It is recommended that two charted rock features be included in the AWOIS database for further investigation. Dick Rock (41°32'12.9"N Lat., 71°23'19.5"W Long.) and Sinker Rock (41°32'28.6"N Lat., 71°23'20.3"W Long.) were disproved in their charted positions using 100% multibeam. Both features are on the edge of the hydrography, and further investigation inshore of the features was not performed. Because these are named features, located on the edge of the hydrography, and their proximity is far seaward of other charted rocks, the two rocks were retained as charted in the HCell.



It is recommended that an obstruction discovered in the 100% side scan sonar (SSS) data during office processing be added to the AWOIS database. While a definitive feature is discernible in the SSS trace, no multibeam coverage is available to provide a least depth and associated geographic position. The feature will be charted as an OBSTRN with PA (Position Approximate) at 41°33'28.81"N Lat., 71°25'14.58"W Long.

H11930 DToN Report

Registry Number: H11930
State: Rhode Island
Locality: Narragansett Bay and Approaches
Sub-locality: East Passage
Project Number: OPR-B301-NRT5-10
Survey Dates: 06/06/2011 - 07/07/2011

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
13223	41st	06/01/2009	1:20,000 (13223_1)	USCG LNM: 3/8/2011 (3/15/2011) CHS NTM: None (8/27/2010) NGA NTM: 11/1/2008 (3/26/2011)
13221	57th	02/01/2008	1:40,000 (13221_2) 1:40,000 (13221_1)	[L]NTM: ?
13218	40th	02/01/2008	1:80,000 (13218_1)	[L]NTM: ?
12300	47th	05/01/2008	1:400,000 (12300_1)	[L]NTM: ?
13006	34th	05/01/2007	1:675,000 (13006_1)	[L]NTM: ?
5161	13th	10/01/2003	1:1,058,400 (5161_1)	[L]NTM: ?
13003	49th	04/01/2007	1:1,200,000 (13003_1)	[L]NTM: ?

* Correction(s) - source: last correction applied (last correction reviewed--"cleared date")

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Rock	2.78 m	41° 34' 37.5" N	071° 25' 12.6" W	---
1.2	GP	[None]	41° 34' 21.5" N	071° 26' 12.7" W	---

1 - Danger To Navigation

1.1) Profile/Beam - 492/5 from h11932 / nrt5_s3002_em3002_mbes / 2011-157 / 001_1856

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 34' 37.5" N, 071° 25' 12.6" W
Least Depth: 2.78 m (= 9.13 ft = 1.522 fm = 1 fm 3.13 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** ± 1.967 m ; **TVU (TPEv)** ± 0.252 m
Timestamp: 2011-157.18:56:22.159 (06/06/2011)
Survey Line: h11932 / nrt5_s3002_em3002_mbes / 2011-157 / 001_1856
Profile/Beam: 492/5
Charts Affected: 13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

[None]

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11932/nrt5_s3002_em3002_mbes/2011-157/001_1856	492/5	0.00	000.0	Primary

Hydrographer Recommendations

Hydrographer recommends charting a new underwater rock. 200% side scan was acquired for feature detection and feature was covered with 100% Multibeam.

Cartographically-Rounded Depth (Affected Charts):

9ft (13223_1, 13221_1, 13221_2, 13218_1)

1 ½fm (12300_1, 13006_1, 13003_1)

2.8m (5161_1)

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)
Attributes: QUASOU - 1:depth known
 SORDAT - 20110615

