H12324

NOAA Form 76-35A

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

DESCRIPTIVE REPORT

Type of Survey: Navigable Area

Registry Number: H12324

LOCALITY

State: Rhode Island

General Locality: Narragansett Bay

Sub-locality: Approaches to the East and West Passage

2011

CHIEF OF PARTY
LTJG Matthew Nardi

LIBRARY & ARCHIVES

Date:

NOAA FORM 77-28 (11-72)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTRY NUMBER:
HYDROGRAPHIC TITLE SHEET		**H12324**

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:	**Approaches to the East and West Passage**
Scale:	**10000**
Dates of Survey:	**06/27/2011 to 10/11/2011**
Instructions Dated:	**04/11/2011**
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:	
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 surveys to update National Ocean Service (NOS)nautical charts. All separates are filed with the hydrographic data. Revisions and end notes in red 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. All pertinent records for this survey, including the Descriptive Report, are archived at the National Geophysical Data Center (NGDC) and can be retrieved via http://www.ngdc.noaa.gov/.

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Descriptive Report to Accompany Survey H12324

Project: OPR-B301-NRT5-11

Locality: Narragansett Bay

Sublocality: Approaches to the East and West Passage

Scale: 1:10000

June 2011 - October 2011

Navigation Response Team 5

Chief of Party: LTJG Matthew Nardi

A. Area Surveyed

This hydrographic survey was conducted in accordance with Hydrographic Survey Project Instructions for project OPR-B301-NRT5-10, H12324, Newport, Rhode Island and the NOAA 2012 HSSD. The original instructions are dated April 11, 2011. This Descriptive Report pertains to an area of 8.31 square nautical miles, around Newport, Rhode Island from Boston Neck in the west to Lands End in the east and Castle Hill in the north. The assigned registry number for this sheet is H12324, as prescribed in the Project Instructions.

A.1 Survey Limits

Data was acquired within the following survey limits:

Northeast Limit	Southwest Limit
41.47 N 71.43 W	41.4 N 71.3 W

Table 1: Survey Limits

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

A.2 Survey Purpose

The purposes of the CY 2011 operations in this area were to provide contemporary surveys to update National Oceanic and Atmospheric Administration (NOAA) nautical charts.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

A.4 Survey Coverage

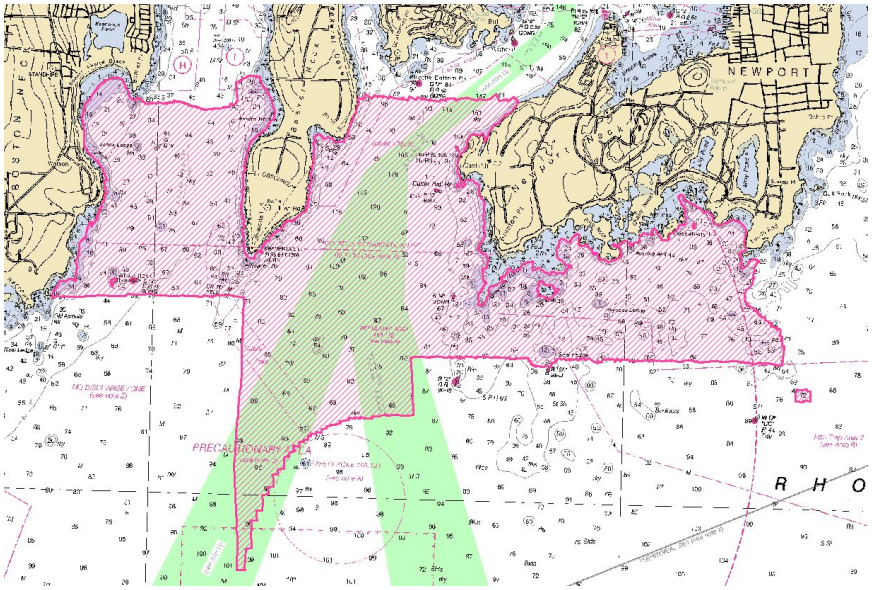


Figure 1: Overview of survey H12324

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	*S3002*	*Total*
LNM	**SBES Mainscheme**	0	0
	MBES Mainscheme	430.04	430.04
	Lidar Mainscheme	0	0
	SSS Mainscheme	0	0
	SBES/MBES Combo Mainscheme	0	0
	SBES/SSS Combo Mainscheme	0	0
	MBES/SSS Combo Mainscheme	0	0
	SBES/MBES Combo Crosslines	21.25	21.25
	Lidar Crosslines	0	0
Number of Bottom Samples			6
Number of DPs			0
Number of Items Items Investigated by Dive Ops			0
Total Number of SNM			8.31

Table 2: Hydrographic Survey Statistics

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

Survey Dates
06/27/2011
06/28/2011
06/29/2011
06/30/2011
07/01/2011
07/05/2011
07/13/2011
07/14/2011
07/18/2011
07/20/2011
07/25/2011
07/28/2011
08/02/2011
09/12/2011
09/13/2011
09/21/2011
09/26/2011
10/03/2011
10/11/2011

Table 3: Dates of Hydrography

A.6 Shoreline

Shoreline was investigated in accordance with the Project Instructions and the HSSD.

A.7 Bottom Samples

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

Six bottom samples from the survey were recommended for charting and sixteen bottom samples were recommended to be retained from the ENC. All the bottom types are included in the chart update product.

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	***S3002***
LOA	30 feet
Draft	3.5 feet

Table 4: Vessels Used

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 320 Version 4	Vessel Attitude System and Positioning System
Trimble	DSM212L DGPS Receiver	Positioning System
Seabird	SBE19+ CTD Profiler	Sound Speed System
Odom	Digibar Pro	Sound Speed System

Table 5: Major Systems Used

B.2 Quality Control

B.2.1 Crosslines

For survey H12324 21.25 nautical miles of crosslines (4.94% of mainscheme lines) were acquired. Agreement between the crosslines and mainscheme was very good. A 4 m resolution difference surface was used to quantitatively compare the crosslines to the mainscheme bathymetry. The average difference was -0.028 m with a standard deviation of 0.137. The maximum and minimum values are 4.175 m and 3.934 m respectively. All high value differences occur in rocky or steeply sloped areas. For a list of all crosslines acquired for this project, please refer to H12324\Descriptive_Report\Separates\I Acquisition_&_Processing_Logs\H12324_Detailed_Line_Query.xlsx located in the separates section of the DR.

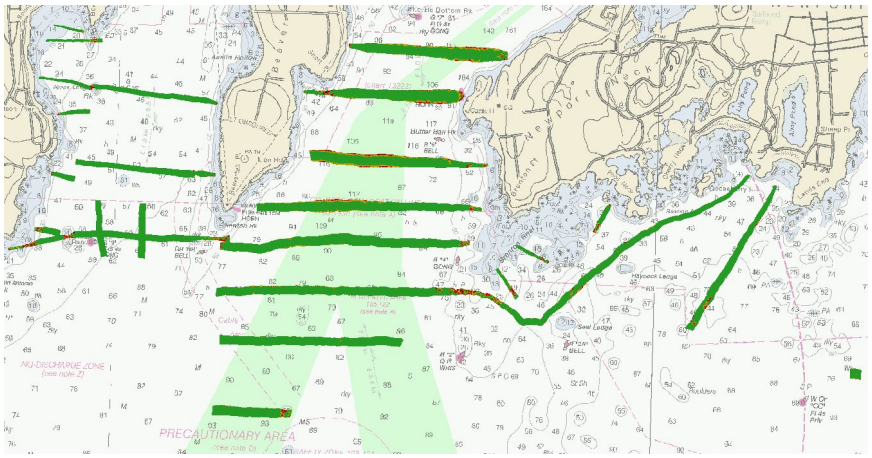


Figure 2: Crosslines and Mainscheme Difference Surface: Green shows areas with difference <0.30 m (~2 sigma), yellow 0.30 to 0.50 and red >0.50.

B.2.2 Uncertainty

Hull ID	Measured - CTD	Measured - MVP	Surface
S3002	2.00 meters/second		0.500 meters/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 following junctions were made with this survey:

Registry Number	Scale	Year	Field Unit	Relative Location
H11930	1:10000	2011	Navigation Response Team 5	N

Table 7: Junctioning Surveys

H11930

Survey H12324 junctions with contemporary survey H11930 (Sheet 2 of the same project). Agreement between H12324 and H11930 is very good. Based on a 1 m resolution difference surface the average difference is .011 m with a standard deviation of 0.142. The range of values is -1.845 m to 1.662 m with the highest values occurring in depths greater than 40 m. The area of overlap between the sheets was reviewed in CARIS Subset Editor for consistency and data were found to be in agreement within the total allowable vertical and horizontal uncertainty in their common areas.

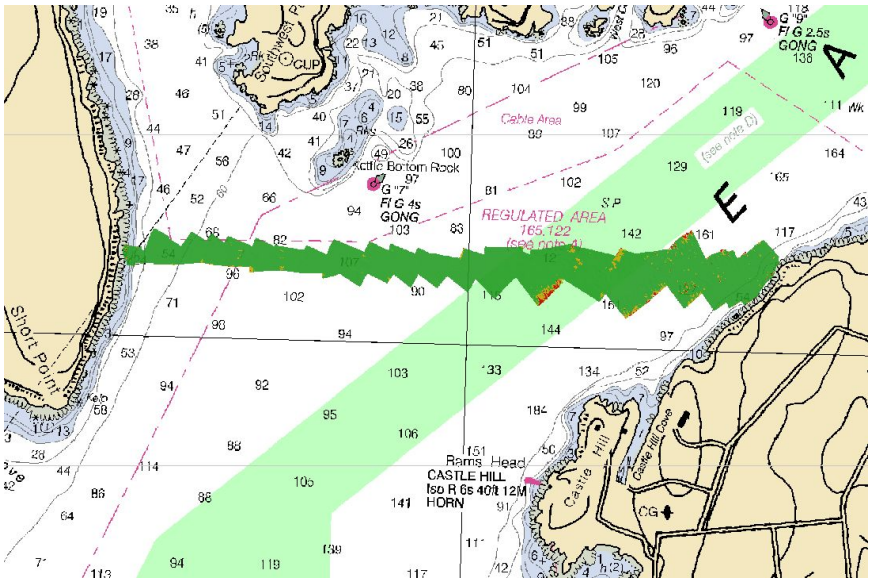


Figure 3: Junction with H11930: Green shows areas with difference <0.30 m (~2 sigma), yellow 0.30 to 0.50 and red >0.50.

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.2.5.1None Exist

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

B.2.6 Factors Affecting Soundings

B.2.6.1 None Exist

There were no other factors that affected corrections to soundings.

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: SVP casts were taken every 4 hours at a minimum or whenever there was an indication that the sound velocity profile had changed such as changes in surface sound velocity or frowning/ smiling in the multibeam display.

Due to the MBES system configuration, it is not possible to post-process SVP corrections in Caris HIPS. All SVP corrections were performed in SIS in real time. SIS's handling of real time SVP correction is equivalent to post processing in Caris using the "previous in time" method.

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.3.3 TrueHeave

TrueHeave was not able to be applied during post-processing of 15 survey lines on two days. DN194 has 2 lines with no TrueHeave and DN264 has 13 lines with no TrueHeave. Refer to the supplemental document in Separates\I Acquisition_&_Processing_Logs\DN194 & 264 True Heave Issues.txt for listing of the lines and Caris error messages. The lines were visually compared to adjacent lines and no heave artifacts or other vertical discrepancies were noted.

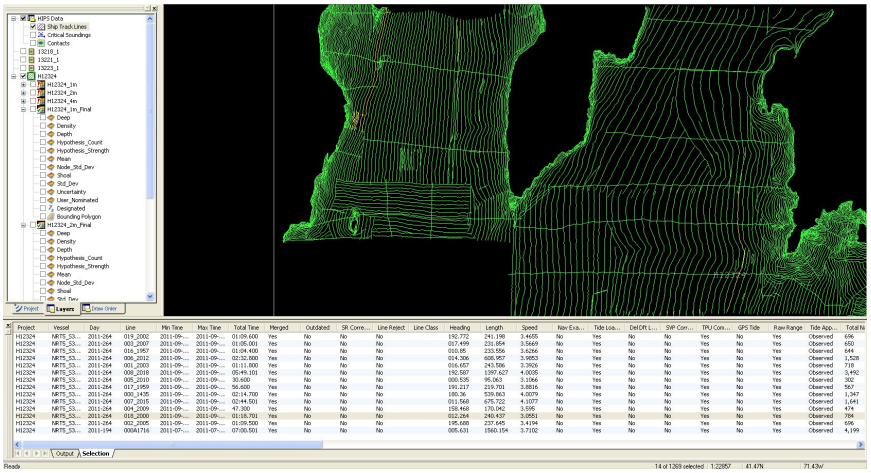


Figure 4: Lines highlighted in yellow do not have TrueHeave applied.

The data is adequate for charting despite not having true heave applied to the lines noted.

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	0	2	07/15/2011	Processing
Caris	HIPS/SIPS	7.1	0	3	10/04/2011	Processing

Table 8: Software Updates

The following Feature Object Catalog was used:

B.5.2 Surfaces

The following CARIS surfaces were submitted to the Processing Branch:

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
H12324_1m	CUBE	1 meters	-	NOAA_1m	Complete MBES
H12324_2m	CUBE	2 meters	-	NOAA_2m	Complete MBES
H12324_4m	CUBE	4 meters	-	NOAA_4m	Complete MBES
H12324_1m_Final	CUBE	1 meters	0 meters - 20 meters	NOAA_1m	Complete MBES
H12324_2m_Final	CUBE	2 meters	18 meters - 40 meters	NOAA_2m	Complete MBES
H12324_4m_Final	CUBE	4 meters	36 meters - 80 meters	NOAA_4m	Complete MBES
H12324_4m_FinalCombined	CUBE	4 meters	0 meters - 80 meters	N/A	Complete MBES

Table 9: CARIS Surfaces

The survey area is addressed by fieldsheet H12324, which covers the entire survey area. CUBE surfaces were created for this project at 1, 2, and 4 meter resolutions. The finalized surface depth ranges follow the recommended ranges in the HSSDM section 5.2.2.2.

The 4m combined surface, H12324_4m_Combined, created during office processing was used as the basis for compilation.

C. Vertical and Horizontal Control

No HVCR was required for this survey.

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	8454049

Table 10: NWLON Tide Stations

There was no Water Level file associated with this survey.

File Name	Status
B301NRT52011.tc	Final

Table 11: Tide Correctors (.zdf or .tc)

A request for final approved tides was sent to N/OPS1 on 10/18/2011. The final tide note was received on 11/03/2011.

The preliminary TCARI grid B301NRT52011.tc was accepted as the final grid.

The Tide Note dated October 28, 2011 is attached to this report.

C.2 Horizontal Control

The horizontal datum for this project is North American Datum of 1983 (NAD83) UTM Zone 19 North.

The following DGPS Stations were used for horizontal control:

DGPS Stations
Acushnet, MA Frequency 306 kHz

Table 12: 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	41	06/2009	01/31/2012	02/11/2012
13221	1:40000	58	05/2010	01/17/2012	02/04/2012
13218	1:80000	41	10/2009	01/10/2012	01/28/2011

Table 13: Largest Scale Raster Charts

13223

In general H12324 shows the east and west passages to be deeper than charted by 1-4 feet. In rocky areas charted soundings do not agree well with H12324 with no clear trend toward being shallower or deeper.

During office review, differences up to 20 feet were noted with surveyed depths being deeper than charted depths.

13221

H12324 is deeper in general than the soundings charted on 13221 by 0-4 feet.

During office review, differences up to 10 feet were noted with surveyed depths being deeper than charted depths.

13218

H12324 is deeper in general than the soundings charted on 13218 by 0-6 feet.

During office review, differences up to 15 feet were noted, with surveyed depths being deeper than charted depths.

D.1.2 Electronic Navigational Charts

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

ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US5RI20M	1:40000	11	04/19/2011	04/19/2011	NO
US5RI22M	1:20000	19	02/06/2012	02/06/2012	NO
US4MA23M	1:80000	23	12/01/2011	12/01/2011	NO

Table 14: Largest Scale ENCs

US5RI20M

H12324 has very good agreement with ENC US5RI20M.

US5RI22M

H12324 has very good agreement with ENC US5RI22M except for inshore rocky areas.

US4MA23M

H12324 has very good agreement with ENC US4MA23M.

H12324 agrees well with ENC US4MA23M except for inshore rocky areas.

D.1.3 AWOIS Items

Number of AWOIS Items Addressed: 7
Number of AWOIS Items Not Addressed: 1

The Hydrographer's remarks and recommendations on individual AWOIS items can be found in H12324.pss

See attached AWOIS Report.

D.1.4 Charted Features

No charted PA, ED, PD, or Rep features exist for this survey that were not specifically assigned and addressed as AWOIS items.

D.1.5 Uncharted Features

One new wreck was found in the middle of the Western Passage with a least depth of 13.7 m (45 ft). The wreck is approximately 27 m (88.6 ft) long by 10 m (32.8 ft) wide and stands 6 m (19.7 ft) high off the bottom. Further details can be found in H12324.pss and H12324.000

The wreck was recommended for charting and included in the chart update product.

D.1.6 Dangers to Navigation

A total of three Danger to Navigation Reports containing 12 DToNs were submitted for this survey. Danger to Navigation Reports are included in Appendix I of this report.

All DTONs were applied to the chart by MCD. See attached DTON report.

D.1.7 Shoal and Hazardous Features

No shoals or potentially hazardous features exist for this survey.

D.1.8 Channels

All anchorages, precautionary areas, and traffic separation schemes within the survey limits of H12324 were found to be serving their intended purpose.

D.2 Additional Results

D.2.1 Shoreline

A limited shoreline verification was accomplished using the AFF. Due to compatibility issues between Caris, Pydro, and Hypack ENC Editor only new, modified, and deleted features are contained in the

submitted feature file H12324_Features.000. All other features contained in survey H12324 are intended to be retained as charted.

D.2.2 Prior Surveys

No prior survey comparisons exist for this survey.

D.2.3 Aids to Navigation

All AToNs within the survey limits of H12324 were visually verified and found to be serving their intended purpose.

D.2.4 Overhead Features

Overhead features do not exist for this survey.

D.2.5 Submarine Features

One submarine cable area exists in the survey boundaries south and west of Beavertail Point. The cable was not visible in the multibeam data.

D.2.6 Ferry Routes and Terminals

Ferry routes in the vicinity of H12324 are uncharted. All ferries followed prescribed traffic lanes and were not observed creating a navigational issue.

D.2.7 Platforms

No platforms exist for this survey.

D.2.8 Significant Features

No significant features exist for this survey that were not previously documented as part of H12324.000

D.2 Construction and Dredging

There is no construction or dredging present within the survey limits.

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
Coast Pilot Review	2012-04-20
DAPR	2012-05-03

Approver Name	Approver Title	Approval Date	Signature
Matt Andring	Sheet Manager	05/03/2012	Matt Andring I am the author of this document 2012.05.03 11:50:00 -04'00'
LTJG Matthew Nardi	Team Leader	05/03/2012	Matthew Nardi I am approving this document 2012.05.03 11:55:23 -04'00'

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 Staiton
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 Porpagated Error
TPU	Topside Processing Unit
USACE	United States Army Corps of Engineers
USCG	United Stated Coast Guard
UTM	Universal Transverse Mercator
XO	Exectutive Officer
ZDA	Global Positiong System timing message
ZDF	Zone Definition File

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : October 28, 2011

HYDROGRAPHIC BRANCH: Pacific
HYDROGRAPHIC PROJECT: OPR-B301-NRT5-2011
HYDROGRAPHIC SHEET: H12324

LOCALITY: Approaches to the East and West Passage,Narragansett Bay,RI
TIME PERIOD: June 27 - October 11, 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° 24.7' 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, H12324, during the time period between June 27 - October 11, 2011.

Refer to attachments for grid information.

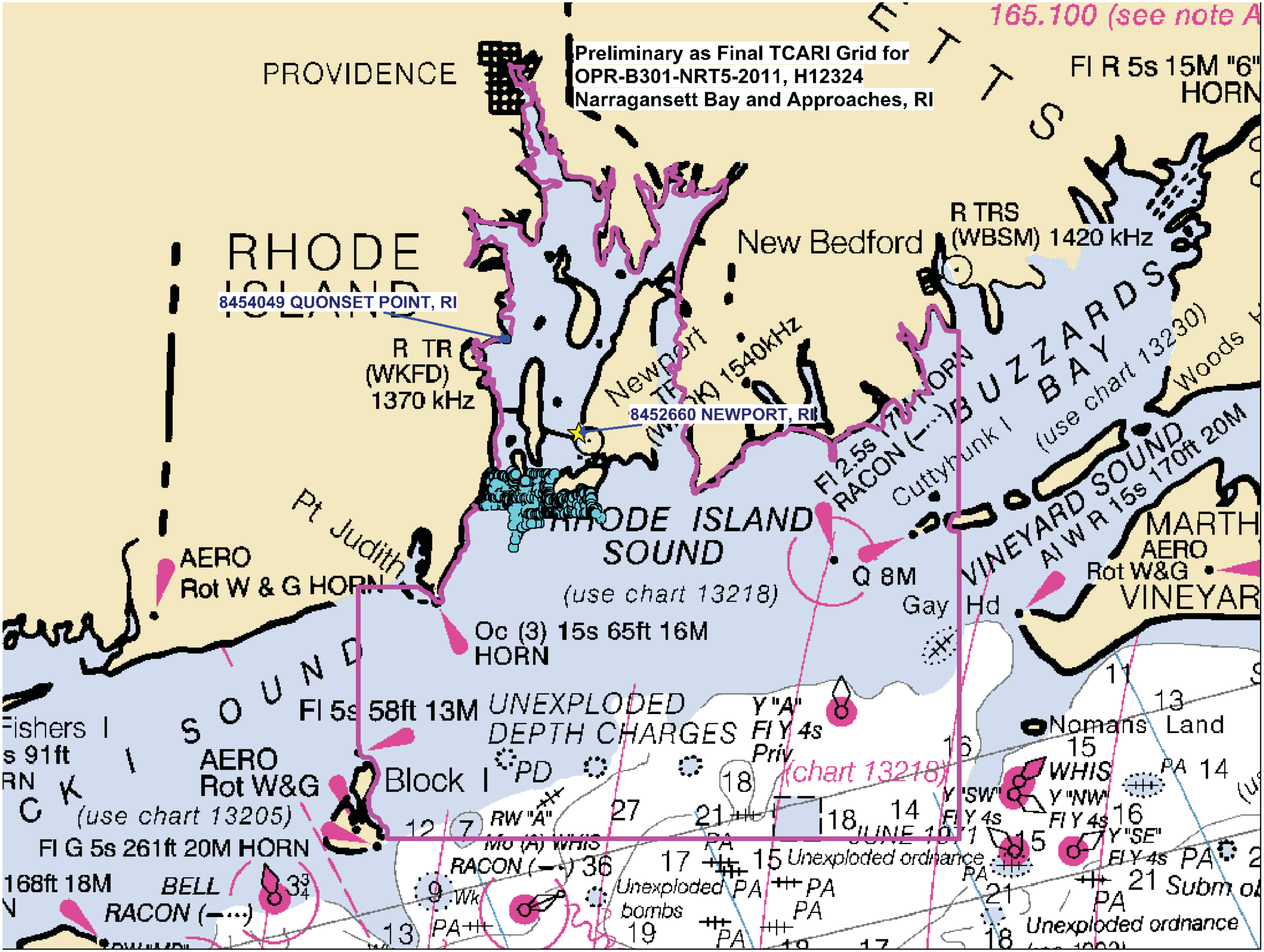
Note 1: Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time on the 1983-2001 National Tidal Datum Epoch (NTDE).