SORIND - US,US,NSURF,H11930

TECSOU - 3:found by multi-beam

VALSOU - 2.784 m

WATLEV - 3:always under water/submerged

Feature Images

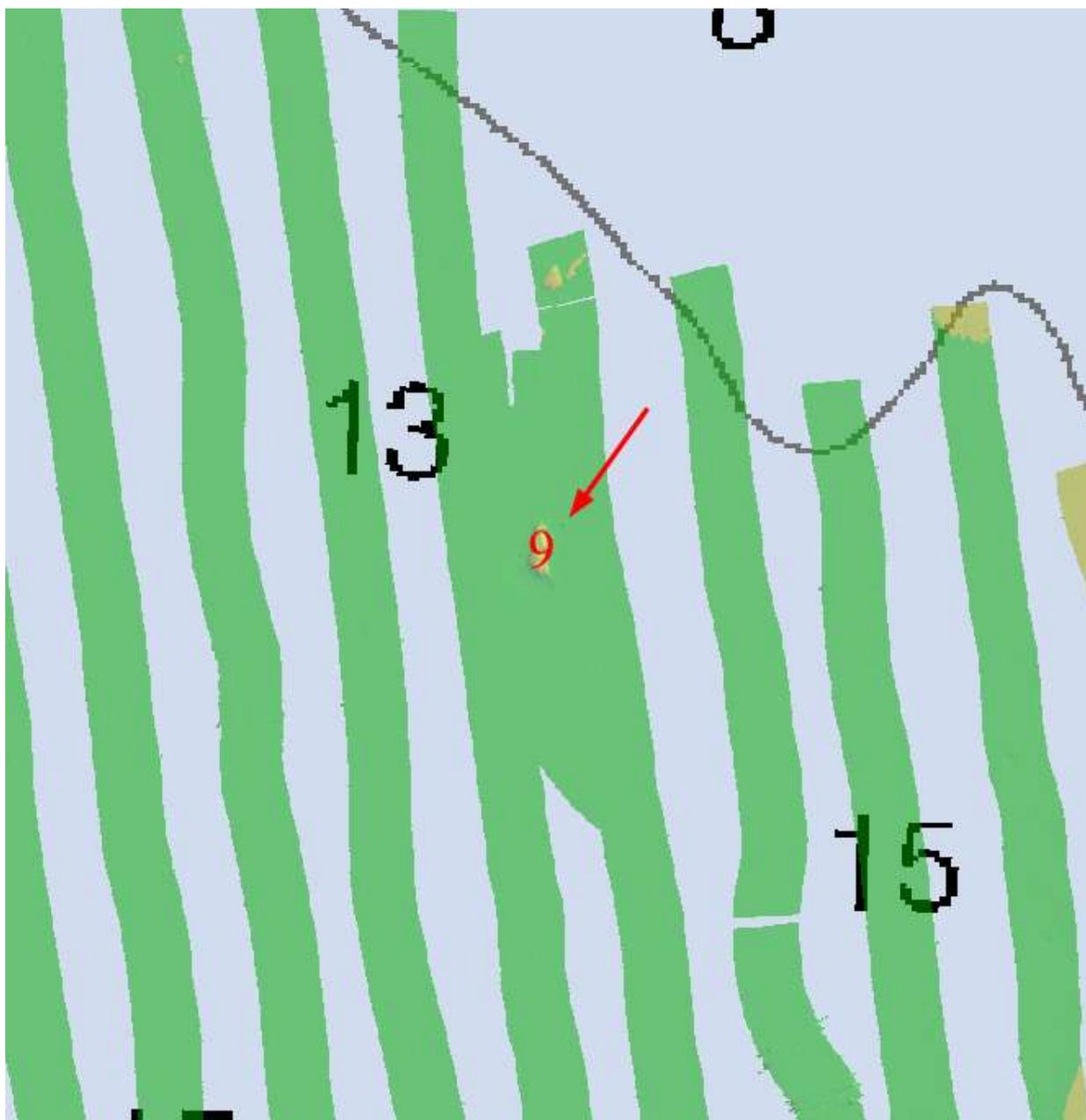


Figure 1.1.1

1.2) GP No. - 1 from ChartGPs - Digitized

DANGER TO NAVIGATION

Survey Summary

Survey Position: 41° 34' 21.5" N, 071° 26' 12.7" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-188.14:36:58 (07/07/2011)
GP Dataset: ChartGPs - Digitized
GP No.: 1
Charts Affected: 13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Beacon was observed in the field on the islet south of charted position. 100% multibeam coverage was acquired in the area of the charted 40ft light. The light characteristics, height, and luminosity of the light were not able to be ascertained in the field but it is unlikely to be 40ft high. Included is a graphic of an overlaid USGS Orthophoto with the shadow of the light visible on the islet.

Feature Correlation

Address	Feature	Range	Azimuth	Status
ChartGPs - Digitized	1	0.00	000.0	Primary
Project Instruction Files/ENC/US5RI22M/US5RI22M.000	022610FE631110BB	90.51	179.7	Secondary (grouped)

Hydrographer Recommendations

The hydrographer recommends moving the light to the charted islet.