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: 2011.11.02 15:00:49 -04'00'

CHIEF, PRODUCTS AND SERVICES BRANCH


Preliminary as Final TCARI Grid for
OPR-B301-NRT5-2011, H12324
Narragansett Bay and Approaches, RI
PROVIDENCE
RHODE
ISLAND
8454049 QUONSET POINT, RI
8452660 NEWPORT, RI
R TR
(WKFD)
1370 kHz
New Bedford
R TRS
(WBSM) 1420 kHz
165.100 (see note A
Fl R 5s 15M "6"
HORN
Newport
BUZZARDS
BAY
(use chart 13230)
Woods
Cuttyhunk I
Fl 2.5s
RACON
RHODE ISLAND
SOUND
(use chart 13218)
Q 8M
Gay Hd
VINEYARD SOUND
Al W R 15s 170ft 20M
MARTH
AERO
Rot W&G
VINEYAR
Pt Judith
AERO
Rot W & G HORN
Oc (3) 15s 65ft 16M
HORN
Fl 5s 58ft 13M
UNEXPLODED
DEPTH CHARGES
Y "A"
Fl Y 4s
Priv
(chart 13218)
Fishers I
S O U N D
AERO
Rot W&G
Block I
(use chart 13205)
Fl G 5s 261ft 20M HORN
168ft 18M
BELL
RACON (—···)
RW "A"
Mo (A) WHIS
RACON (—·)
Nomans Land
WHIS
Y "SW"
Fl Y 4s
Y "NW"
Fl Y 4s
Y "SE"
Fl Y 4s
JUNE 1971
Unexploded ordnance
Unexploded
bombs
Unexploded ordnance
Subm

AWOIS Report

Registry Number: H12324
State: Rhode Island
Locality: Narragansett Bay
Sub-locality: Approaches to the East and West Passage
Project Number: OPR-B301-NRT5-11
Survey Dates: 09/12/2011 - 09/21/2011

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
13223	42nd	02/01/2012	1:20,000 (13223_1)	USCG LNM: 4/24/2012 (5/22/2012) CHS NTM: None (4/27/2012) NGA NTM: 11/1/2008 (6/2/2012)
13221	59th	03/01/2012	1:40,000 (13221_1)	USCG LNM: 5/22/2012 (5/22/2012) CHS NTM: None (4/27/2012) NGA NTM: 11/1/2008 (6/2/2012)
13221	57th	02/01/2008	1:40,000 (13221_2)	[L]NTM: ?
13218	41st	10/01/2009	1:80,000 (13218_1)	USCG LNM: 1/10/2012 (1/10/2012) CHS NTM: None (11/25/2011) NGA NTM: 11/15/2003 (1/28/2012)
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	Wreck	21.42 m	41° 25' 54.6" N	071° 18' 05.9" W	13316
1.2	AWOIS	[no data]	[no data]	[no data]	---
1.3	AWOIS	[no data]	[no data]	[no data]	---
1.4	AWOIS	[no data]	[no data]	[no data]	---
1.5	AWOIS	[no data]	[no data]	[no data]	---

1.6	AWOIS	[no data]	[no data]	[no data]	---
1.7	AWOIS	[no data]	[no data]	[no data]	---
1.8	Wreck	14.84 m	41° 27' 06.1" N	071° 24' 54.9" W	7463

1 - DR_AWOIS

1.1) 158/14

Primary Feature for AWOIS Item #13316

Search Position:	41° 25' 54.6" N, 071° 18' 05.9" W
Historical Depth:	21.95 m
Search Radius:	0
Search Technique:	S2,MB,ES
Technique Notes:	[None]

History Notes:

H10711/96--OPR-B302-RU; S2, ES, AND DI IDENTIFIED THE WK OF STERN TRAWLER LENGTH 60FT BEAM 20FT SITTING ON THE BOTTOM ON AN EVEN KEEL WITH LEAST DEPTH OF 72FT AT 41/25/54.562N 71/18/05.921W (ENTERED 7/18/05, SME)

Survey Summary

Survey Position:	41° 25' 54.6" N, 071° 18' 05.9" W
Least Depth:	21.42 m (= 70.27 ft = 11.712 fm = 11 fm 4.27 ft)
TPU (±1.96σ):	**THU (TPEh)** ±2.004 m ; **TVU (TPEv)** ±0.398 m
Timestamp:	2011-255.14:13:00.050 (09/12/2011)
Survey Line:	h12324 / nrt5_s3002_em3002_mbes / 2011-255 / 000_1412
Profile/Beam:	158/14
Charts Affected:	13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

This sounding is an updated least depth for AWOIS item #13316 and the correlated wreck from the ENC.

100% multibeam coverage has been obtained over this feature. Final tides have been applied via TCARI.

Feature Correlation

Source	Feature	Range	Azimuth	Status
000_1412	158/14	0.00	000.0	Primary
AWOIS_EXPORT	AWOIS # 13316	2.93	024.9	Secondary

Hydrographer Recommendations

Recommend updating the charted depth of the wreck per sounding data.

Cartographically-Rounded Depth (Affected Charts):

70ft (13223_1, 13221_1, 13221_2, 13218_1)

11fm (12300_1, 13006_1, 13003_1)

21m (5161_1)

Office Notes

Concur. Delete charted wreck and chart 70 ft. wreck at this item's position.

1.2) AWOIS #14572 - UNKNOWN

No Primary Survey Feature for this AWOIS Item

Search Position: 41° 26' 19.2" N, 071° 18' 31.2" W

Historical Depth: [None]

Search Radius: 200

Search Technique: S2,MB,ES

Technique Notes: [None]

History Notes:

LNM 47/97 - 1st CG; Added remains of wreck, non dangerous, PA, 41-26-19.2N, 71-18-31.2W. (Entered 5/6/09 KAK)

Survey Summary

Charts Affected: 13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

100% multibeam coverage has been obtained over the search radius. Final tides have been applied via TCARI.

Feature Correlation

Source	Feature	Range	Azimuth	Status
AWOIS_EXPORT	AWOIS # 14572	0.00	000.0	Primary

Hydrographer Recommendations

Wreck not found in search radius, recommend removing from chart.

Office Notes

Concur. Delete charted wreck.

1.3) AWOIS #14573 - UNKNOWN

No Primary Survey Feature for this AWOIS Item

Search Position: 41° 26' 32.0" N, 071° 18' 52.0" W

Historical Depth: [None]

Search Radius: 200

Search Technique: S2,MB,ES

Technique Notes: [None]

History Notes:

LNM 51/98 - 1st CG; Added subm wreck, non-dangerous, PA, 41°26'32.0"N 071°18'52.0"W. (Entered 5/6/09 KAK)

Survey Summary

Charts Affected: 13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

100% multibeam coverage has been obtained over the search radius. Final tides have been applied via TCARI.

Feature Correlation

Source	Feature	Range	Azimuth	Status
AWOIS_EXPORT	AWOIS # 14573	0.00	000.0	Primary

Hydrographer Recommendations

Wreck not found in search radius, recommend removing from chart.

Office Notes

Concur. Delete charted wreck.

1.4) AWOIS #9422 - ARNIE BOY

No Primary Survey Feature for this AWOIS Item

Search Position:	41° 28' 10.4" N, 071° 25' 08.2" W
Historical Depth:	[None]
Search Radius:	150
Search Technique:	S2,MB,ES
Technique Notes:	[None]

History Notes:

SURVEY REQUIREMENT COMMENTS

SEARCH ONLY REQUIRED IN DEPTHS GREATER THAN 25 FT TO DISPROVE ì

WRECK. ITEM IS ASSIGNED AT THE DISCRETION OF THE COMMANDING ì

OFFICER, DUE TO OPERATIONAL CONSTRAINTS.

HISTORY

NM38/65--THE 38 FT CABIN CRUISER ARNIE BOY HAS BEEN REPORTED ì

SUNK IN 35 FT OF WATER IN APPROX. POS. LAT.41-28-10N, LONG.71-25-10W (NAD ì

27). (ENTERED 4/95 MCR)

CL1434/68--1968 INVESTIGATION BY LOCAL DIVE CLUB COULD NOT LOCATE ì

THE WRECK. THE CLUB SPENT APPROX. 8 HRS TROLLING AND 8 HRS DIVING ì

IN THE SEARCH. THE DIVERS STRONGLY DOUBT THAT THE WRECK REMAINS. ì

EXISTANCE DOUBTFUL ADDED TO THE CHART. (ENTERED 4/95 MCR)

H10641/95--OPR-B302-RU; NO EVIDENCE OF A WK WAS DISCOVERED DURING MAIN SCHEME SIDE SCAN COVERAGE. DUE TO DEPTH OF WATER AND PROXIMITY TO THE SHORE, COMMAND DECIDED IT WAS UNWISE TO INVESTIGATE ITEM FURTHER. RESEARCH PERSONNEL FROM UNIV OF RHODE ISLAND WERE CONTACTED FOR INFO PERTAINING TO THIS ITEM, BUT THEY HAD NO KNOWLEDGE OF IT. EVALUATOR RECOMMENDS NO CHANGE IN CHARTING STATUS (UPDATED 7/18/05, SME)

Survey Summary

Charts Affected:	13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

This wreck's existence was not investigated.

Feature Correlation

Source	Feature	Range	Azimuth	Status
AWOIS_EXPORT	AWOIS # 9422	0.00	000.0	Primary

Hydrographer Recommendations

Recommend retaining as charted.

Office Notes

This wreck falls just outside the survey limits.

1.5) AWOIS #14575 - UNKNOWN

No Primary Survey Feature for this AWOIS Item

Search Position: 41° 26' 42.0" N, 071° 24' 15.6" W

Historical Depth: [None]

Search Radius: 200

Search Technique: S2,MB,ES

Technique Notes: [None]

History Notes:

LNM 28/07 - 1st CG; Added Subm Wrk, 69 ft sailing vessel, PA, 4ft of mast remains above waterline, 41-26.7N 071-24.26W. (Entered 5/6/09 KAK)

Survey Summary

Charts Affected: 13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

100% multibeam coverage has been obtained over the search radius. Final tides have been applied via TCARI.

Feature Correlation

Source	Feature	Range	Azimuth	Status
AWOIS_EXPORT	AWOIS # 14575	0.00	000.0	Primary

Hydrographer Recommendations

No wreck was found in the AWOIS search radius, recommend removing the wreck from the chart.

Office Notes

Concur. Delete charted wreck.

Feature Images

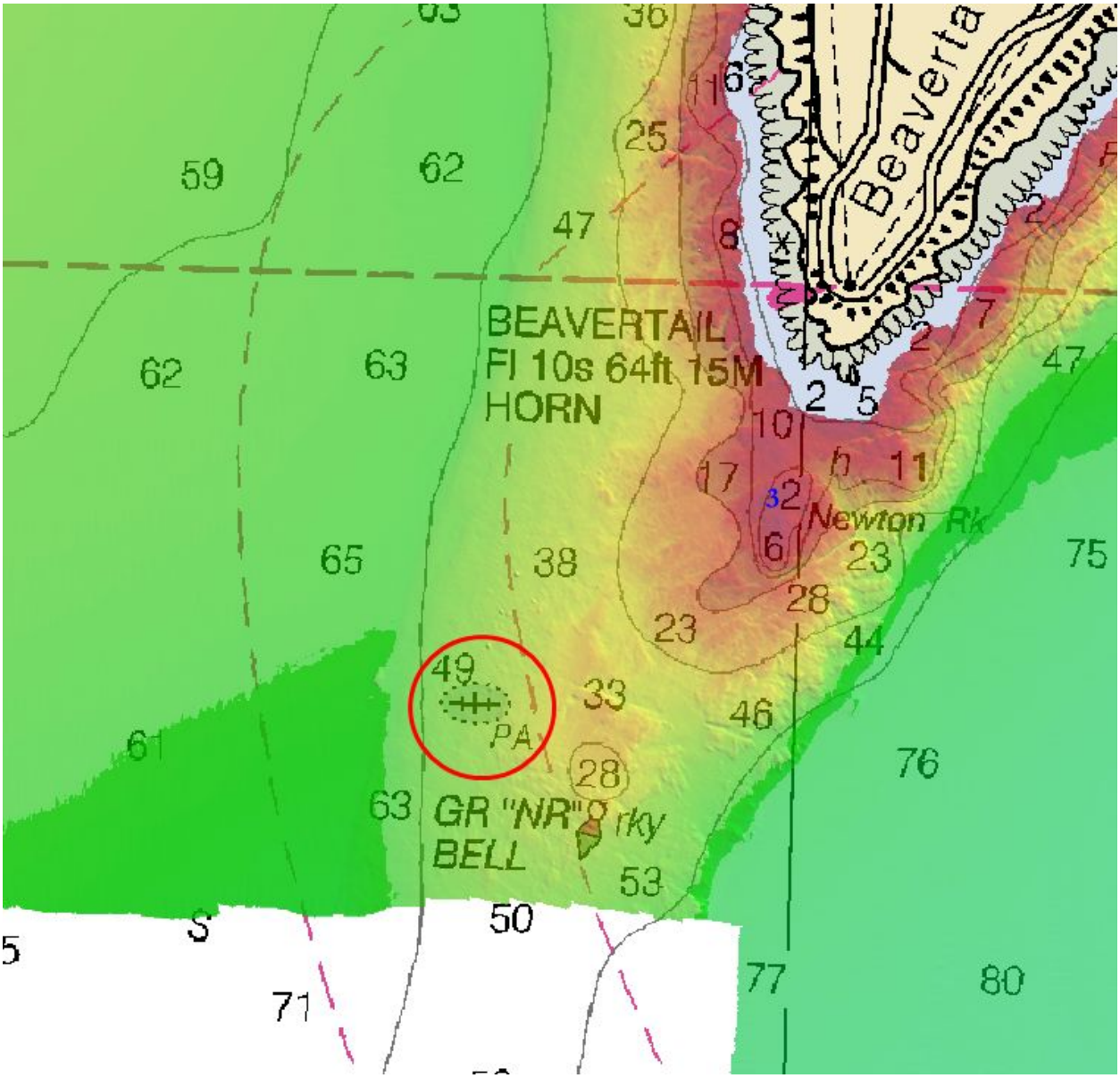


Figure 1.5.1

1.6) AWOIS #7444 - LLEWELLYN HOWLAND

No Primary Survey Feature for this AWOIS Item

Search Position: 41° 26' 12.4" N, 071° 20' 51.6" W

Historical Depth: 3.66 m

Search Radius: 0

Search Technique: S2,MB,ES

Technique Notes: [None]

History Notes:

HISTORY

CL825/57--CGS; ADVANCE INFO FROM H8367; 12 FT. SHOAL FOUND IN ì

LAT 41-26-11.9N, LONG 71-20-48.8W.

H8367/56-57--12 FT SHOAL; VERIFIED DATA; LAT 41-26-12N, LONG ì

71-20-53.4. (ENTERED MSM 8/89)

DESCRIPTION

01 STEAMER LLEWELLYN HOWLAND, SUNK 1924, 2748GT, BUILT 1888.

Survey Summary

Charts Affected: 13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

100% multibeam coverage has been obtained over this AWOIS item. Final tides have been applied via TCARI.

Feature Correlation

Source	Feature	Range	Azimuth	Status
AWOIS_EXPORT	AWOIS # 7444	0.00	000.0	Primary

Hydrographer Recommendations

Wreck not found in vicinity of Seal Ledge, recommend removal from the AWOIS database.

Office Notes

Concur. The 12 ft. shoal was not verified. The least depth in the area is 15 ft. No evidence of the wreck was found.

1.7) AWOIS #14576 - UNKNOWN

No Primary Survey Feature for this AWOIS Item

Search Position: 41° 28' 12.0" N, 071° 24' 00.0" W

Historical Depth: 1.22 m

Search Radius: 200

Search Technique: S2,MB,ES

Technique Notes: [None]

History Notes:

LNM 33/01 - 1st CG; A submerged vessel has been reported in (PA) 41-28.2N 071-24.0W Approx 200 yards from beach, 4-5 feet below surface. (Entered 5/6/09 KAK)

Survey Summary

Charts Affected: 13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

100% multibeam coverage has been obtained over the search radius. Final tides have been applied via TCARI.

Feature Correlation

Source	Feature	Range	Azimuth	Status
AWOIS_EXPORT	AWOIS # 14576	0.00	000.0	Primary

Hydrographer Recommendations

No wreck was found in the AWOIS search radius, recommend removing the wreck from the chart.

Office Notes

Concur. Delete charted wreck.

Feature Images

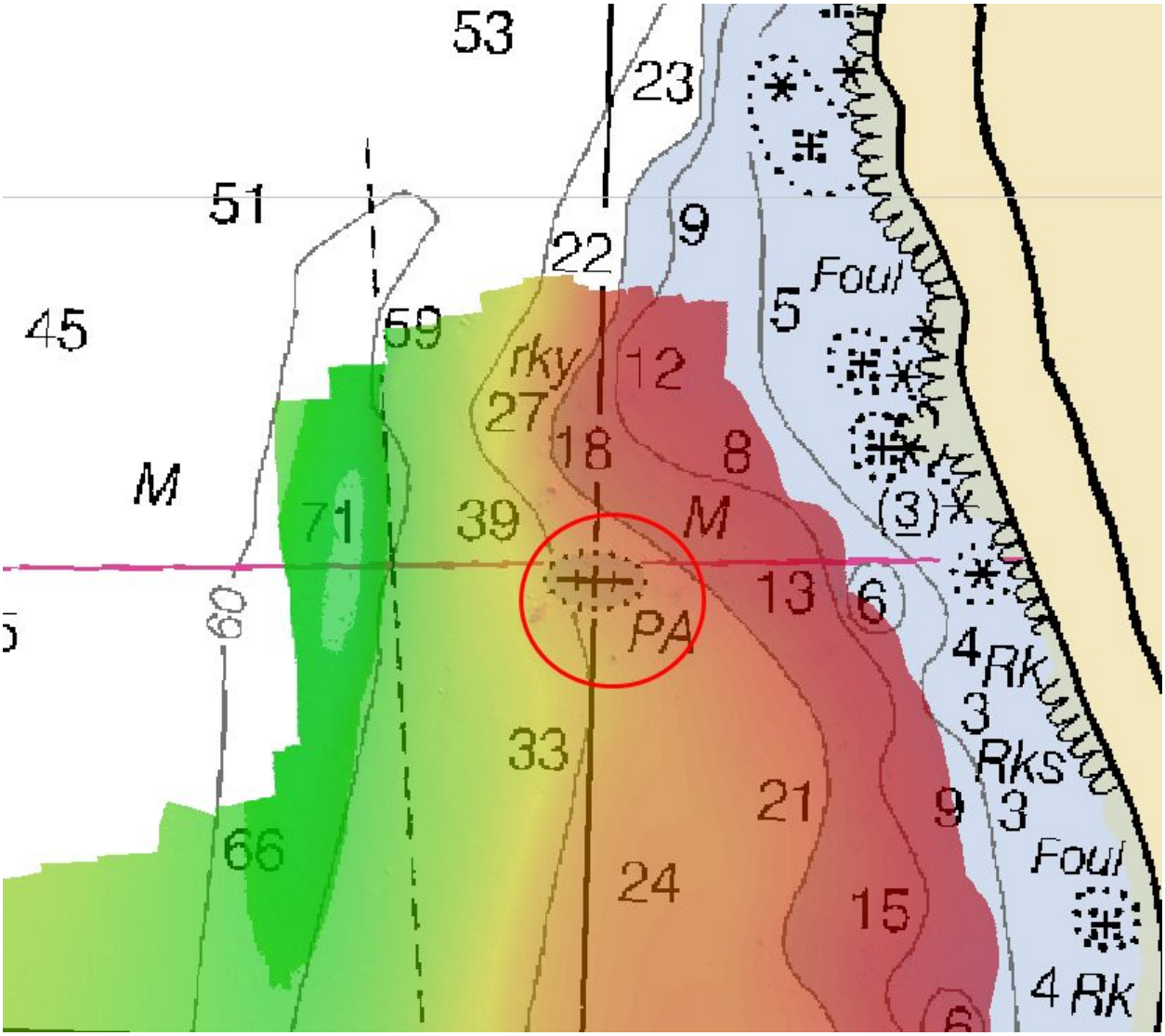


Figure 1.7.1

1.8) 889/254

Primary Feature for AWOIS Item #7463

Search Position:	41° 27' 06.2" N, 071° 24' 55.4" W
Historical Depth:	15.85 m
Search Radius:	100
Search Technique:	S2,MB,ES
Technique Notes:	[None]

History Notes:

HISTORY
H4006WD/17-- SURVEY RECORDS TWO DETACHED POSITIONS WITH THE ì
NOTATION "IRON-RUST, PROBABLY A WRECK"
H8367/57--CARRIED FORWARD PENDING WIRE DRAG INVESTIGATION.
H8367AD.WK./63--32 FT. SOUNDING WAS DISPROVED BY WIRE DRAG; ì
POSITION OF OBSTRUCTION WAS WAS CLEARED TO AN EFFECTIVE DEPTH OF ì
46 FT. WITH NO OBSTRUCTIONS OR HANGS ENCOUNTERED IN THE 0.2 ì
SQUARE MILES DRAGGED; HOWEVER, EXISTENCE OF OBSTRUCTION NOT DISPROVED; ì
EVALUATOR RECOMMENDED REVISING CHARTED SYMBOL TO AN OBSTR CLEARED ì
TO 46 FT. (ENTERED MSM 6/89)
FE368SS/92--OPR-B660-RU; WRECK WAS LOCATED IN POS. ì
LAT.41-27-06.24N, LONG.71-24-55.36W (NAD 83) WITH A LEAST DEPTH ì
OF 52FT (15.8M). DIVER INVESTIGATION MADE POSITIVE ID. (UPDATED ì
2/94 MCR)

Survey Summary

Survey Position:	41° 27' 06.1" N, 071° 24' 54.9" W
Least Depth:	14.84 m (= 48.68 ft = 8.114 fm = 8 fm 0.68 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.988 m ; **TVU (TPEv)** ±0.314 m
Timestamp:	2011-264.16:44:25.098 (09/21/2011)
Survey Line:	h12324 / nrt5_s3002_em3002_mbes / 2011-264 / 012_1643
Profile/Beam:	889/254
Charts Affected:	13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

This is the updated least depth and position of the AWOIS Item #7463. 100% multibeam coverage has been obtained over this feature. Final tides have been applied via TCARI.

Feature Correlation

Source	Feature	Range	Azimuth	Status
012_1643	889/254	0.00	000.0	Primary
AWOIS_EXPORT	AWOIS # 7463	11.53	119.1	Secondary

Hydrographer Recommendations

Recommend updating chart with new position and least depth of wreck.

Cartographically-Rounded Depth (Affected Charts):

48ft (13223_1, 13221_1, 13221_2, 13218_1)

8fm (12300_1, 13006_1, 13003_1)

14.8m (5161_1)

Office Notes

Concur. Delete charted wreck and chart 48 ft. wreck at this item's position.

Feature Images

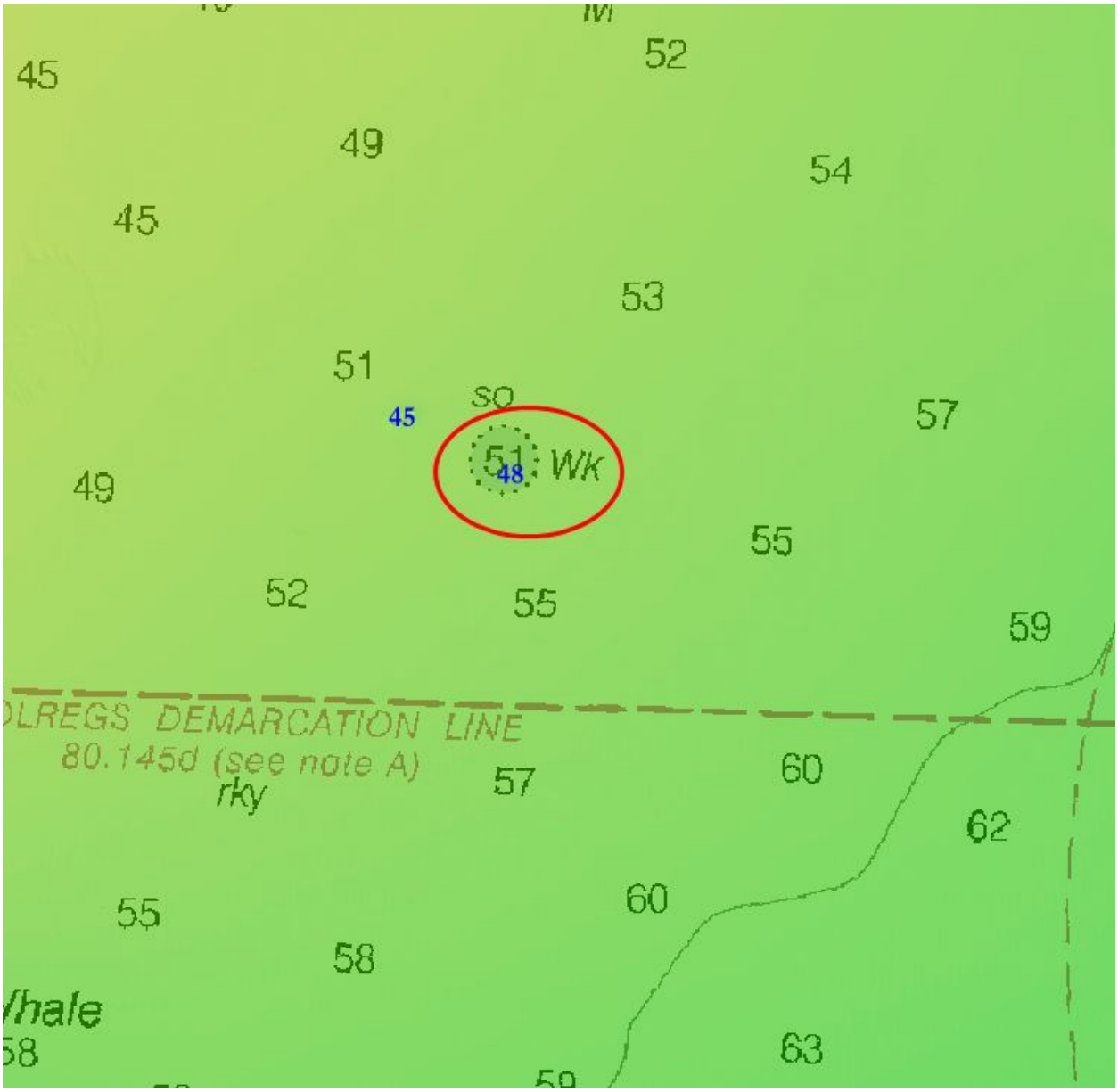


Figure 1.8.1

H12324 DTON Report

Registry Number: H12324
State: Rhode Island
Locality: Narragansett Bay
Sub-locality: Approaches to the East and West Passage
Project Number: OPR-B301-NRT5-11
Survey Dates: June 27, 2011 - October 11, 2011

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
13223	42nd	02/01/2012	1:20,000 (13223_1)	USCG LNM: 4/24/2012 (5/22/2012) CHS NTM: None (4/27/2012) NGA NTM: 11/1/2008 (6/2/2012)
13221	59th	03/01/2012	1:40,000 (13221_1)	USCG LNM: 5/22/2012 (5/22/2012) CHS NTM: None (4/27/2012) NGA NTM: 11/1/2008 (6/2/2012)
13221	57th	02/01/2008	1:40,000 (13221_2)	[L]NTM: ?
13218	41st	10/01/2009	1:80,000 (13218_1)	USCG LNM: 1/10/2012 (1/10/2012) CHS NTM: None (11/25/2011) NGA NTM: 11/15/2003 (1/28/2012)
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	1.37 m	41° 27' 13.0" N	071° 19' 24.3" W	---
1.2	Rock	3.12 m	41° 27' 18.6" N	071° 21' 34.4" W	---
1.3	Rock	2.60 m	41° 27' 18.3" N	071° 19' 12.1" W	---
1.4	Rock	4.49 m	41° 26' 43.4" N	071° 21' 41.0" W	---
1.5	Rock	3.86 m	41° 26' 47.8" N	071° 18' 45.5" W	---

1.6	Rock	1.25 m	41° 27' 06.7" N	071° 19' 45.9" W	---
1.7	Rock	7.98 m	41° 27' 38.7" N	071° 25' 14.8" W	---
1.8	Rock	2.81 m	41° 27' 45.0" N	071° 25' 14.3" W	---
1.9	Rock	6.30 m	41° 27' 15.8" N	071° 25' 27.0" W	---
1.10	Rock	3.00 m	41° 26' 34.5" N	071° 25' 50.1" W	---
1.11	Rock	2.19 m	41° 26' 51.6" N	071° 20' 34.6" W	---
1.12	Rock	9.32 m	41° 26' 13.2" N	071° 18' 31.1" W	---

1 - Dangers To Navigation

1.1) Profile/Beam 486/86 / 000_1514

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 27' 13.0" N, 071° 19' 24.3" W
Least Depth:	1.37 m (= 4.50 ft = 0.751 fm = 0 fm 4.50 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.964 m ; **TVU (TPEv)** ±0.167 m
Timestamp:	2011-180.15:14:37.893 (06/29/2011)
Survey Line:	h12324 / nrt5_s3002_em3002_mbes / 2011-180 / 000_1514
Profile/Beam:	486/86
Charts Affected:	13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

A rock with a least depth of 4 ft located between a charted 17 ft sounding and a charted 21 ft sounding.

100% multibeam coverage has been obtained over this feature. Final tides have been applied via TCARI.

Hydrographer Recommendations

Hydrographer recommends charting a new rock.

Cartographically-Rounded Depth (Affected Charts):

4ft (13223_1, 13221_1, 13221_2, 13218_1)

0 ¾fm (12300_1, 13006_1, 13003_1)

1.4m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	QUASOU - 1:depth known
	SORDAT - 20111011
	SORIND - US,US,graph,H12324
	TECSOU - 3:found by multi-beam
	VALSOU - 1.373 m
	WATLEV - 3:always under water/submerged

Feature Images

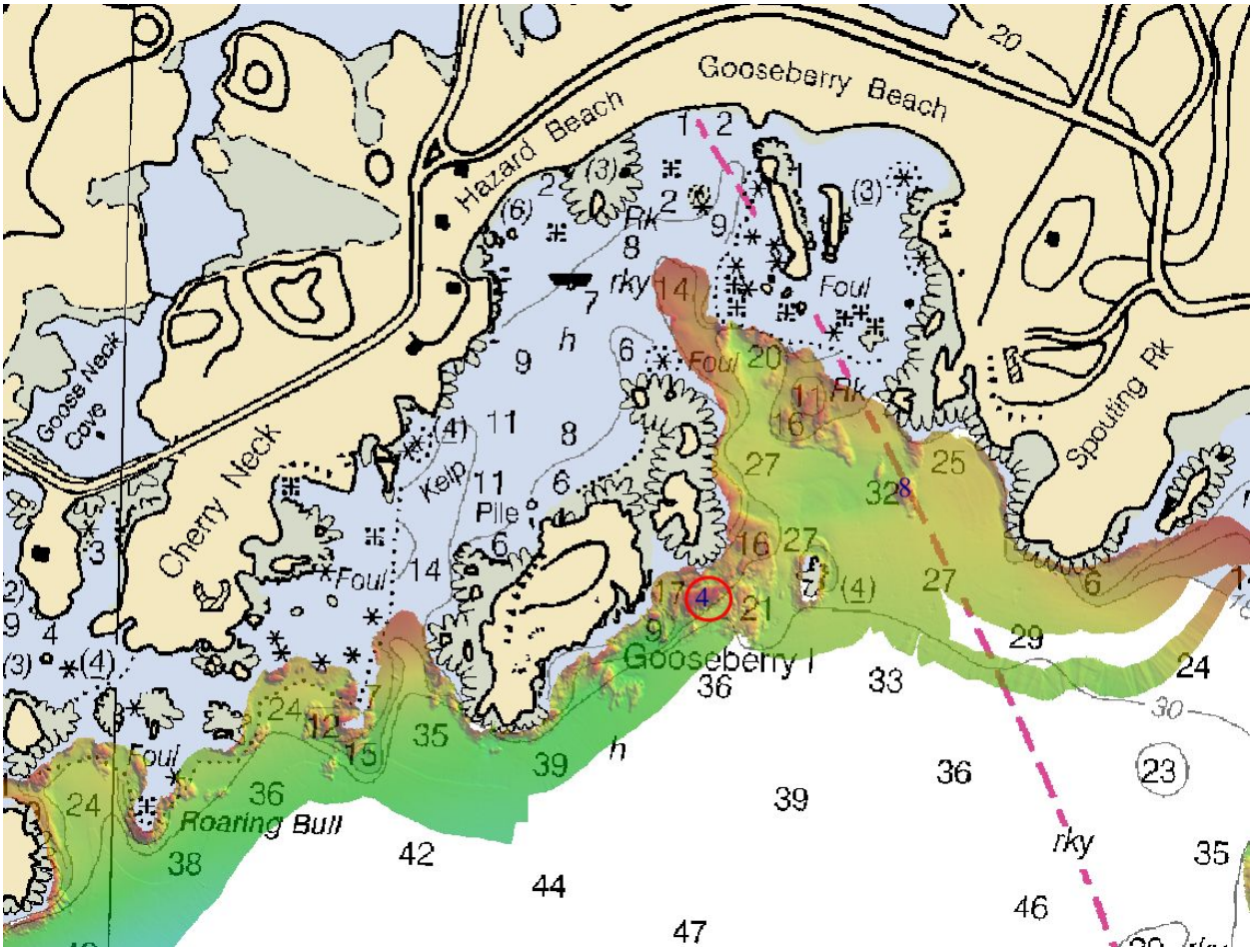


Figure 1.1.1

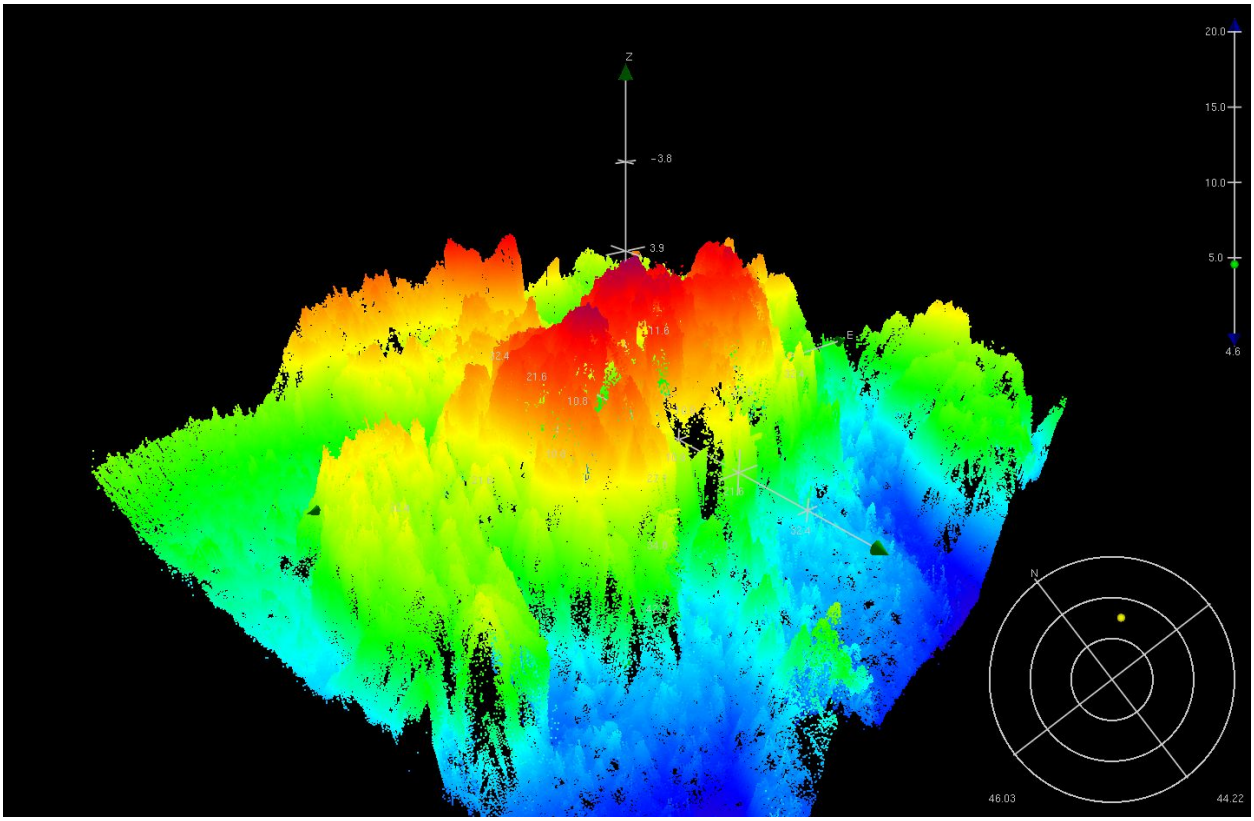


Figure 1.1.2

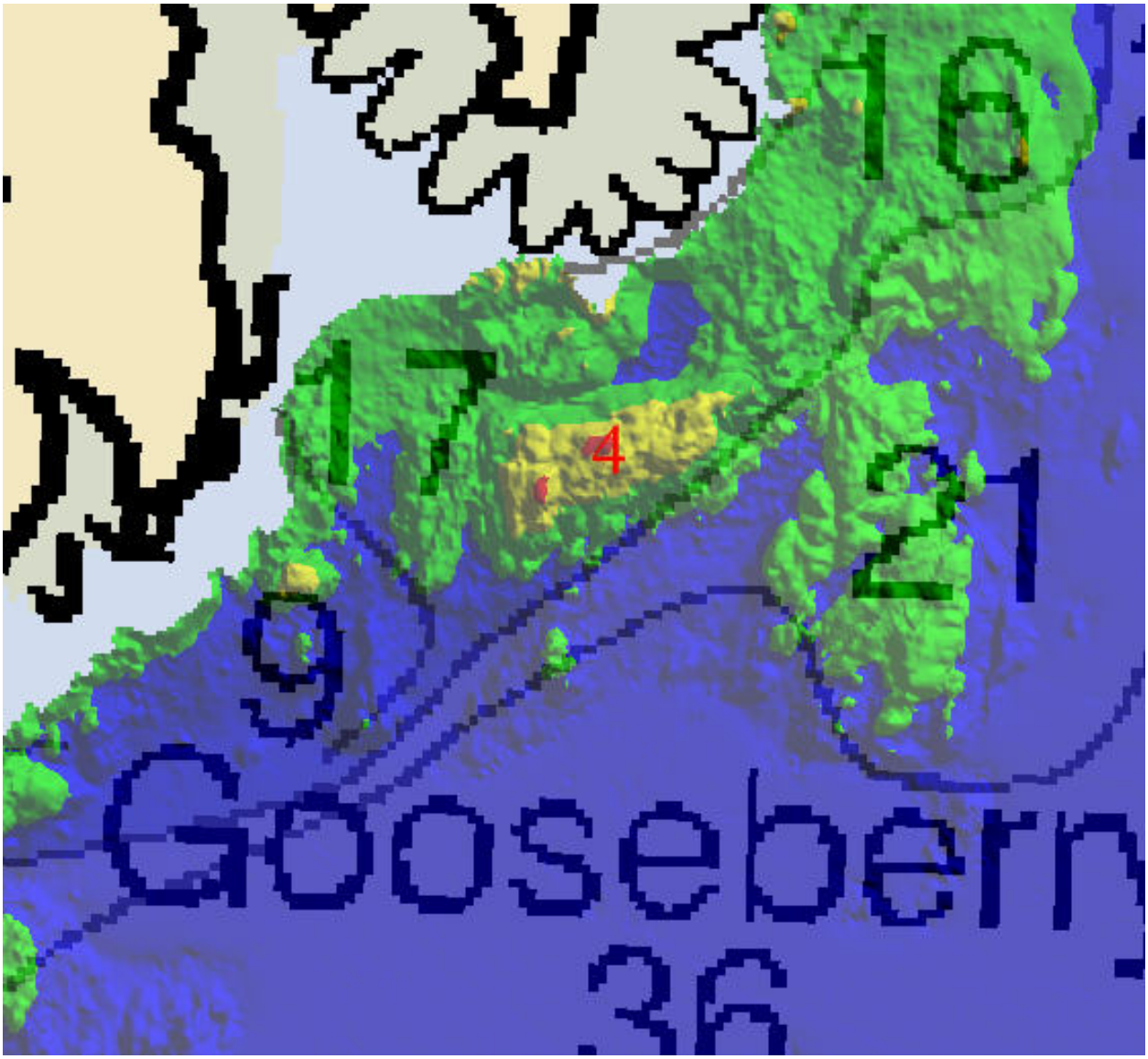


Figure 1.1.3

1.2) Profile/Beam 5519/1 / 000a1631

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 27' 18.6" N, 071° 21' 34.4" W
Least Depth:	3.12 m (= 10.23 ft = 1.705 fm = 1 fm 4.23 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.966 m ; **TVU (TPEv)** ±0.157 m
Timestamp:	2011-181.16:34:59.737 (06/30/2011)
Survey Line:	h12324 / nrt5_s3002_em3002_mbes / 2011-181 / 000a1631
Profile/Beam:	5519/1
Charts Affected:	13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

A rock with a least depth of 10 ft located offshore of the 18 ft contour. This is an updated sounding for the DtoN submitted on July 6, 2011.

100% multibeam coverage has been obtained over this feature. Final tides have been applied via TCARI.

Hydrographer Recommendations

Hydrographer recommends charting a new rock.

Cartographically-Rounded Depth (Affected Charts):

10ft (13223_1, 13221_1, 13221_2, 13218_1)

1 ¾fm (12300_1, 13006_1, 13003_1)

3.1m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	SORDAT - 20111011
	SORIND - US,US,graph,H12324
	TECSOU - 3:found by multi-beam
	VALSOU - 3.119 m
	WATLEV - 3:always under water/submerged

Feature Images

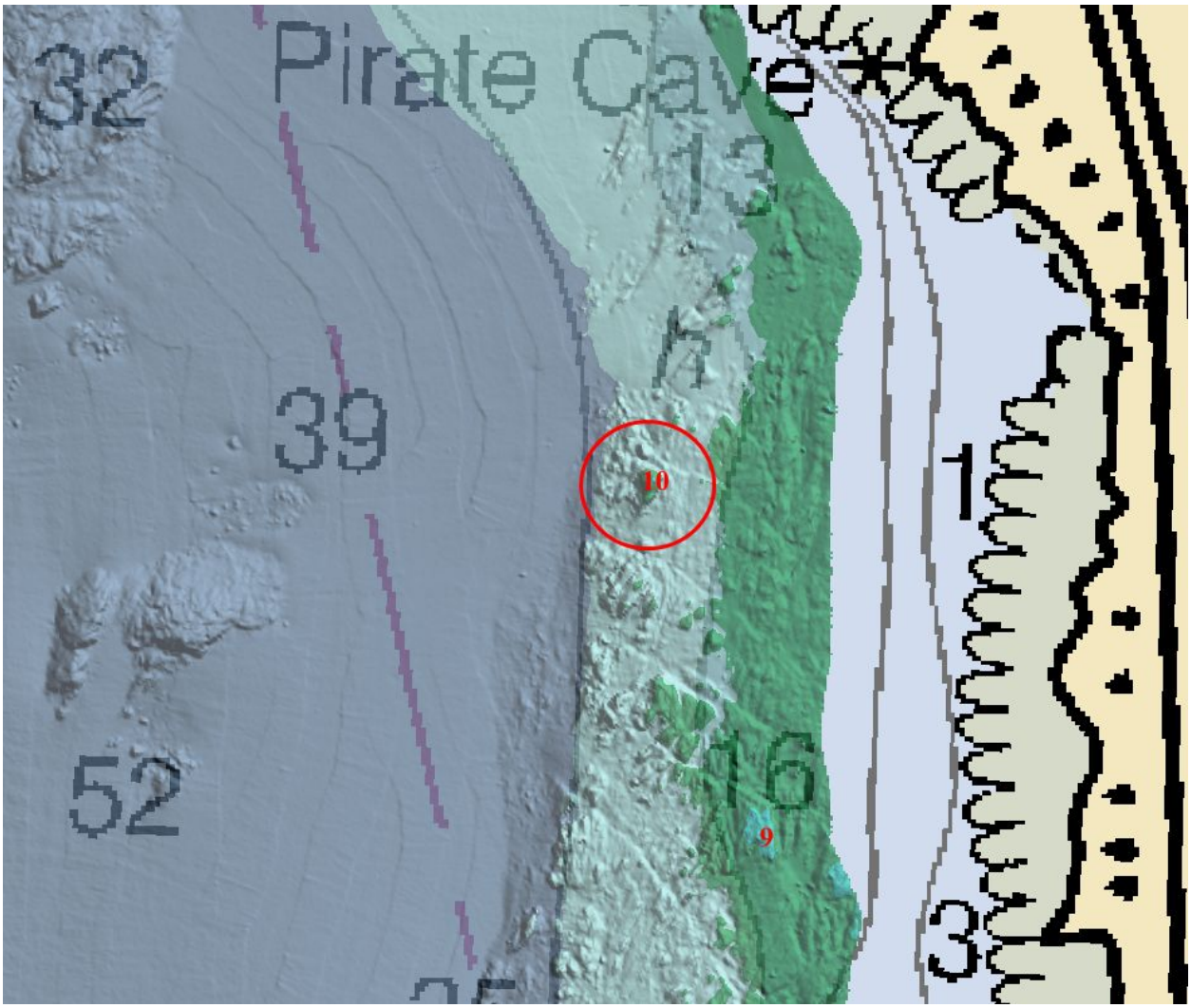


Figure 1.2.1

[Image file n:/oprb301nrt511/surveys/h12324/compilation/features/field/images/dton #8_2.jpg does not exist.]

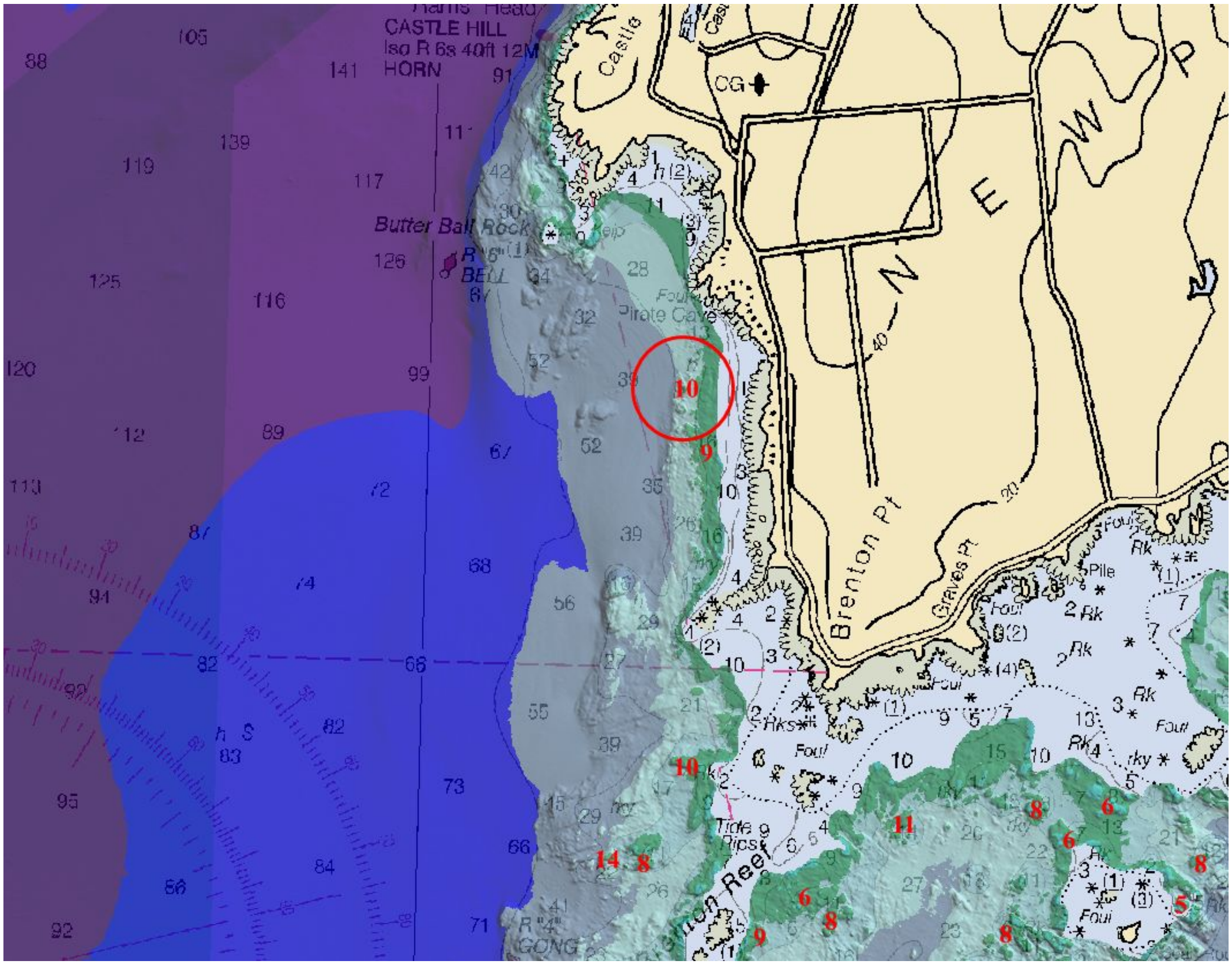

CASTLE HILL
Iso R 6s 40ft 12M
HORN
Butter Ball Rock
BELL
Pirate Cave
CG
Brenton Pt
Graves Pt
Pile
Tide Rips
GONG

Figure 1.2.2

1.3) Profile/Beam 1393/141 / 000_1545

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 27' 18.3" N, 071° 19' 12.1" W
Least Depth:	2.60 m (= 8.52 ft = 1.421 fm = 1 fm 2.52 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.962 m ; **TVU (TPEv)** ±0.179 m
Timestamp:	2011-180.15:46:25.122 (06/29/2011)
Survey Line:	h12324 / nrt5_s3002_em3002_mbes / 2011-180 / 000_1545
Profile/Beam:	1393/141
Charts Affected:	13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

This is an updated least depth sounding for the DtoN submitted on July 6, 2011. 100% multibeam coverage obtained over this feature. Final tides have been applied via TCARI grid.