S-57 Data

Geo object 1: Beacon, lateral (BCNLAT)
Attributes: BCNSHP - 4:lattice beacon
 CATLAM - 1:port-hand lateral mark
 COLOUR - 2:black
 INFORM - Square
 OBJNAM - Wickford Harbor Light 1

SORDAT - 20110606

SORIND - US, US, SURVY, H11930

STATUS - 1:permanent

Feature Images

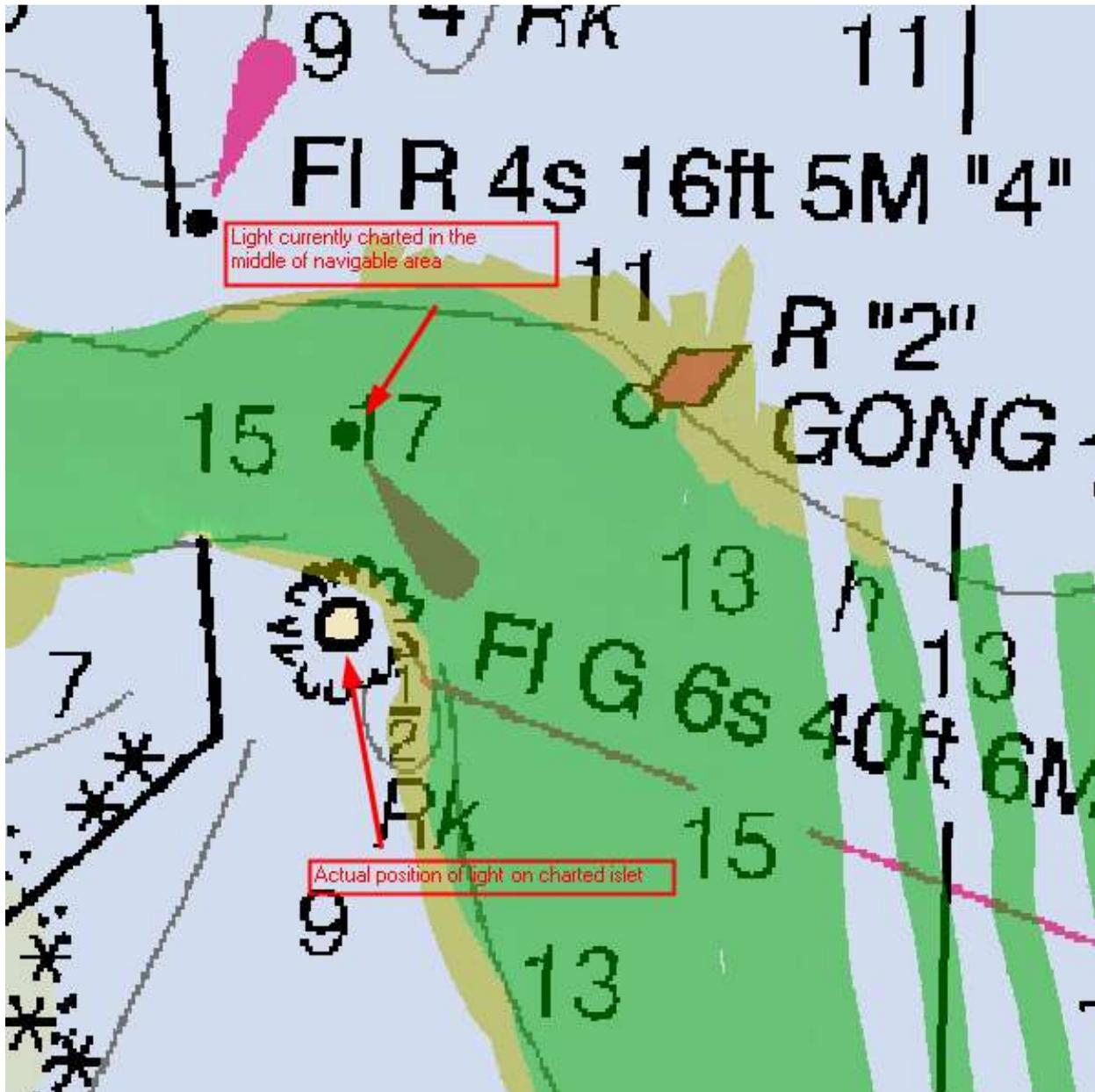


Figure 1.2.1



Figure 1.2.2

APPROVAL PAGE

H12082

Data meet or exceed current specifications as certified by the OCS survey acceptance review process. Descriptive Report and survey data, except where noted, are adequate to supersede prior surveys and nautical charts in the common area.

The following products will be sent to NGDC for archive

- H12082_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12082_GeoImage.pdf

The survey evaluation and verification has been conducted according current OCS Specifications.

Approved: _____

Peter Holmberg

Cartographic Team Lead, Pacific Hydrographic Branch

The survey has been approved for dissemination and usage of updating NOAA's suite of nautical charts.

Approved: _____

LCDR David Zezula, NOAA

Chief, Pacific Hydrographic Branch