Hydrographer Recommendations

Recommend updating position and depth of charted rock per sounding data.

Cartographically-Rounded Depth (Affected Charts):

8ft (13223_1, 13221_1, 13221_2, 13218_1)

1 ¼fm (12300_1, 13006_1, 13003_1)

2.6m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	SORDAT - 20111011
	SORIND - US,US,graph,H12324
	TECSOU - 3:found by multi-beam
	VALSOU - 2.598 m
	WATLEV - 3:always under water/submerged

Feature Images

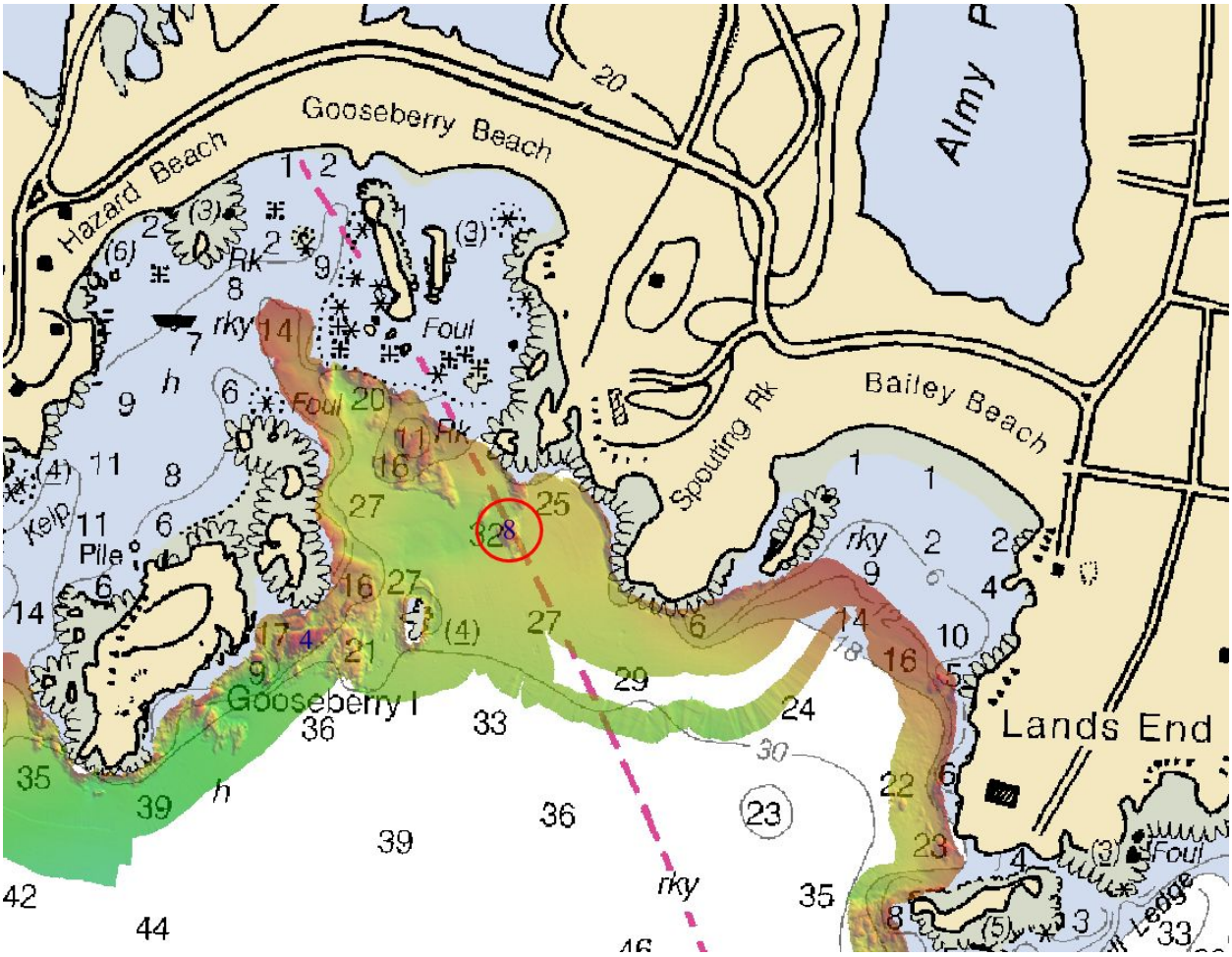


Figure 1.3.1

1.4) Profile/Beam 67/233 / 000a1518

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 26' 43.4" N, 071° 21' 41.0" W
Least Depth:	4.49 m (= 14.73 ft = 2.455 fm = 2 fm 2.73 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.969 m ; **TVU (TPEv)** ±0.164 m
Timestamp:	2011-181.15:18:29.182 (06/30/2011)
Survey Line:	h12324 / nrt5_s3002_em3002_mbes / 2011-181 / 000a1518
Profile/Beam:	67/233
Charts Affected:	13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

A rock with a least depth of 14 ft located outside the charted 18 ft contour.

100% multibeam coverage has been obtained over this feature. Final tides have been applied via TCARI.

Hydrographer Recommendations

Hydrographer recommends charting a new rock.

Cartographically-Rounded Depth (Affected Charts):

14ft (13223_1, 13221_1, 13221_2, 13218_1)

2 ½fm (12300_1, 13006_1, 13003_1)

4.5m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	SORDAT - 20111011
	SORIND - US,US,graph,H12324
	TECSOU - 3:found by multi-beam
	VALSOU - 4.489 m
	WATLEV - 3:always under water/submerged

Feature Images

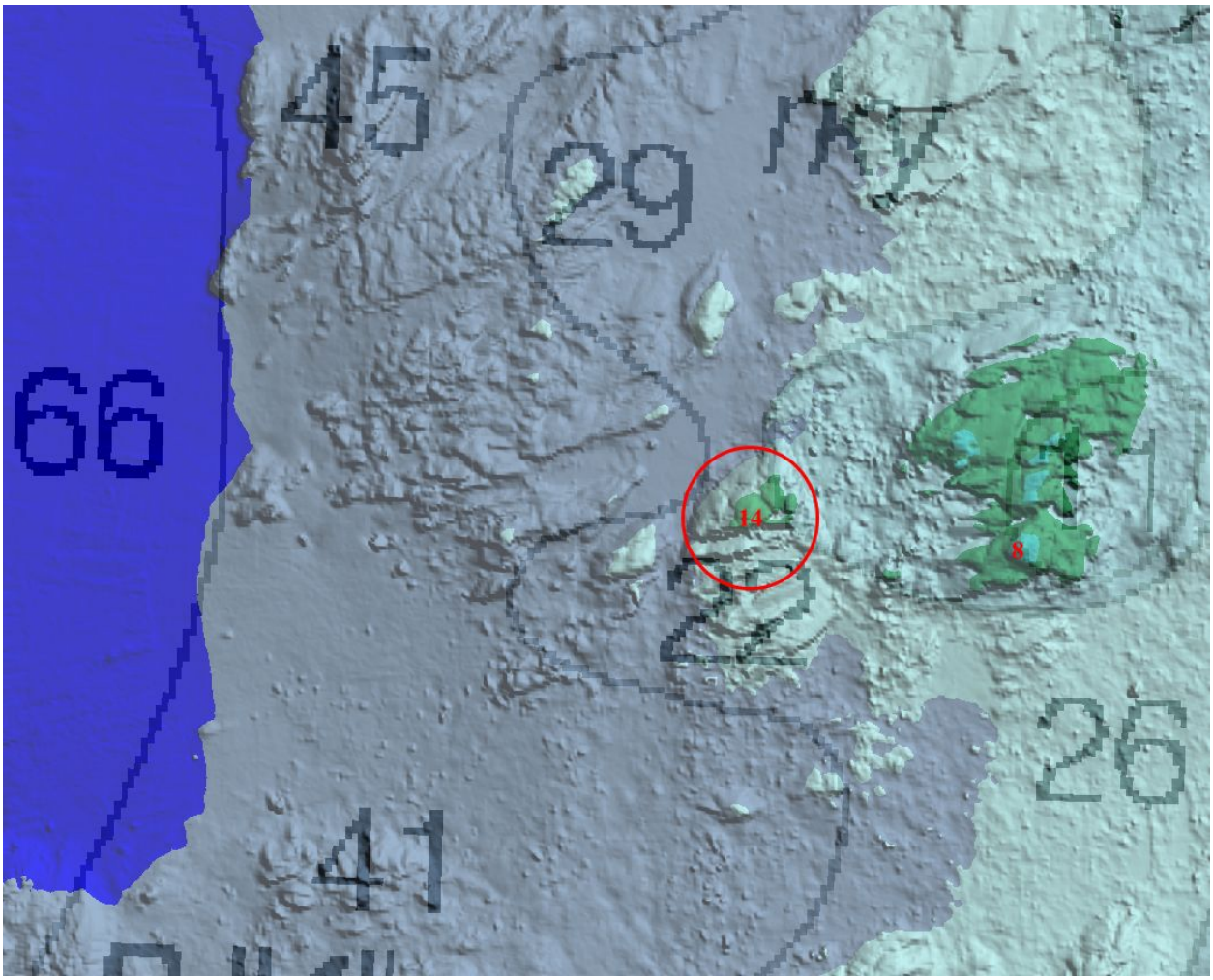


Figure 1.4.1

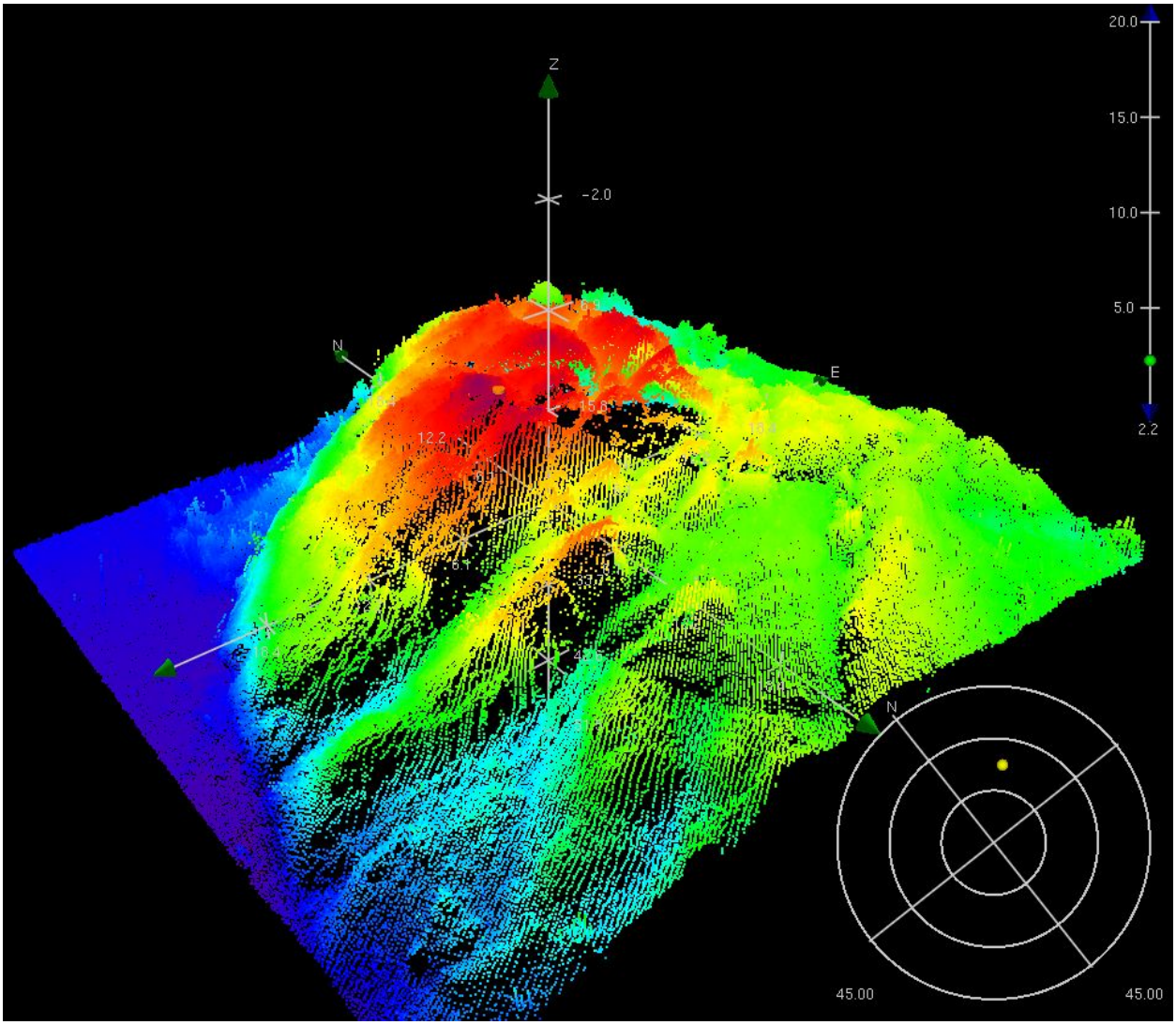


Figure 1.4.2

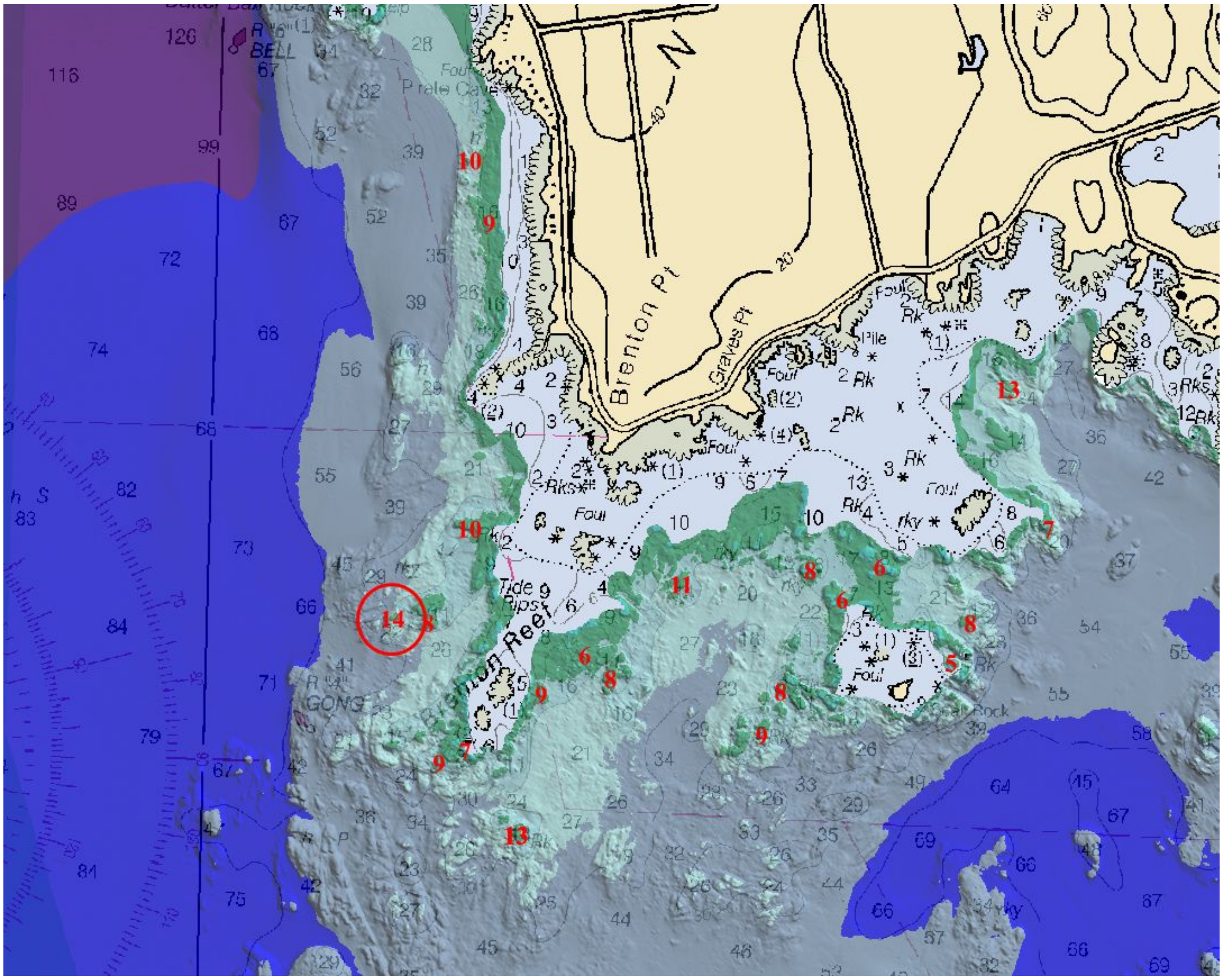


Figure 1.4.3

1.5) Profile/Beam 478/212 / 000a1445

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 26' 47.8" N, 071° 18' 45.5" W
Least Depth:	3.86 m (= 12.65 ft = 2.108 fm = 2 fm 0.65 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.967 m ; **TVU (TPEv)** ±0.163 m
Timestamp:	2011-182.14:45:24.746 (07/01/2011)
Survey Line:	h12324 / nrt5_s3002_em3002_mbes / 2011-182 / 000a1445
Profile/Beam:	478/212
Charts Affected:	13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

This is a rock with a least depth of 12 ft and represents a continuation of the charted Coggeshall Ledge.

100% multibeam coverage has been obtained over this feature. Final tides have been applied via TCARI.

Hydrographer Recommendations

Hydrographer recommends charting a new rock.

Cartographically-Rounded Depth (Affected Charts):

12ft (13223_1, 13221_1, 13221_2, 13218_1)

2fm (12300_1, 13006_1, 13003_1)

3.9m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	SORDAT - 20111011
	SORIND - US,US,graph,H12324
	TECSOU - 3:found by multi-beam
	VALSOU - 3.856 m
	WATLEV - 3:always under water/submerged

Feature Images

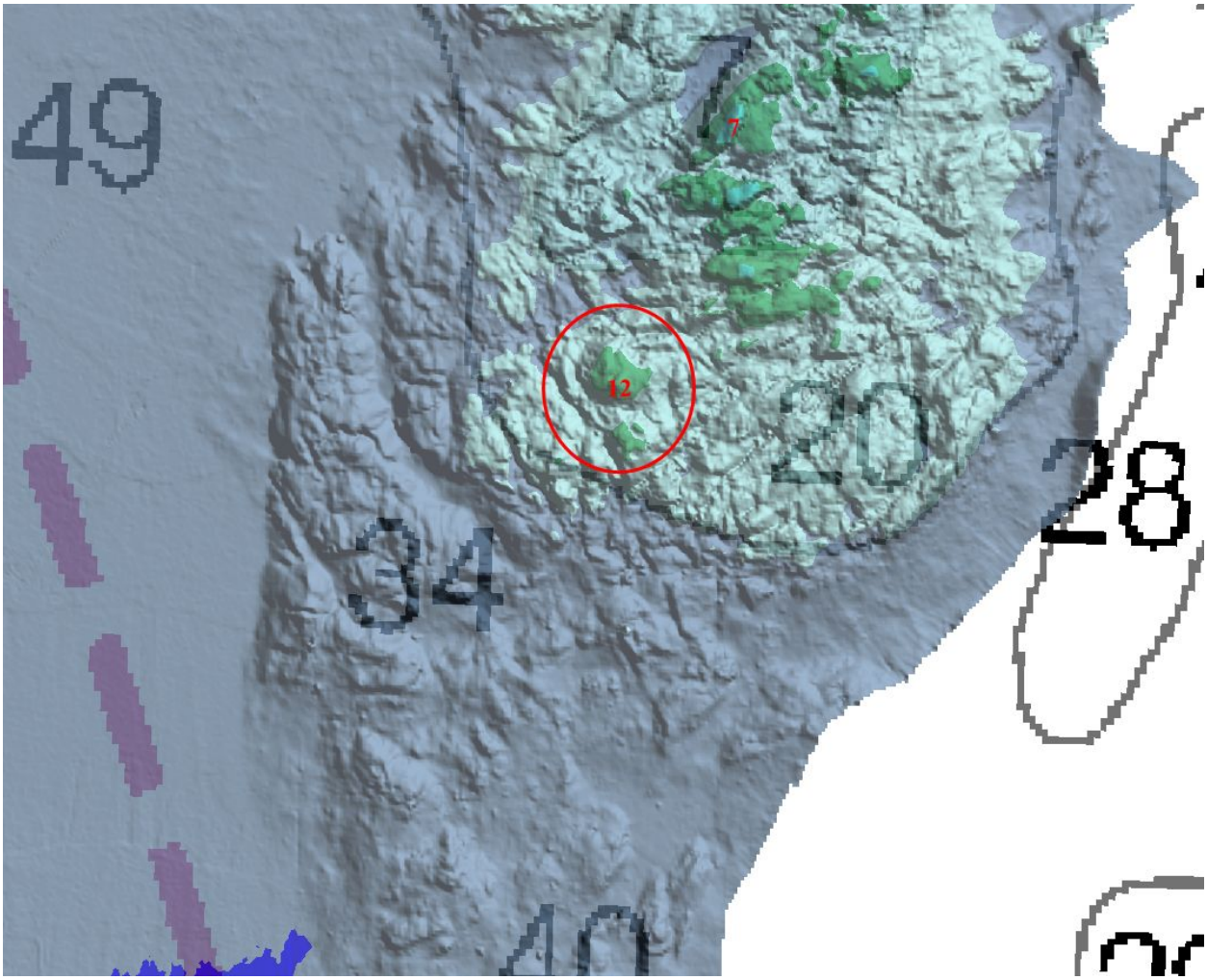


Figure 1.5.1

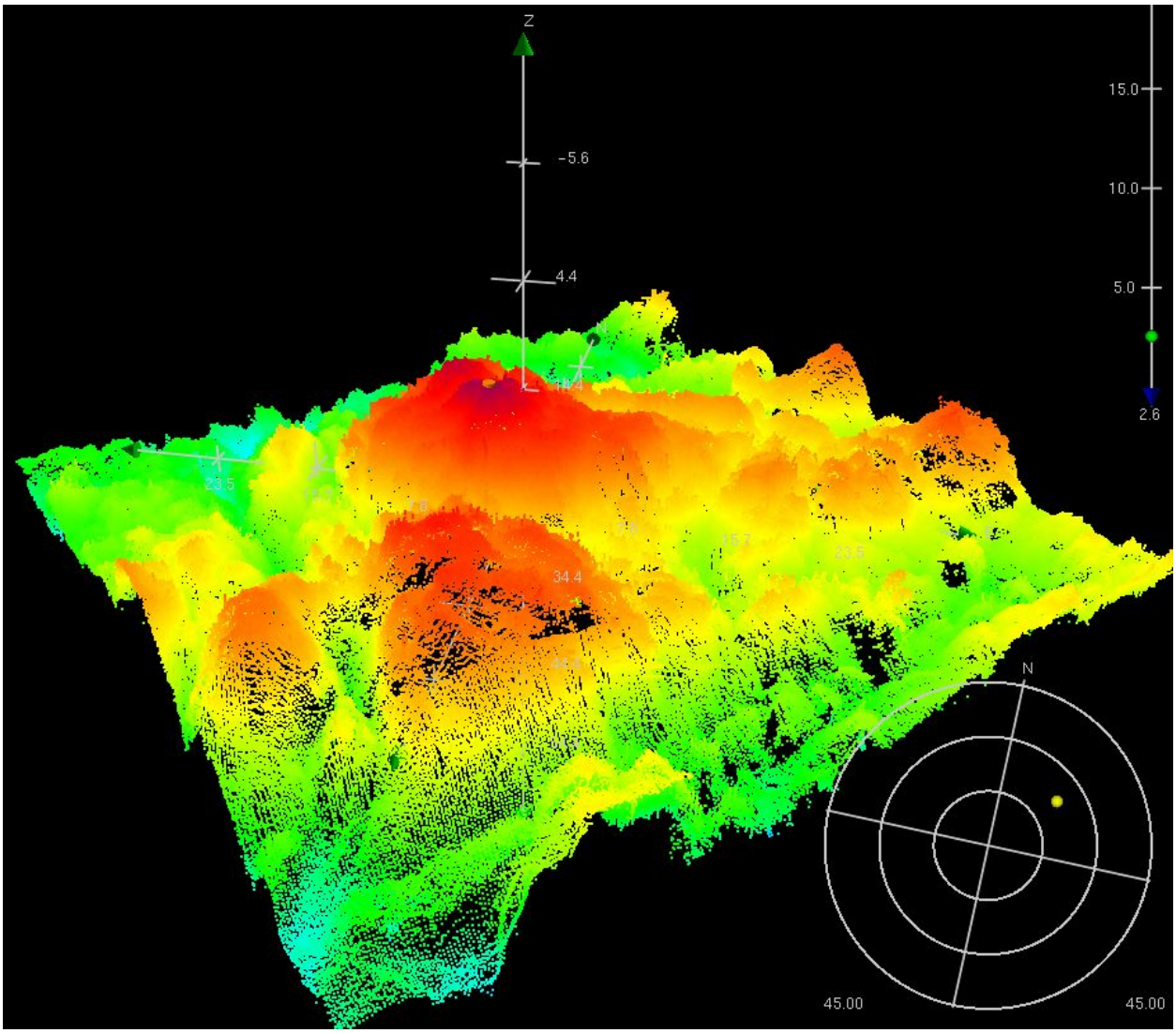


Figure 1.5.2

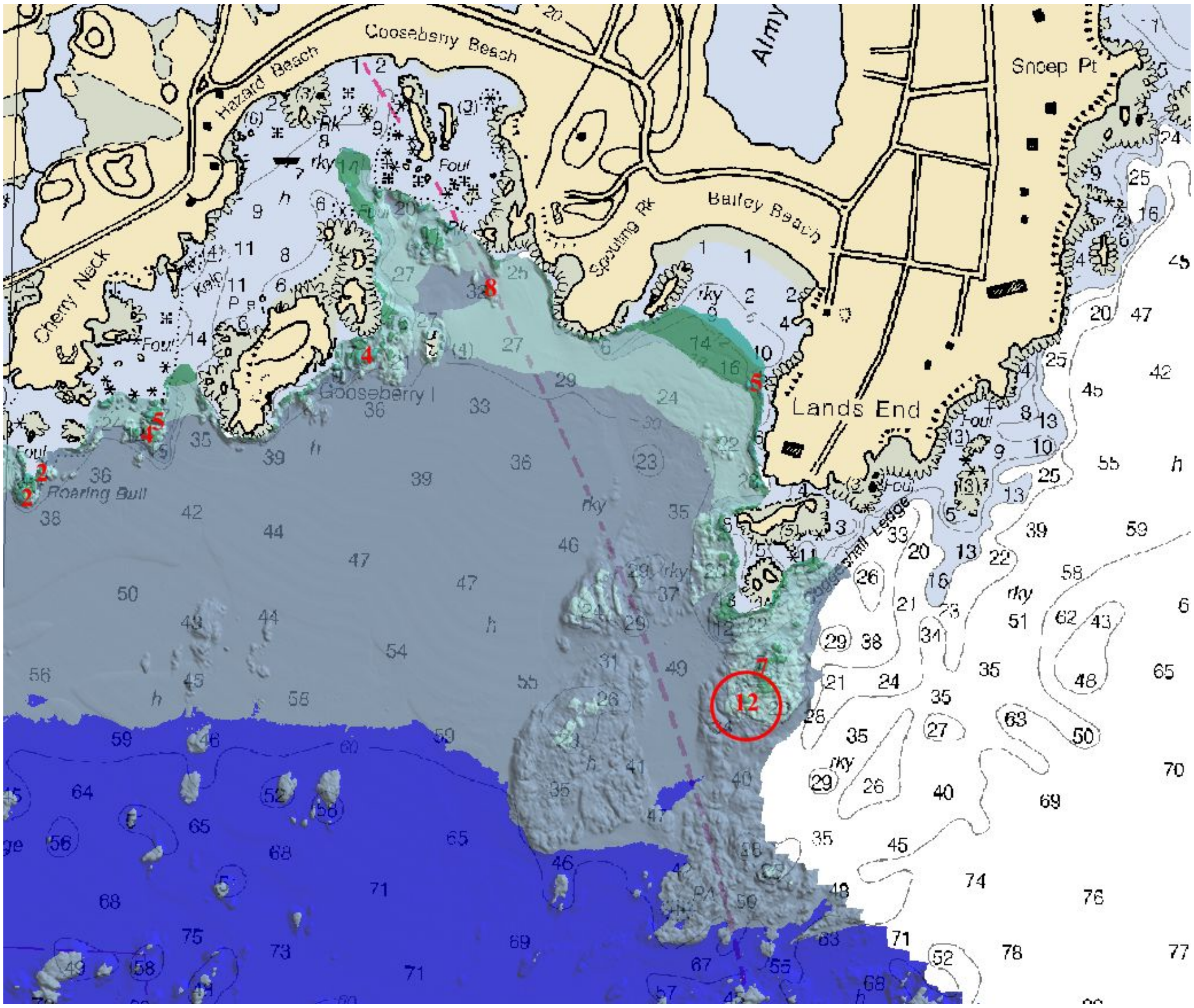

Gooseberry Beach
Hazard Beach
Almy
Sheep Pt
Bailey Beach
Spouting Rk
Cherry Neck
Kelp
Foul
rky
Gooseberry I
Lands End
Roaring Bull
12

Figure 1.5.3

1.6) Profile/Beam 255/104 / 000a1256

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 27' 06.7" N, 071° 19' 45.9" W
Least Depth:	1.25 m (= 4.08 ft = 0.681 fm = 0 fm 4.08 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.964 m ; **TVU (TPEv)** ±0.175 m
Timestamp:	2011-214.12:56:36.962 (08/02/2011)
Survey Line:	h12324 / nrt5_s3002_em3002_mbes / 2011-214 / 000a1256
Profile/Beam:	255/104
Charts Affected:	13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

This is a rock with a least depth of 4 ft between charted 12 and 15 ft soundings.

100% multibeam coverage has been obtained over this feature. Final tides have been applied via TCARI.

Hydrographer Recommendations

Hydrographer recommends charting a new rock.

Cartographically-Rounded Depth (Affected Charts):

4ft (13223_1, 13221_1, 13221_2, 13218_1)

0 ½fm (12300_1, 13006_1, 13003_1)

1.2m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	SORDAT - 20111011
	SORIND - US,US,graph,H12324
	TECSOU - 3:found by multi-beam
	VALSOU - 1.245 m
	WATLEV - 3:always under water/submerged

Feature Images

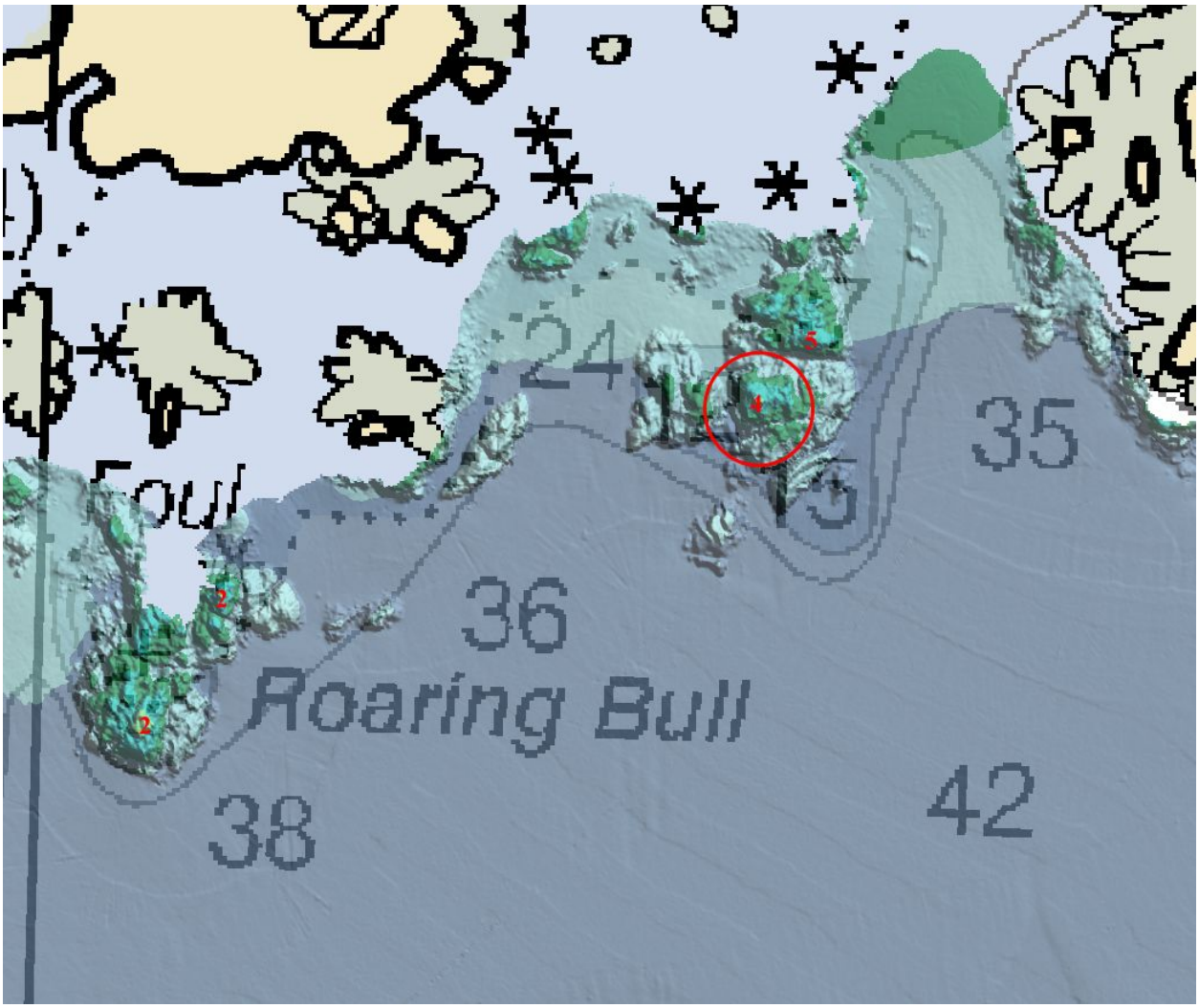


Figure 1.6.1

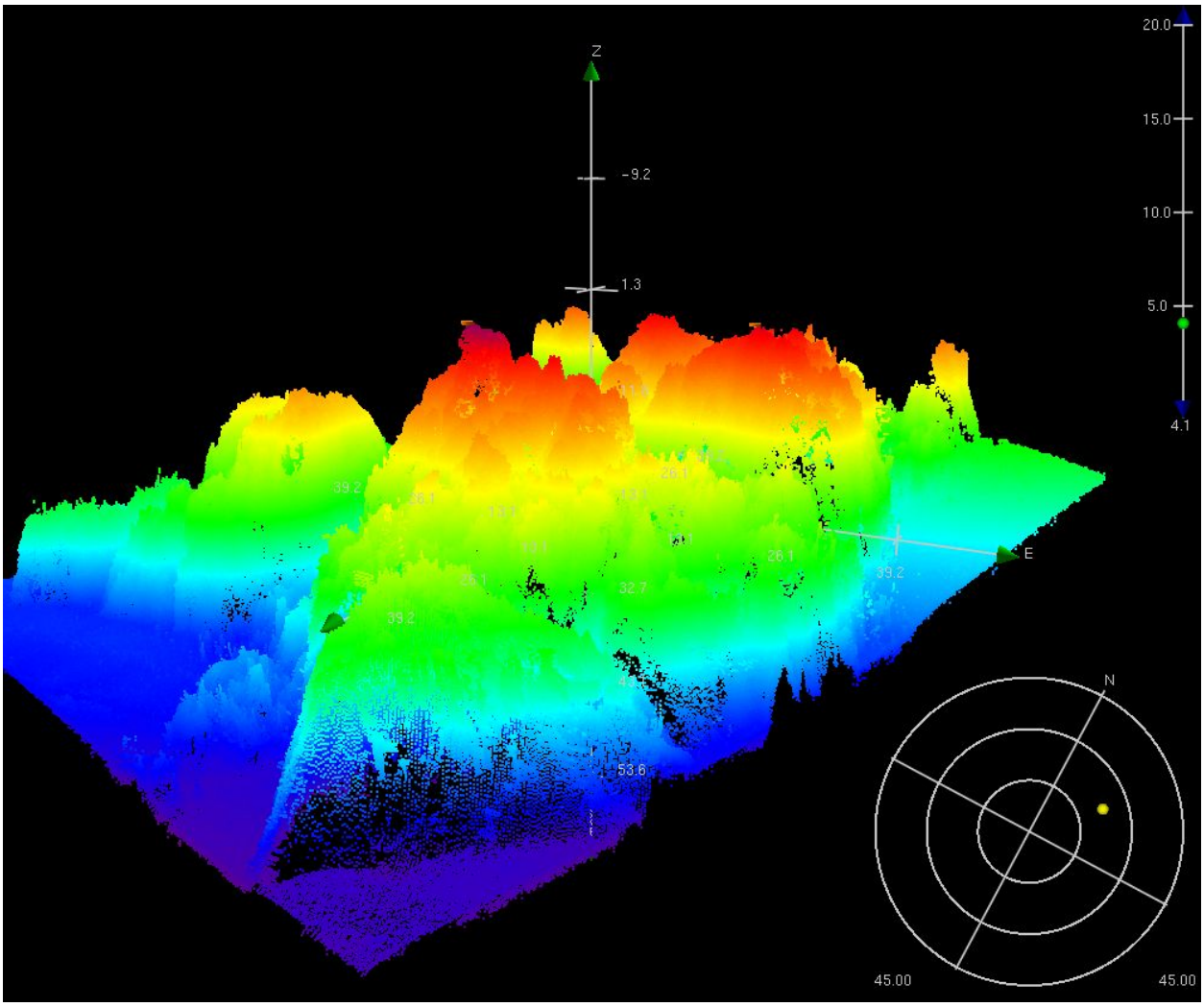


Figure 1.6.2

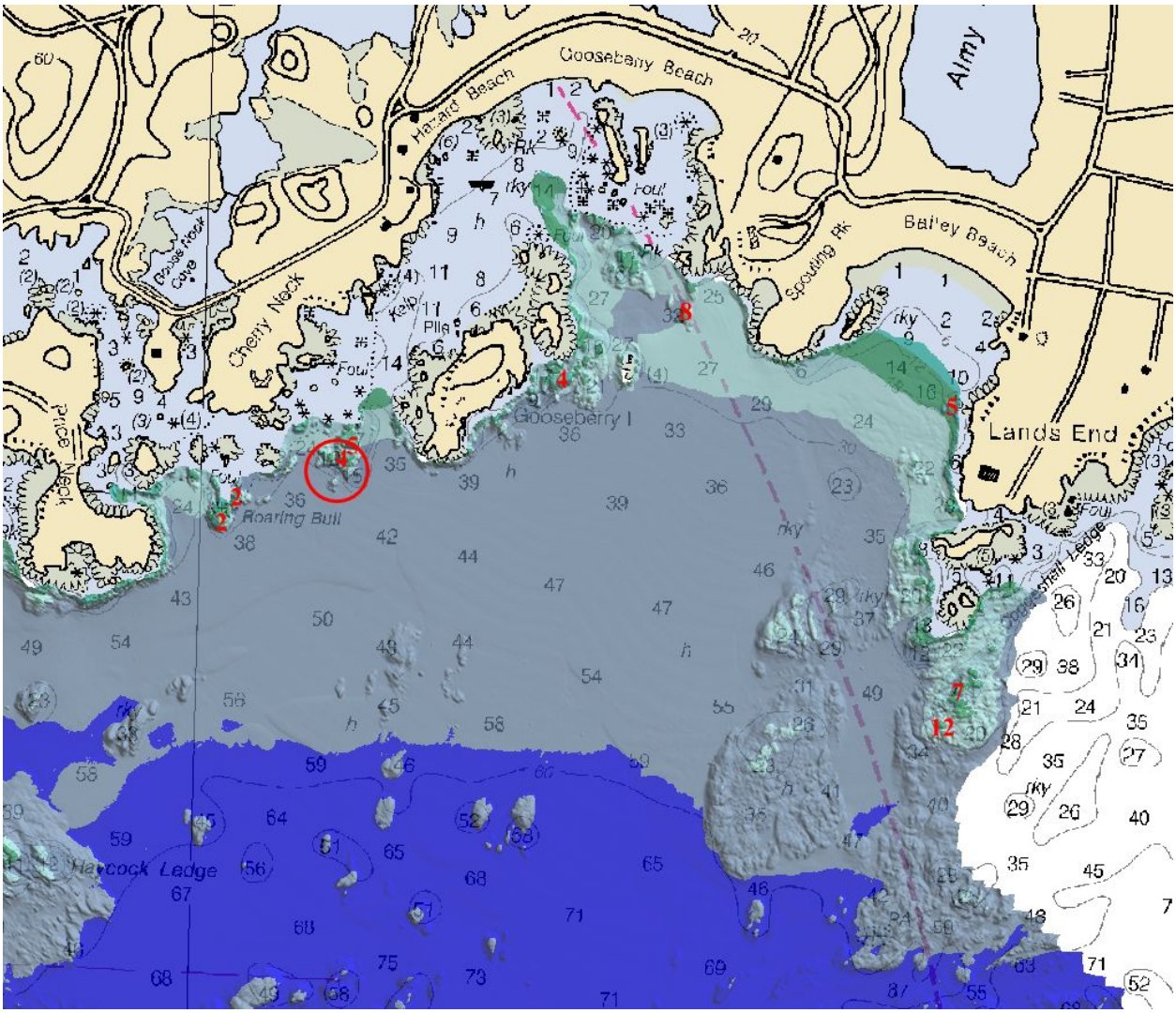

Gooseberry Beach
Almy
Bailey Beach
Spouting Rk
Cherry Neck
Price Neck
Gooseberry I
Lands End
Roaring Bull
Shell Ledge
Hancock Ledge

Figure 1.6.3

1.7) Profile/Beam 5146/5 / 008_1915

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 27' 38.7" N, 071° 25' 14.8" W
Least Depth:	7.98 m (= 26.18 ft = 4.364 fm = 4 fm 2.18 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.970 m ; **TVU (TPEv)** ±0.208 m
Timestamp:	2011-264.19:20:46.422 (09/21/2011)
Survey Line:	h12324 / nrt5_s3002_em3002_mbes / 2011-264 / 008_1915
Profile/Beam:	5146/5
Charts Affected:	13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

A new rock with a least depth of 26 ft between charted 34 and 38 ft soundings.

100% multibeam coverage has been obtained over this feature. Final tides have been applied via TCARI.

Hydrographer Recommendations

Hydrographer recommends charting a new rock.

Cartographically-Rounded Depth (Affected Charts):

26ft (13223_1, 13221_1, 13221_2, 13218_1)

4 ¼fm (12300_1, 13006_1, 13003_1)

8.0m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	SORDAT - 20111011
	SORIND - US,US,graph,H12324
	TECSOU - 3:found by multi-beam
	VALSOU - 7.981 m
	WATLEV - 3:always under water/submerged

Feature Images

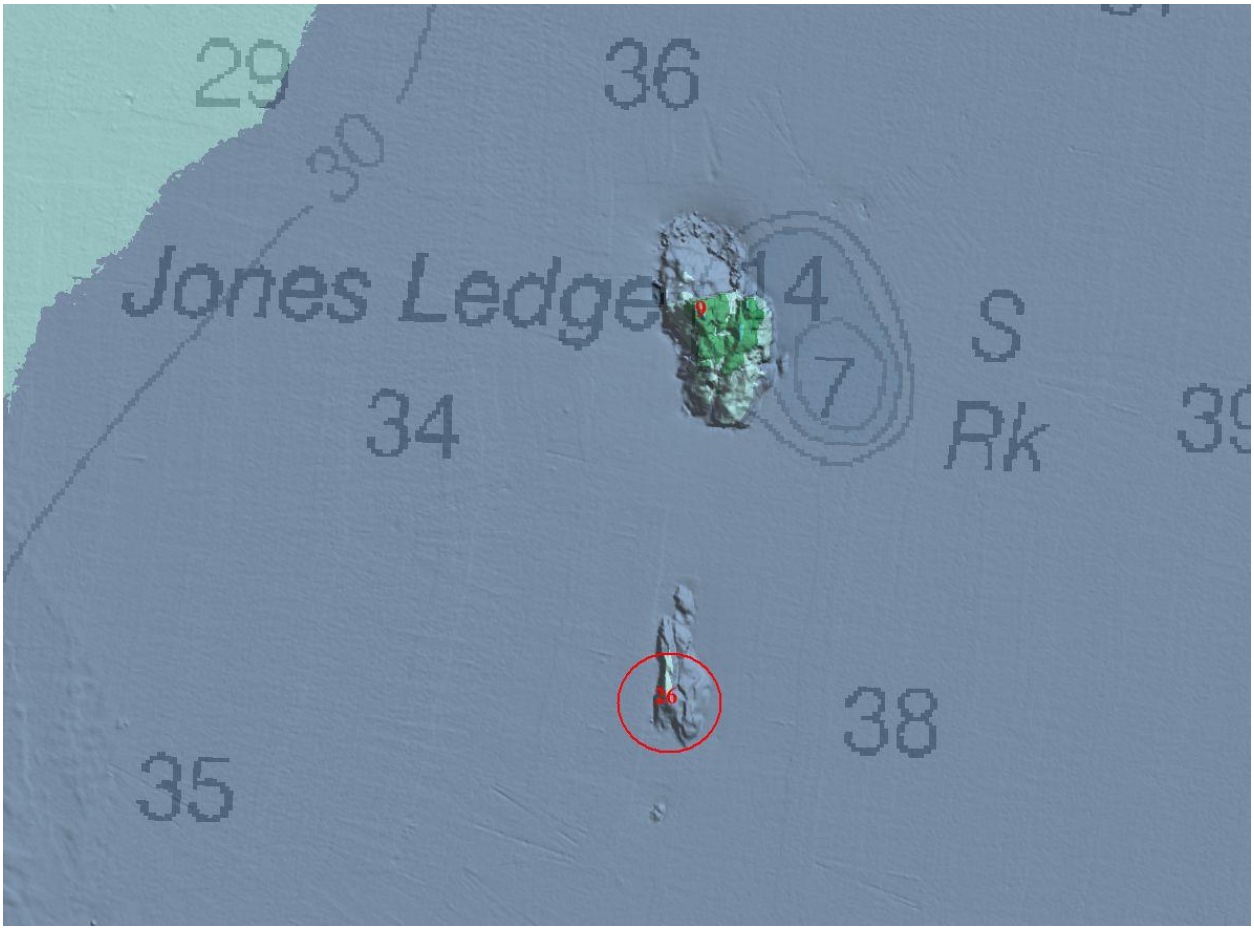


Figure 1.7.1

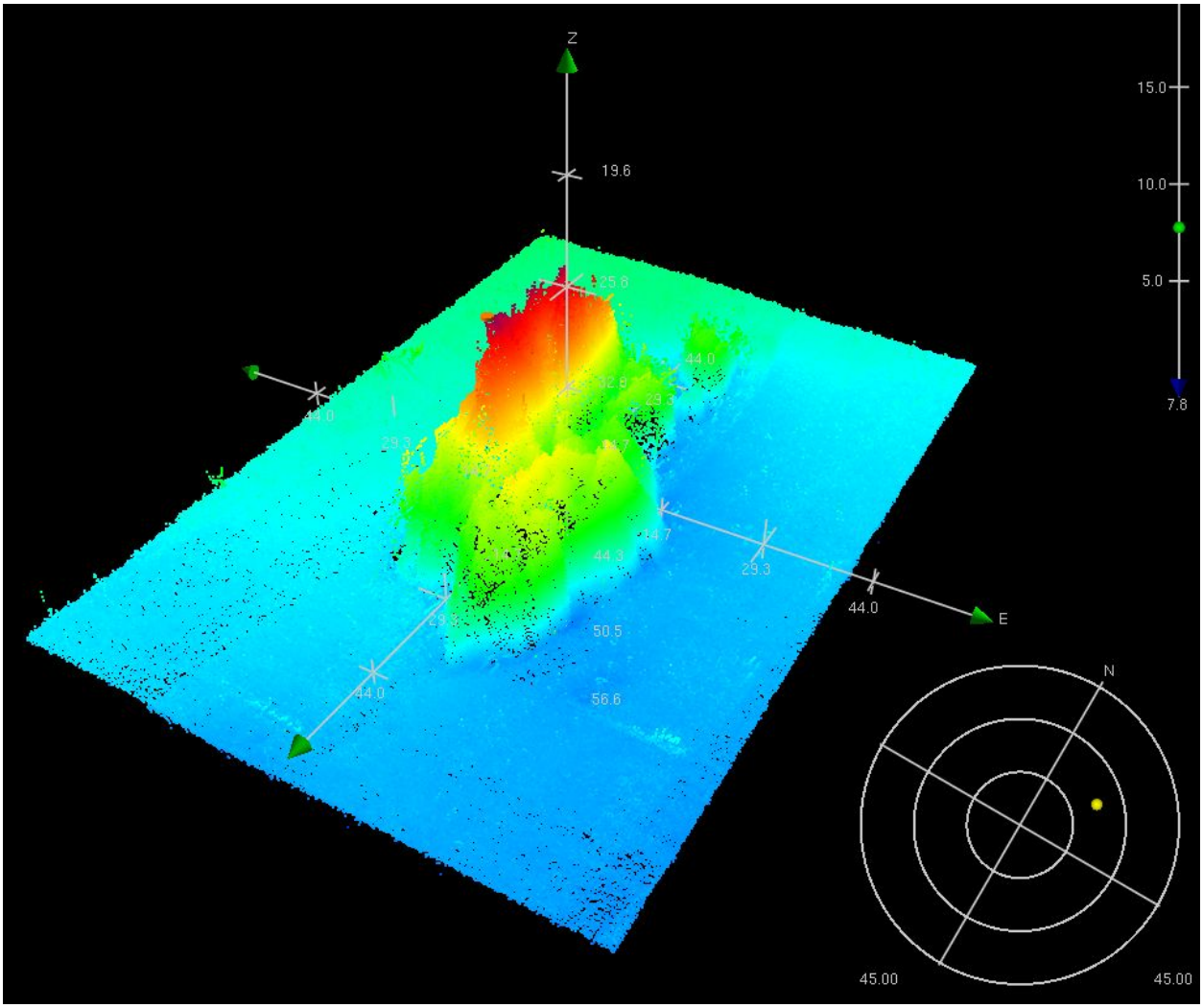


Figure 1.7.2

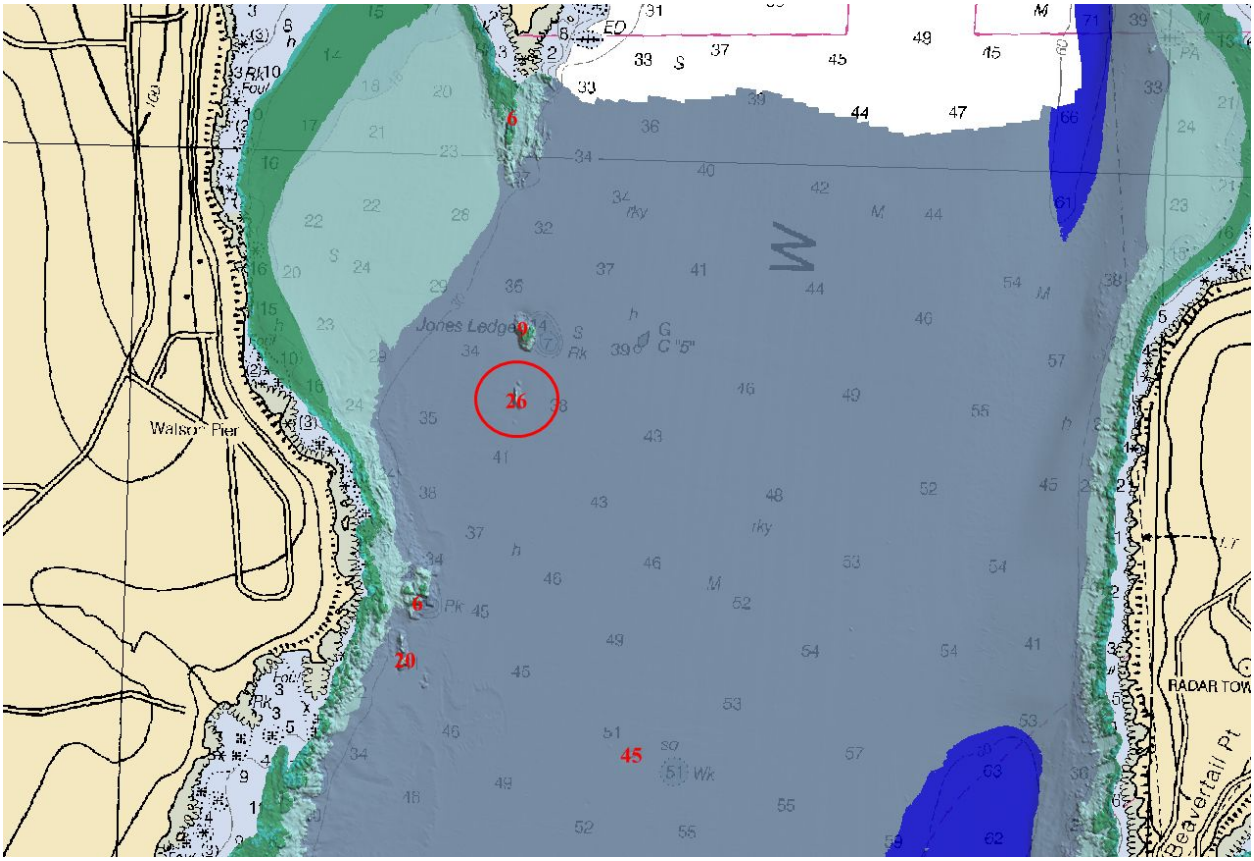


Figure 1.7.3

1.8) Profile/Beam 234/40 / 013_1934

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 27' 45.0" N, 071° 25' 14.3" W
Least Depth:	2.81 m (= 9.21 ft = 1.535 fm = 1 fm 3.21 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.966 m ; **TVU (TPEv)** ±0.159 m
Timestamp:	2011-264.19:34:45.662 (09/21/2011)
Survey Line:	h12324 / nrt5_s3002_em3002_mbes / 2011-264 / 013_1934
Profile/Beam:	234/40
Charts Affected:	13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

This is the updated shoal point of Jones Ledge. The entire ledge should be adjusted to the west based upon the bathymetry.

100% multibeam coverage has been obtained over this feature. Final tides have been applied via TCARI.

Hydrographer Recommendations

Hydrographer recommends charting a new rock and contours. New contours have been provided in ...H12324_DtoN_2.zip\Contours_for_Jones_Ledge\ in ESRI *.shp format and MapInfo *.tab format. Existing contours and soundings for Jones Ledge should be removed.

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:	SORDAT - 20111011
	SORIND - US,US,graph,H12324
	TECSOU - 3:found by multi-beam
	VALSOU - 2.807 m
	WATLEV - 3:always under water/submerged

Feature Images

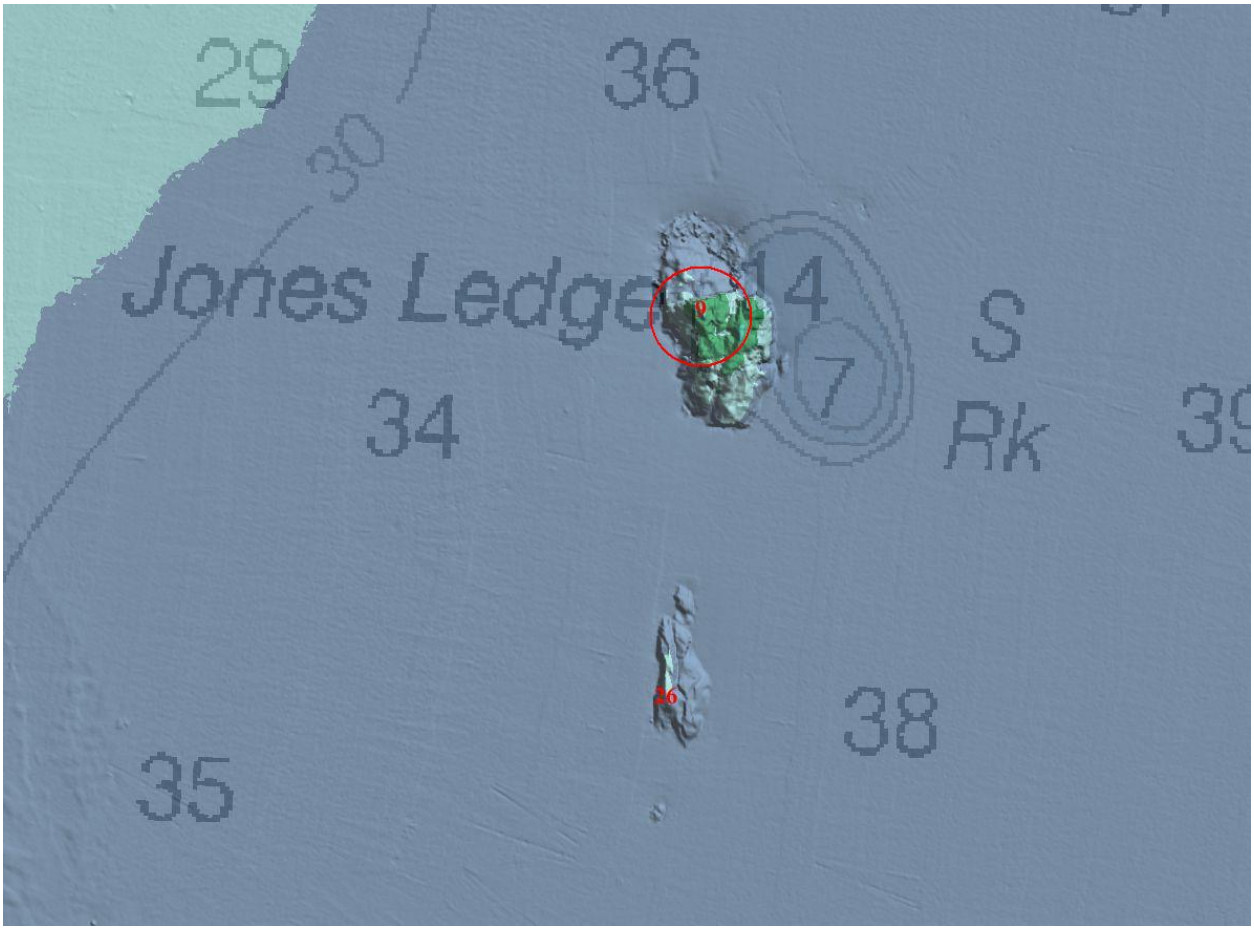


Figure 1.8.1

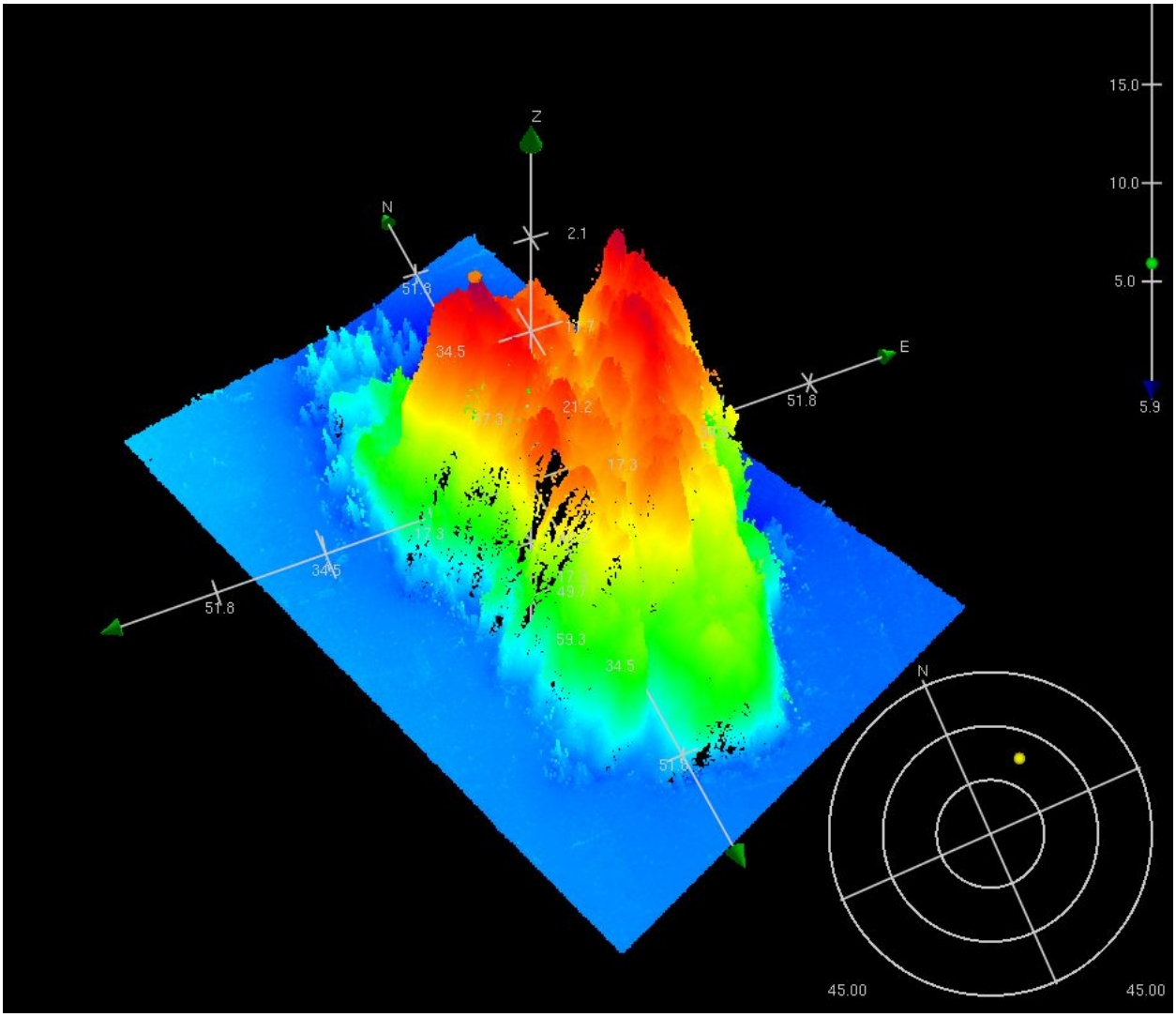


Figure 1.8.2

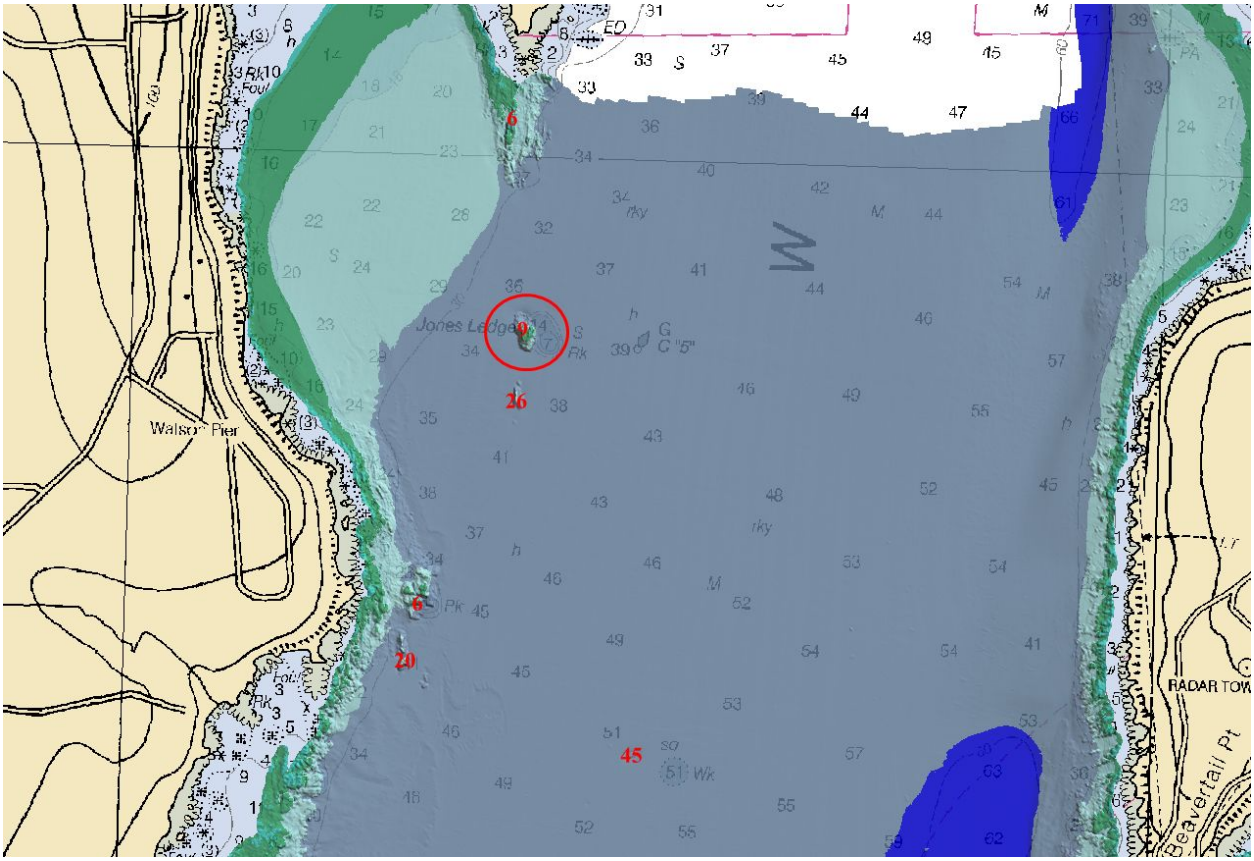


Figure 1.8.3

Figure 1.8.4

1.9) Profile/Beam 5748/225 / 000_1319

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 27' 15.8" N, 071° 25' 27.0" W
Least Depth:	6.30 m (= 20.66 ft = 3.444 fm = 3 fm 2.66 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.969 m ; **TVU (TPEv)** ±0.176 m
Timestamp:	2011-276.13:25:41.613 (10/03/2011)
Survey Line:	h12324 / nrt5_s3002_em3002_mbes / 2011-276 / 000_1319
Profile/Beam:	5748/225
Charts Affected:	13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

A least depth of 20 ft was found over a charted 41 ft sounding.

100% multibeam coverage has been obtained over this feature. Final tides have been applied via TCARI.

Hydrographer Recommendations

Hydrographer recommends charting a new rock.

Cartographically-Rounded Depth (Affected Charts):

20ft (13223_1, 13221_1, 13221_2, 13218_1)

3 ½fm (12300_1, 13006_1, 13003_1)

6.3m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	SORDAT - 20111011
	SORIND - US,US,graph,H12324
	TECSOU - 3:found by multi-beam
	VALSOU - 6.298 m
	WATLEV - 3:always under water/submerged

Feature Images

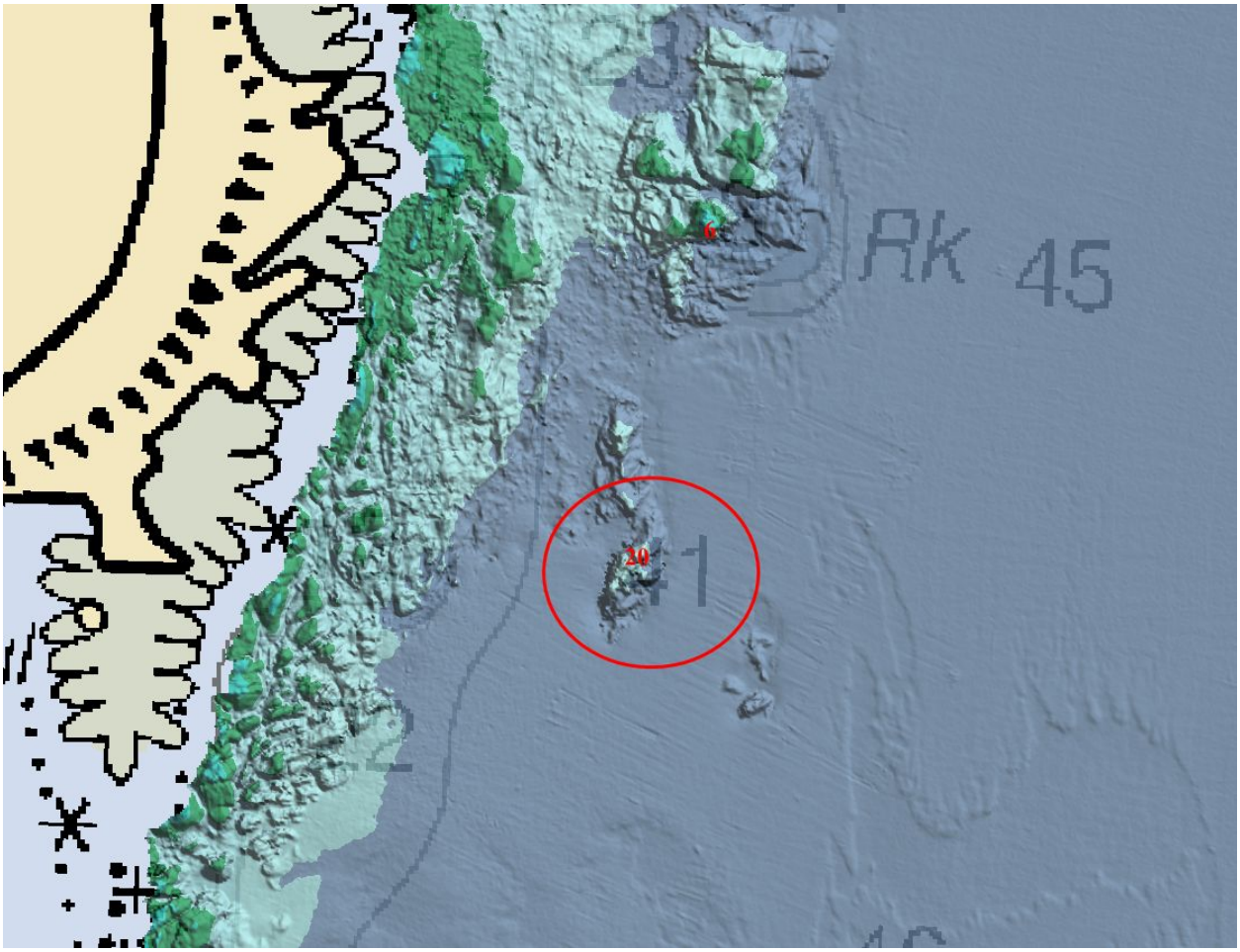


Figure 1.9.1

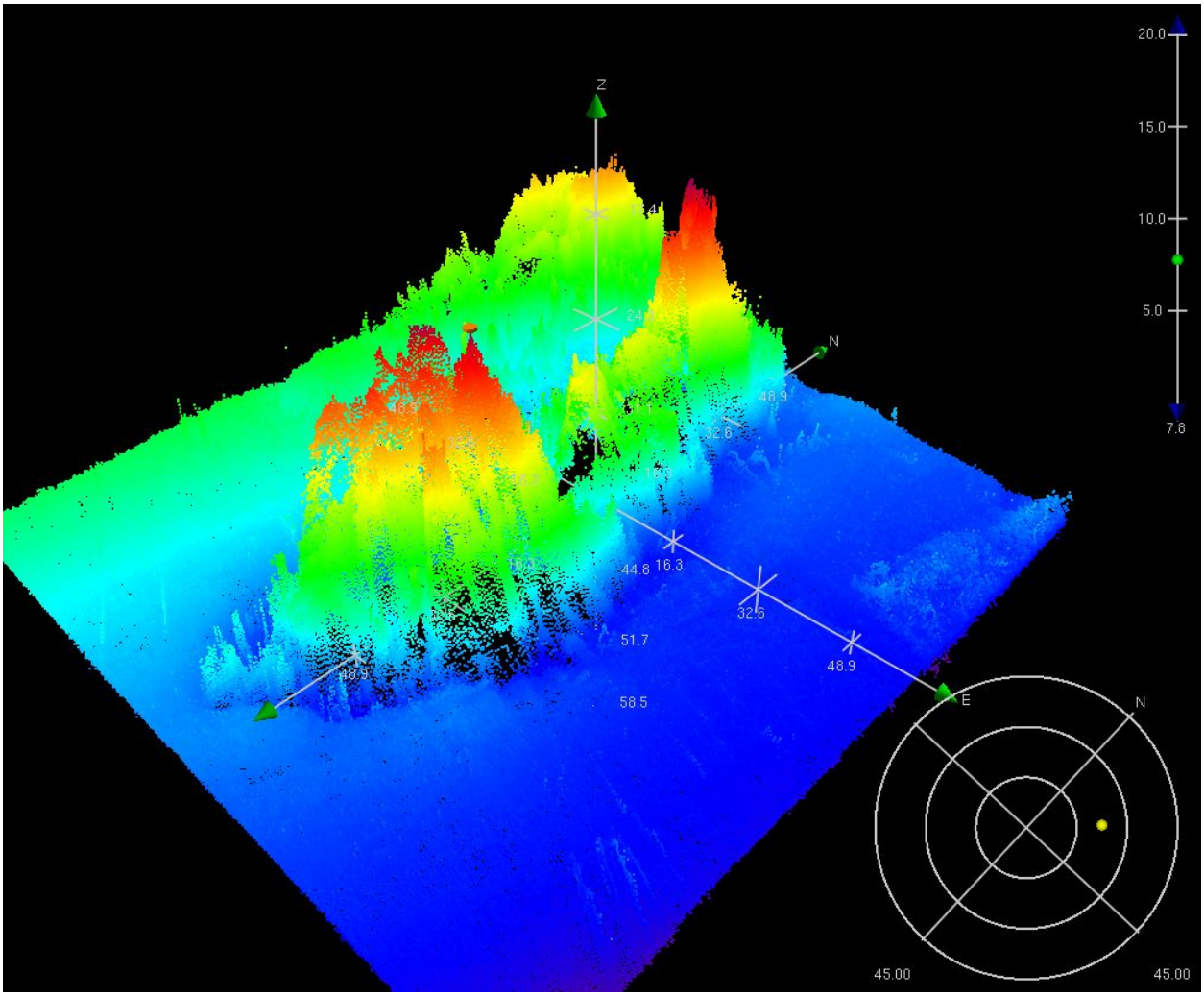

20.0
15.0
10.0
5.0
7.8
Z
N
E
N
48.9
32.6
44.8
16.3
32.6
51.7
48.9
48.9
58.5
45.00
45.00

Figure 1.9.2

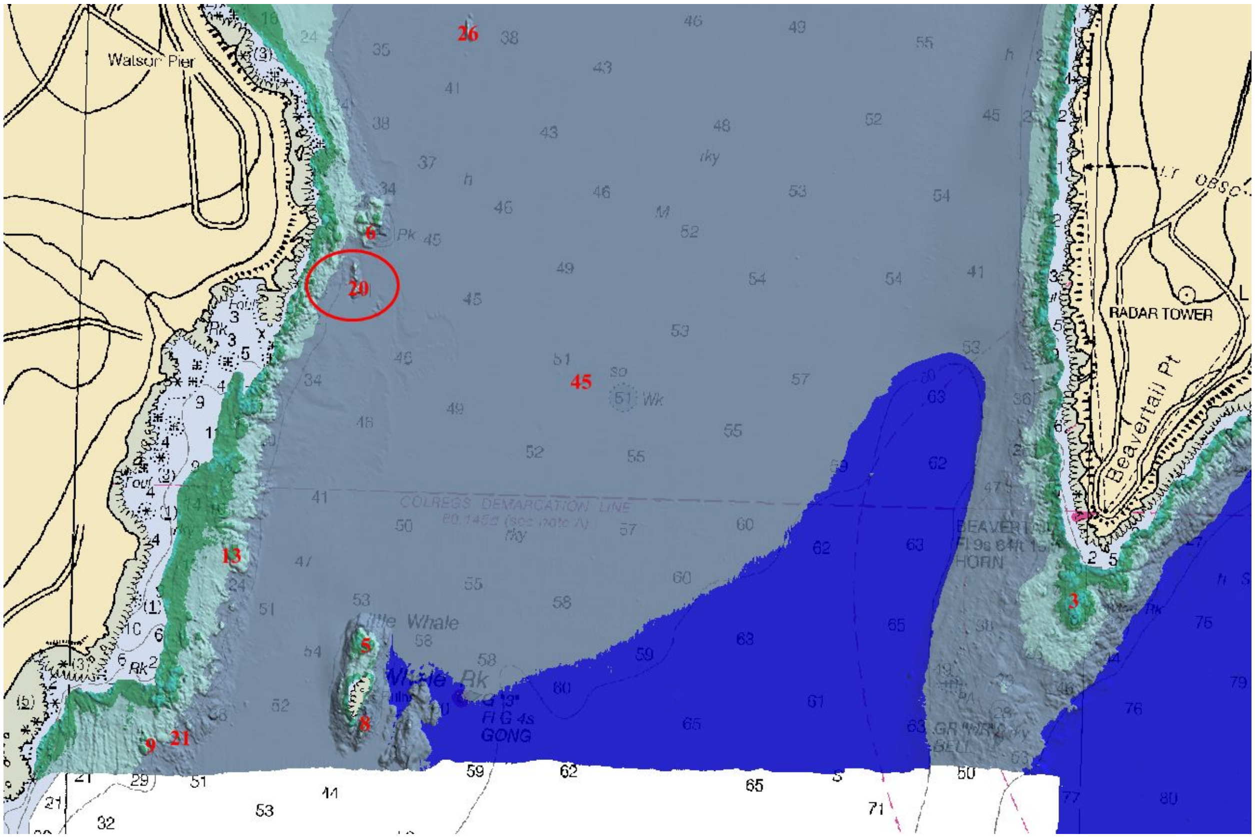

Watson Pier
RADAR TOWER
Beavertail Pt
Little Whale
Whale Rk
GONG
COLREGS DEMARCATION LINE
BEAVERTAIL
HORN

Figure 1.9.3

1.10) Profile/Beam 191/168 / 000a1706

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 26' 34.5" N, 071° 25' 50.1" W
Least Depth:	3.00 m (= 9.83 ft = 1.638 fm = 1 fm 3.83 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.965 m ; **TVU (TPEv)** ±0.170 m
Timestamp:	2011-276.17:06:25.239 (10/03/2011)
Survey Line:	h12324 / nrt5_s3002_em3002_mbes / 2011-276 / 000a1706
Profile/Beam:	191/168
Charts Affected:	13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

A new rock with a least depth of 9 ft outside the 18 ft contour.

100% multibeam coverage has been obtained over this feature. Final tides have been applied via TCARI.

Hydrographer Recommendations

Hydrographer recommends charting a new rock.

Cartographically-Rounded Depth (Affected Charts):

10ft (13223_1, 13221_1, 13221_2, 13218_1)

1 ½fm (12300_1, 13006_1, 13003_1)

3.0m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	SORDAT - 20111011
	SORIND - US,US,graph,H12324
	TECSOU - 3:found by multi-beam
	VALSOU - 2.995 m
	WATLEV - 3:always under water/submerged

Feature Images

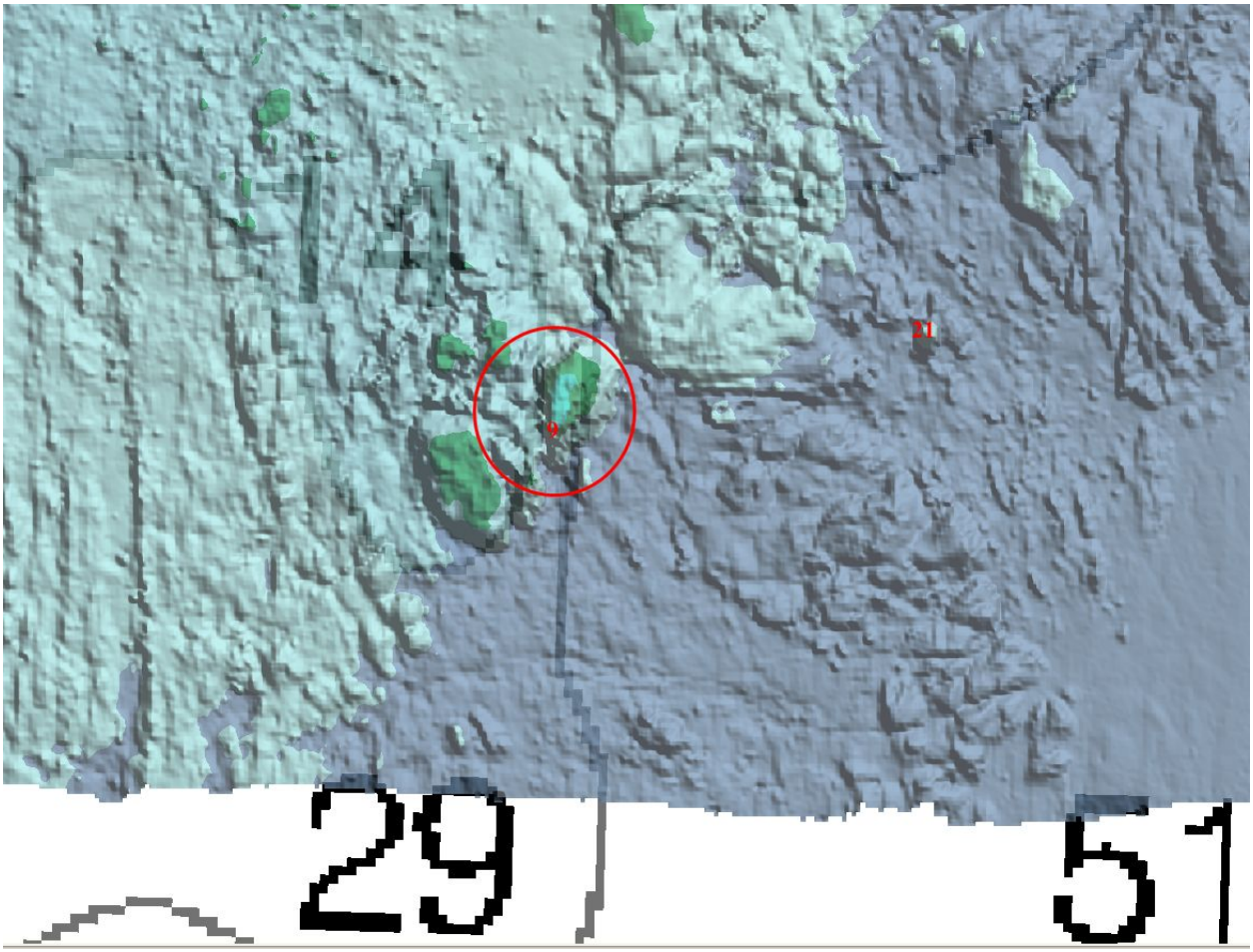


Figure 1.10.1

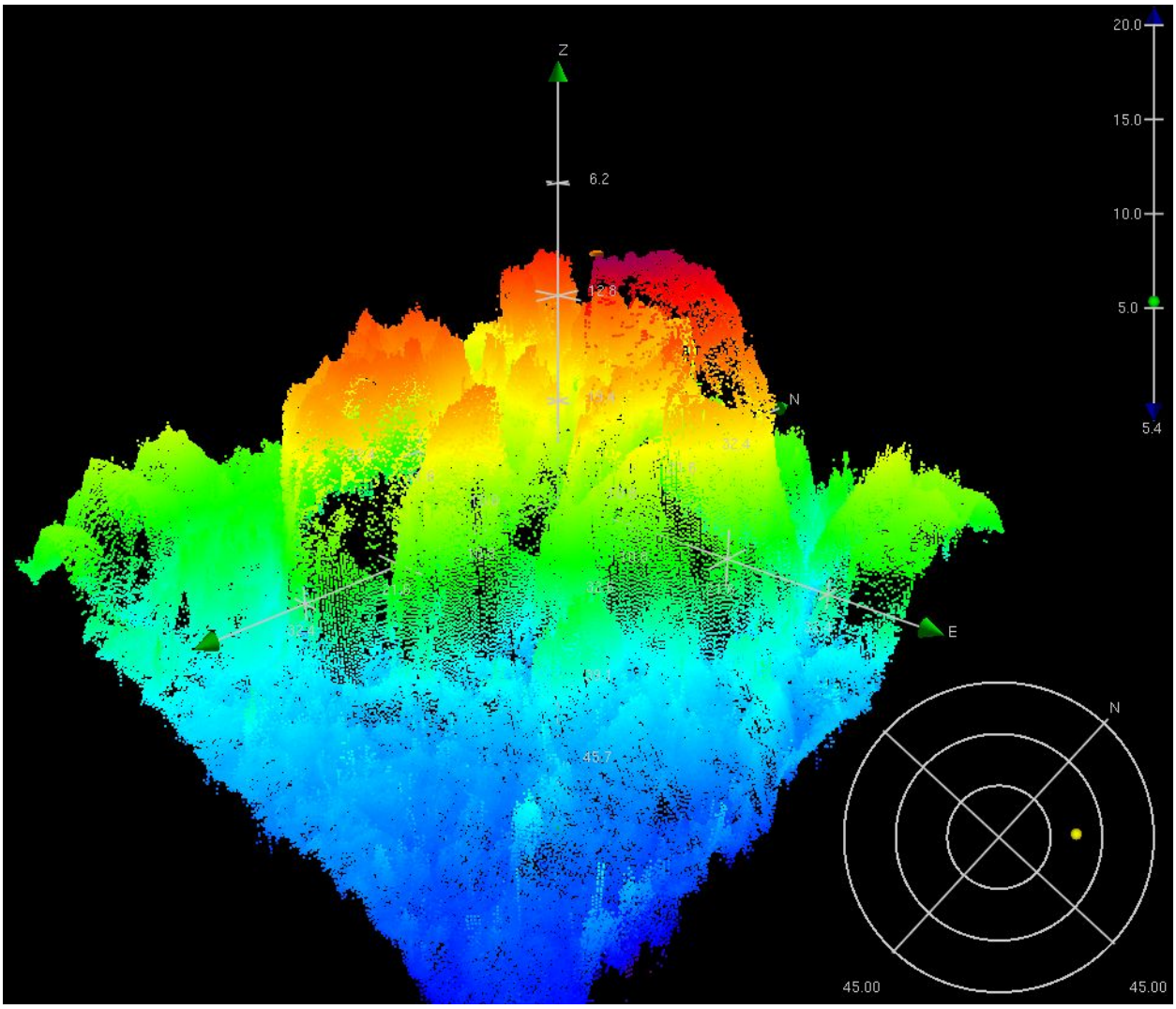


Figure 1.10.2

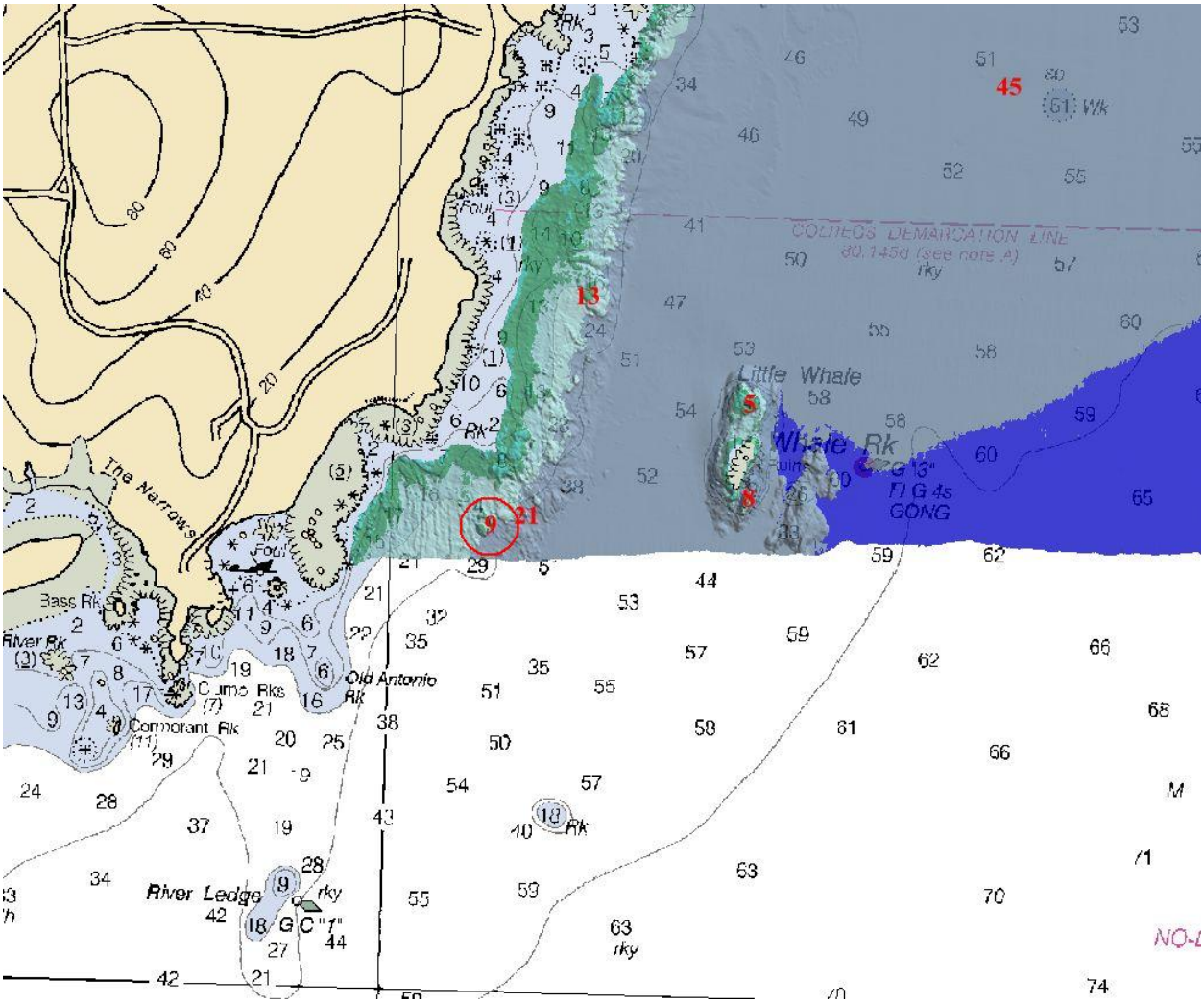

45
13
5
8
9
21
Little Whale
Whale Rk
FIG 4s
GONG
The Narrows
Bass Rk
River Rk
Old Antonio Rk
Cormorant Rk
River Ledge
COLREGS DEMARCATION LINE
80.1450 (see note A)
rky
Wk

Figure 1.10.3

1.11) Profile/Beam 247/209 / 000_1344

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 26' 51.6" N, 071° 20' 34.6" W
Least Depth:	2.19 m (= 7.18 ft = 1.196 fm = 1 fm 1.18 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.964 m ; **TVU (TPEv)** ±0.157 m
Timestamp:	2011-178.13:44:50.366 (06/27/2011)
Survey Line:	h12324 / nrt5_s3002_em3002_mbes / 2011-178 / 000_1344
Profile/Beam:	247/209
Charts Affected:	13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

A new rock with a least depth of 7 ft outside the 18 ft contour.

100% multibeam coverage has been obtained over this feature. Final tides have been applied via TCARI.

Hydrographer Recommendations

Hydrographer recommends charting a new rock.

Cartographically-Rounded Depth (Affected Charts):

7ft (13223_1, 13221_1, 13221_2, 13218_1)

1 ¼fm (12300_1, 13006_1, 13003_1)

2.2m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	SORDAT - 20111011
	SORIND - US,US,graph,H12324
	TECSOU - 3:found by multi-beam
	VALSOU - 2.188 m
	WATLEV - 3:always under water/submerged

Feature Images

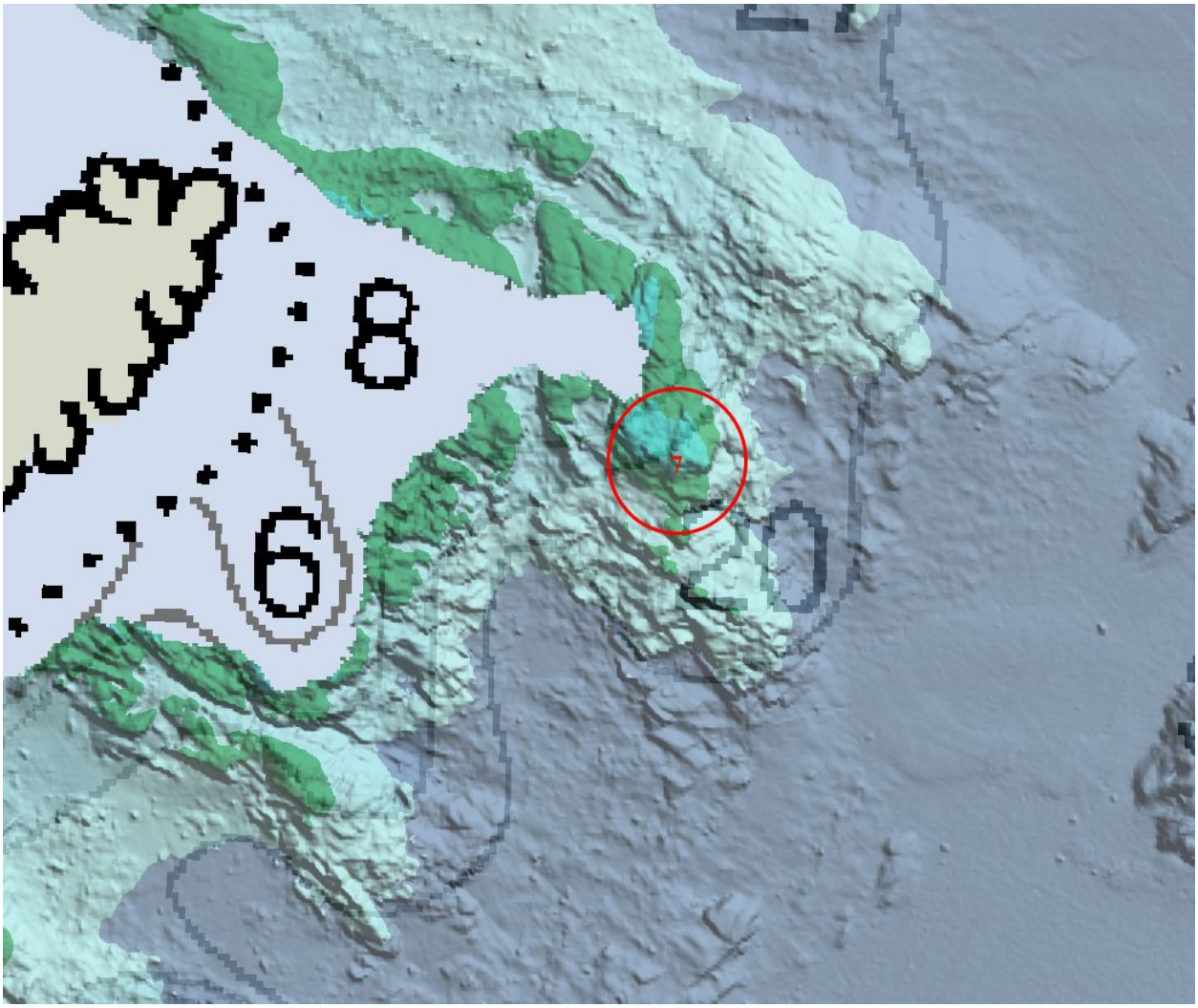


Figure 1.11.1

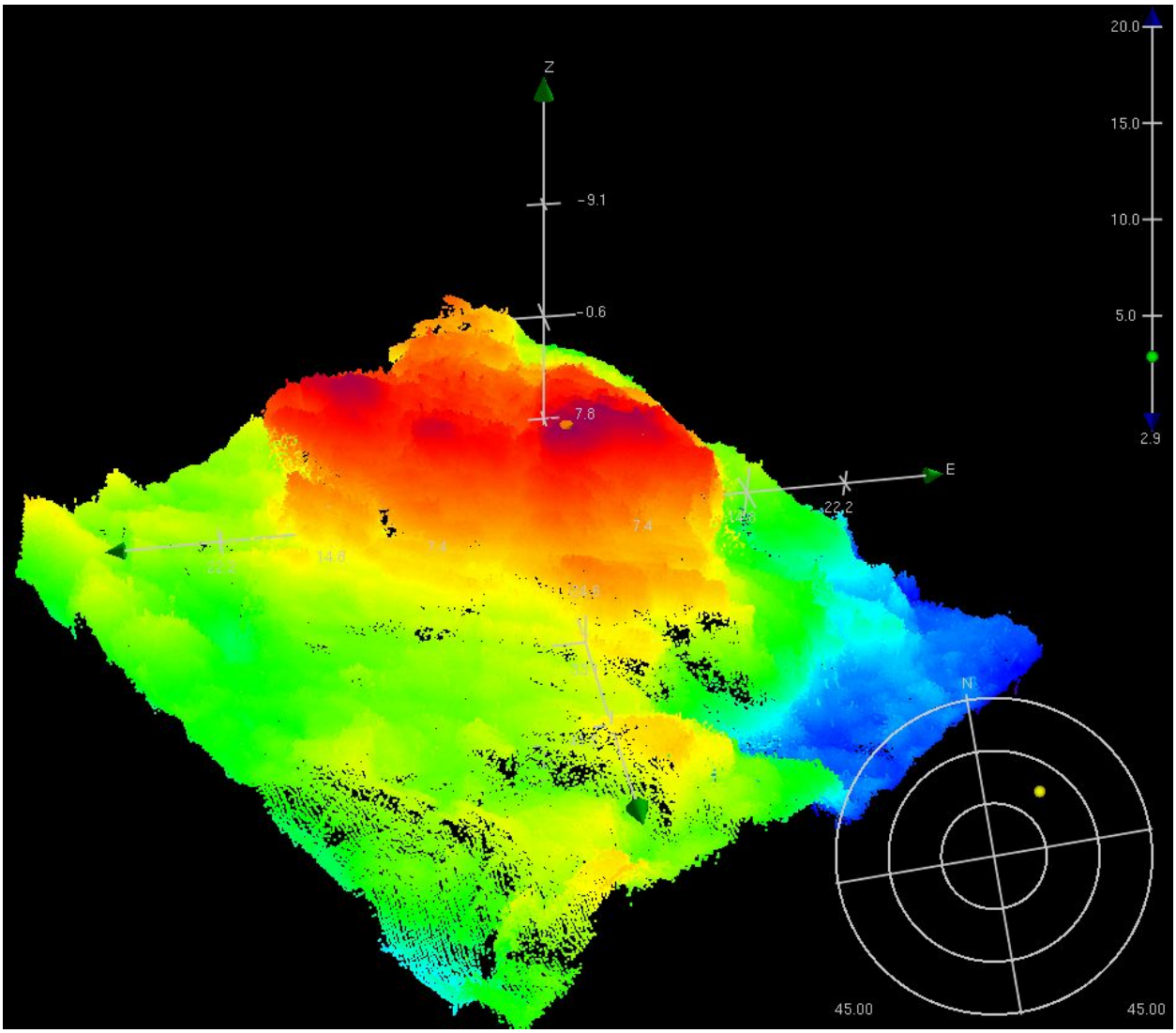


Figure 1.11.2

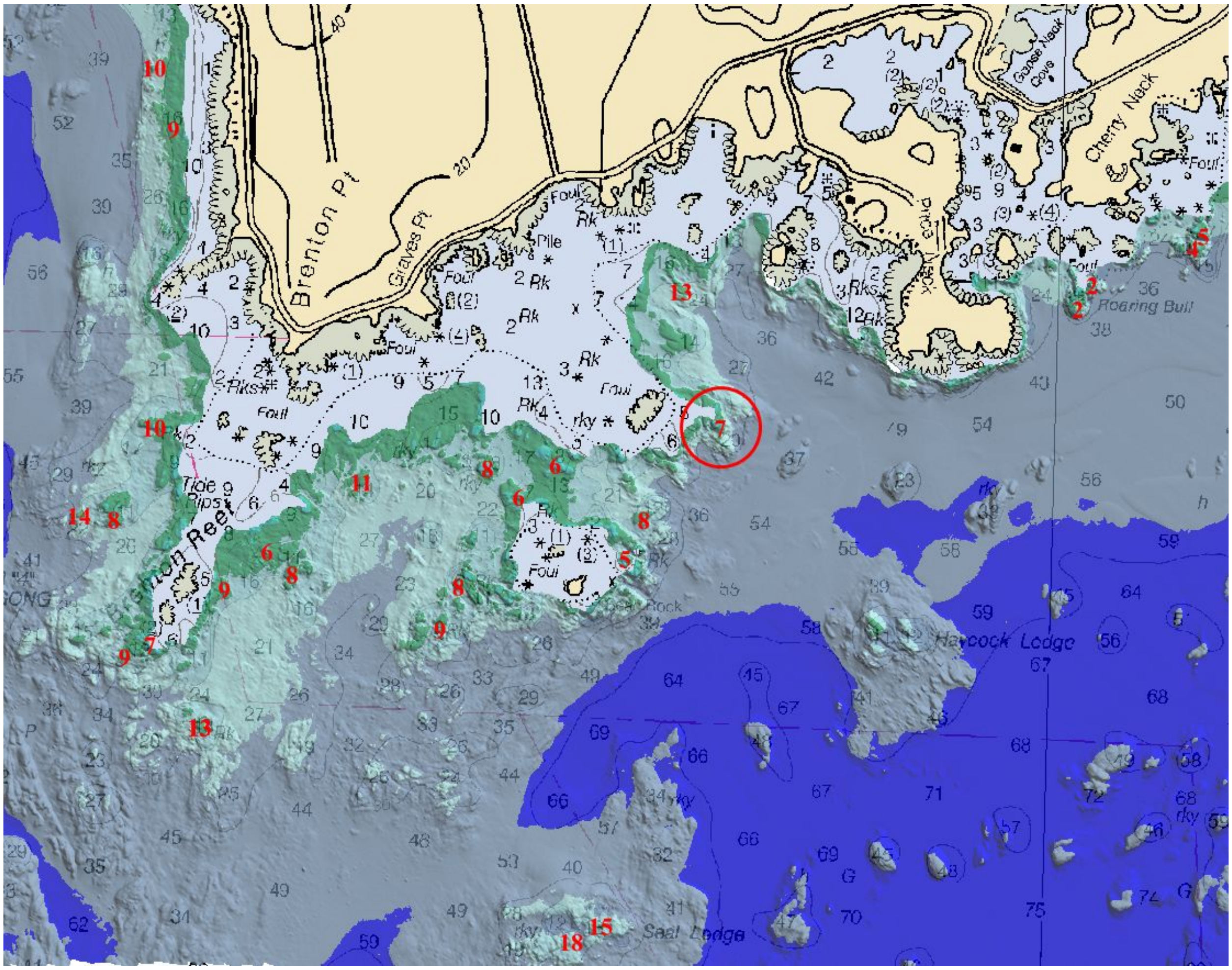

Brenton Pt
Graves Pt
Cherry Neck
Roaring Bull
Tide Rips
Brenton Reef
Haycock Ledge
Seal Ledge
Foul
Pile

Figure 1.11.3

1.12) Profile/Beam 1356/59 / 000_1329

DANGER TO NAVIGATION

Survey Summary

Survey Position:	41° 26' 13.2" N, 071° 18' 31.1" W
Least Depth:	9.32 m (= 30.58 ft = 5.097 fm = 5 fm 0.58 ft)
TPU (±1.96σ):	**THU (TPEh)** ±1.970 m ; **TVU (TPEv)** ±0.189 m
Timestamp:	2011-255.13:32:00.081 (09/12/2011)
Survey Line:	h12324 / nrt5_s3002_em3002_mbes / 2011-255 / 000_1329
Profile/Beam:	1356/59
Charts Affected:	13223_1, 13221_1, 13221_2, 13218_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

This is a rock with a least depth of 30 ft located between a charted 53 ft sounding and a charted 77 ft sounding. In the image showing contours, the blue/gray border indicates the 60 ft. contour. 100% multibeam coverage has been obtained over this feature. Final tides have been applied via TCARI.

Hydrographer Recommendations

Recommend charting new rock with a least depth of 30 ft.

Cartographically-Rounded Depth (Affected Charts):

30ft (13223_1, 13221_1, 13221_2, 13218_1)

5fm (12300_1, 13006_1, 13003_1)

9.3m (5161_1)

S-57 Data

Geo object 1:	Underwater rock / awash rock (UWTROC)
Attributes:	SORDAT - 20111011
	SORIND - US,US,graph,H12324
	TECSOU - 3:found by multi-beam
	VALSOU - 9.322 m
	WATLEV - 3:always under water/submerged

Feature Images

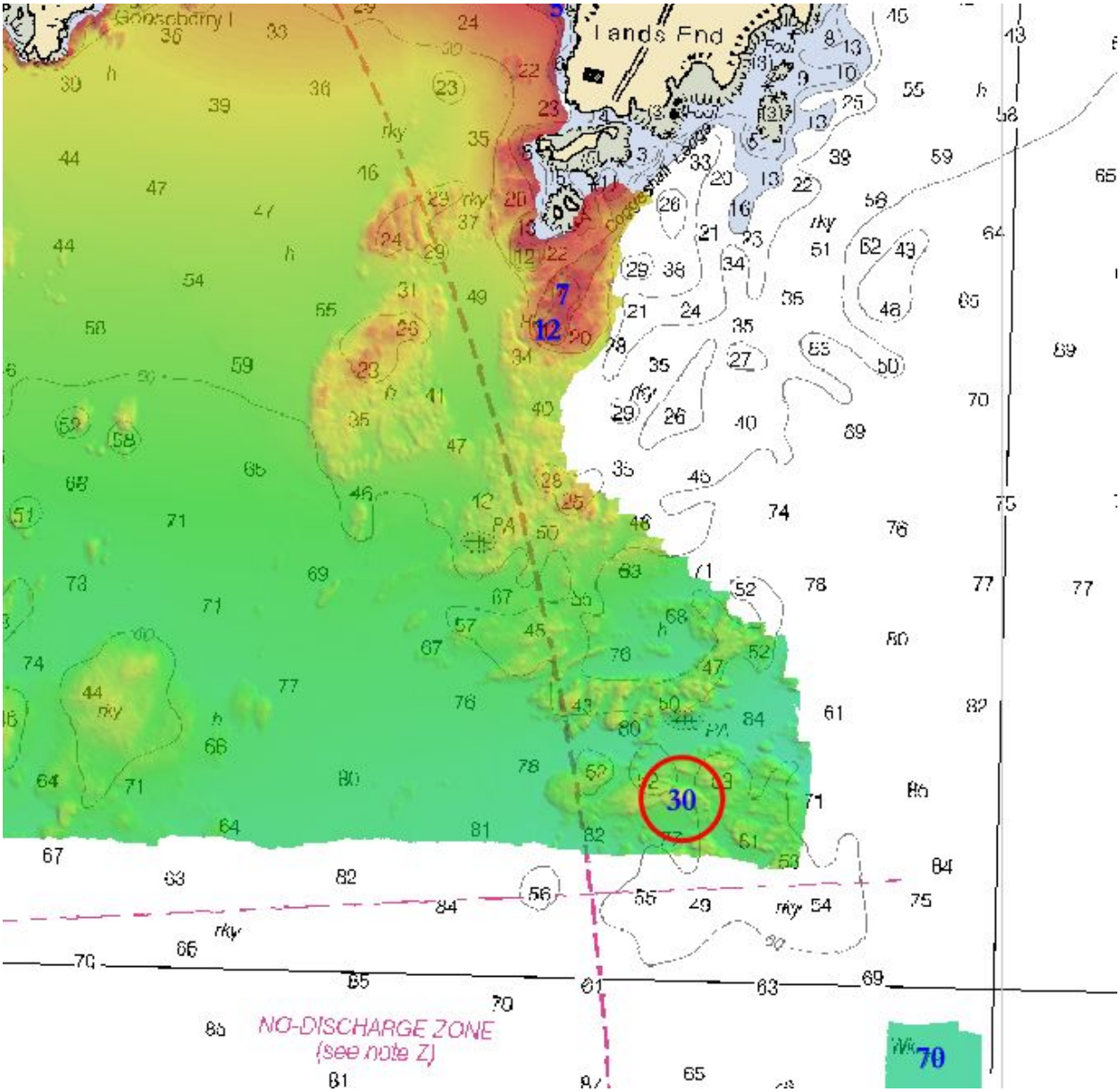


Figure 1.12.1

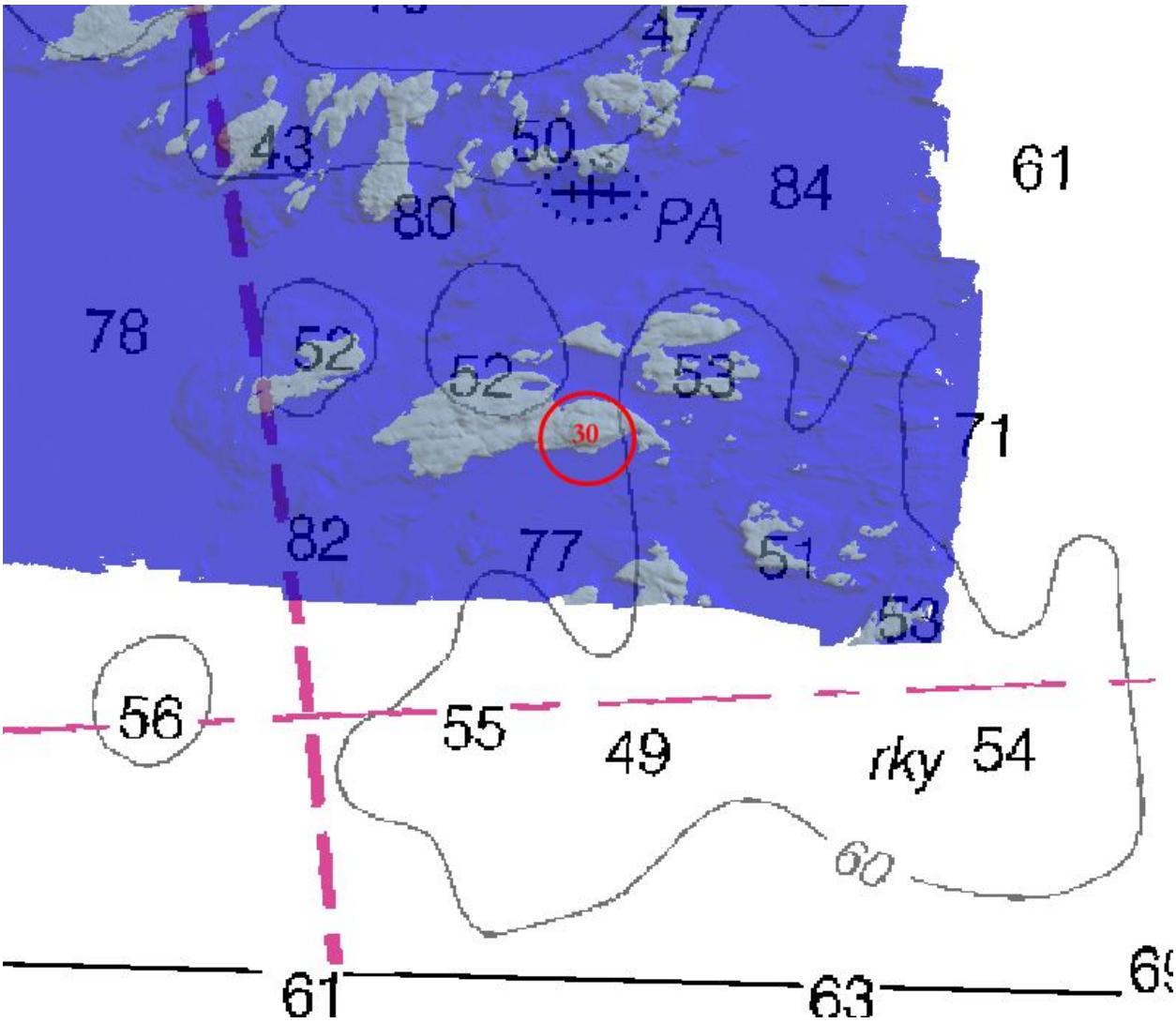

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Figure 1.12.2

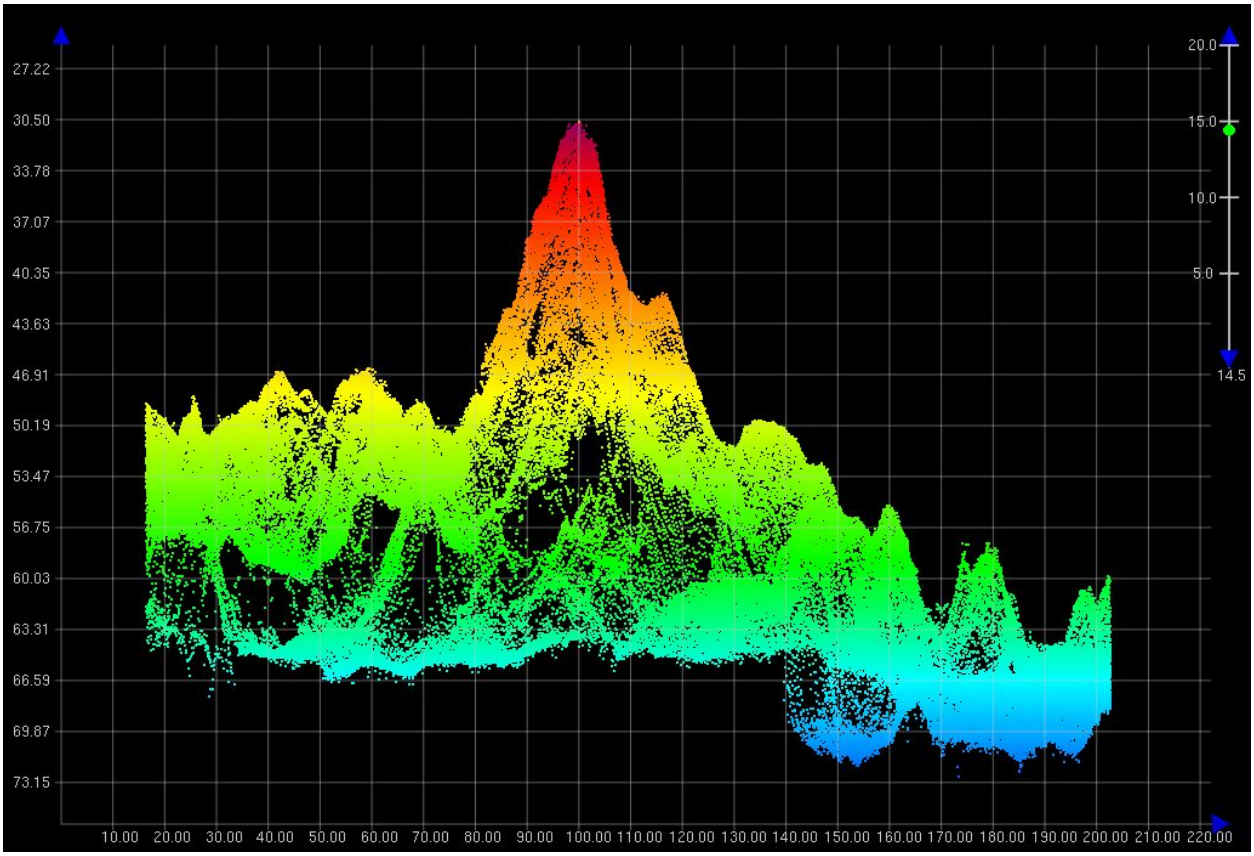
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Figure 1.12.3

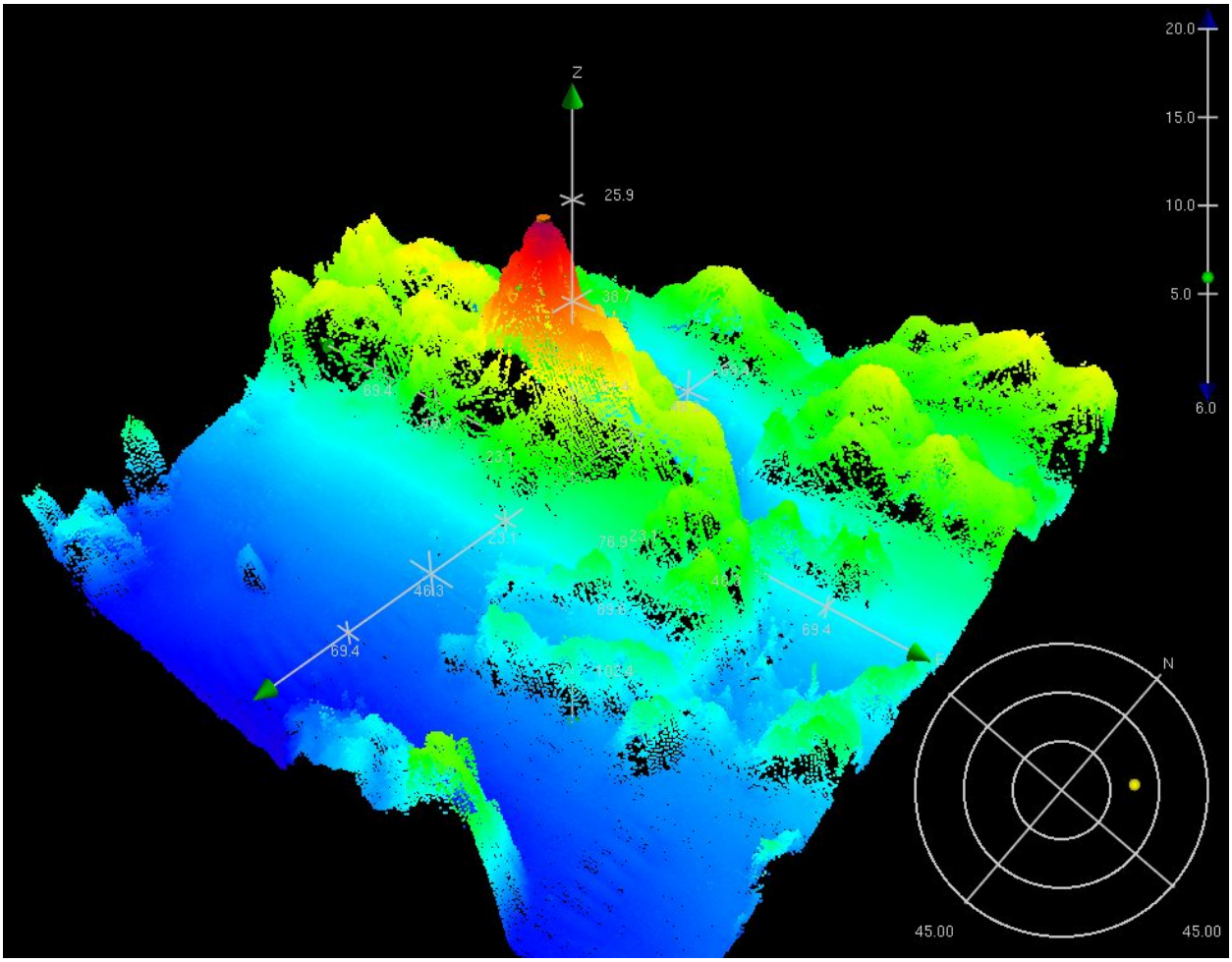

Figure 1.12.4

Wreck Report

A new wreck with a least depth of 45.1 ft. was found at position 41-27-08.02N, 071-25-00.29W and is shown in the image below. The compiler recommends adding this new wreck to the AWOIS database.

Note that the wreck is in the vicinity of another charted wreck (AWOIS item 7463) but is a different wreck as the AWOIS wreck was confirmed by divers at the location charted and there is evidence in the hydrography of an obstruction at the location.

APPROVAL PAGE

H12324

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

- H12324_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12324_GeoImage.pdf

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

Approved:_____

Digitally signed by Peter Holmberg
DN: cn=Peter Holmberg, o, ou=signing for Annie Raymond, email=annemieke.raymond@noaa.gov, c=US
Date: 2012.12.13 08:06:30 -08'00'

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:_____

Digitally signed by Russ Davies signed for Dave Zezula
DN: cn=Russ Davies signed for Dave Zezula, o=PHB, ou=NOAA, email=Russ.Davies@NOAA.Gov, c=US
Date: 2012.12.11 14:22:56 -08'00'

LCDR Dave Zezula, NOAA
Chief, Pacific Hydrographic Branch