

F00628

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

DESCRIPTIVE REPORT

Type of Survey: Navigable Area

Registry Number: F00628

LOCALITY

State(s): Maryland

General Locality: Potomac River

Sub-locality: Key Bridge to the Woodrow Wilson Bridge

2012

CHIEF OF PARTY
LTJG Daniel D. Smith, NOAA

LIBRARY & ARCHIVES

Date:

HYDROGRAPHIC TITLE SHEET

F00628

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(s): **Maryland**

General Locality: **Potomac River**

Sub-Locality: **Key Bridge to the Woodrow Wilson Bridge**

Scale: **10000**

Dates of Survey: **12/06/2012 to 12/17/2012**

Instructions Dated: **11/27/2012**

Project Number: **S-E937-NRT5-12**

Field Unit: **Navigation Response Team 5**

Chief of Party: **LTJG Daniel D. Smith, NOAA**

Soundings by: **Multibeam Echo Sounder**

Imagery by: **Side Scan Sonar**

Verification by: **Pacific Hydrographic Branch**

Soundings Acquired in: **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. 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 F00628

Project: S-E937-NRT5-12

Locality: Potomac River

Sublocality: Key Bridge to the Woodrow Wilson Bridge

Scale: 1:10000

December 2012 - December 2012

Navigation Response Team 5

Chief of Party: LTJG Daniel D. Smith, NOAA

A. Area Surveyed

The survey area is located in Potomac River, MD, within the sub-locality of Key Bridge to the Woodrow Wilson Bridge.

A.1 Survey Limits

Data were acquired within the following survey limits:

Northwest Limit	Southeast Limit
38° 52" 18.51' N 76° 59" 28.98' W	38° 47" 36.81' N 77° 2" 20.55' 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 purpose of this project is to support the USCG assets in enforcing a Security Zone during the Presidential Inauguration. The project will also provide contemporary surveys to update National Ocean Service (NOS) nautical charting products.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

A.4 Survey Coverage

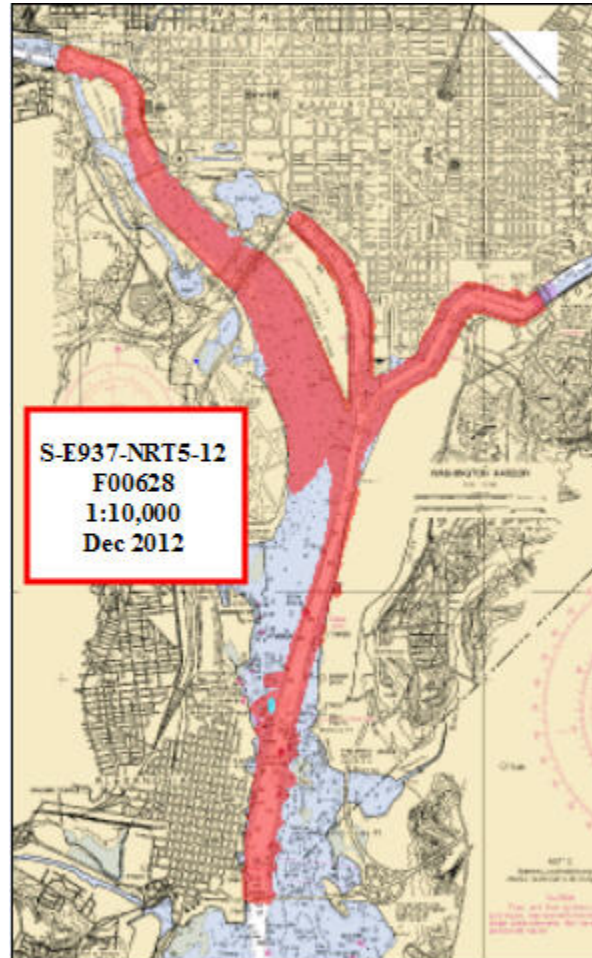


Figure 1: F00628 Survey Outline.

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:

	Vessel	<i>S3002</i>	<i>Total</i>
LNM	SBES Mainscheme	0	0
	MBES Mainscheme	26.38	26.38
	Lidar Mainscheme	0	0
	SSS Mainscheme	0	0
	SBES/MBES Combo Mainscheme	0	0
	SBES/SSS Combo Mainscheme	0	0
	MBES/SSS Combo Mainscheme	158.84	158.84
	SBES/MBES Combo Crosslines	35.59	35.39
	Lidar Crosslines	0	0
	Number of Bottom Samples		0
Number AWOIS Items Investigated		23	
Number Maritime Boundary Points Investigated		0	
Number of DPs		0	
Number of Items Items Investigated by Dive Ops		0	
Total Number of SNM		2.3165	

Table 2: Hydrographic Survey Statistics

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

Survey Dates	Julian Day Number
12/06/2012	341
12/07/2012	342
12/08/2012	343
12/09/2012	344
12/10/2012	345
12/12/2012	347
12/14/2012	349
12/15/2012	350
12/16/2012	351
12/17/2012	352

Table 3: Dates of Hydrography

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 2: 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
Edgetech	4125	SSS
Applanix	POS/MV 320 Version 4	Positioning and Attitude System
Trimble	DSM212L DGPS Receiver	Positioning System
Seabird	Seacat 19+ CTD Profiler	Conductivity, Temperature and Depth Sensor
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

Crosslines, acquired for this survey, totalled 19.1% of mainscheme acquisition.

Crosslines were collected, processed and compared in accordance with section 5.2.4.3 of the HSSD. Surface differencing in CARIS HIPS and SIPS was used to assess crossline agreement with main scheme lines. Percentage of crosslines collected to main scheme lines is 19.1%. Differences between crosslines and main scheme lines were generally less than 0.5 meter. Differences in crosslines to main scheme lines greater than 0.5 meter are believed to be caused by large changes in slope that occur near the edges of the channels and in the rocky areas of the North Potomac. Figure 3 is an illustration of the surface difference greater than 0.5 meter along the edge of the channel in the north Potomac River.

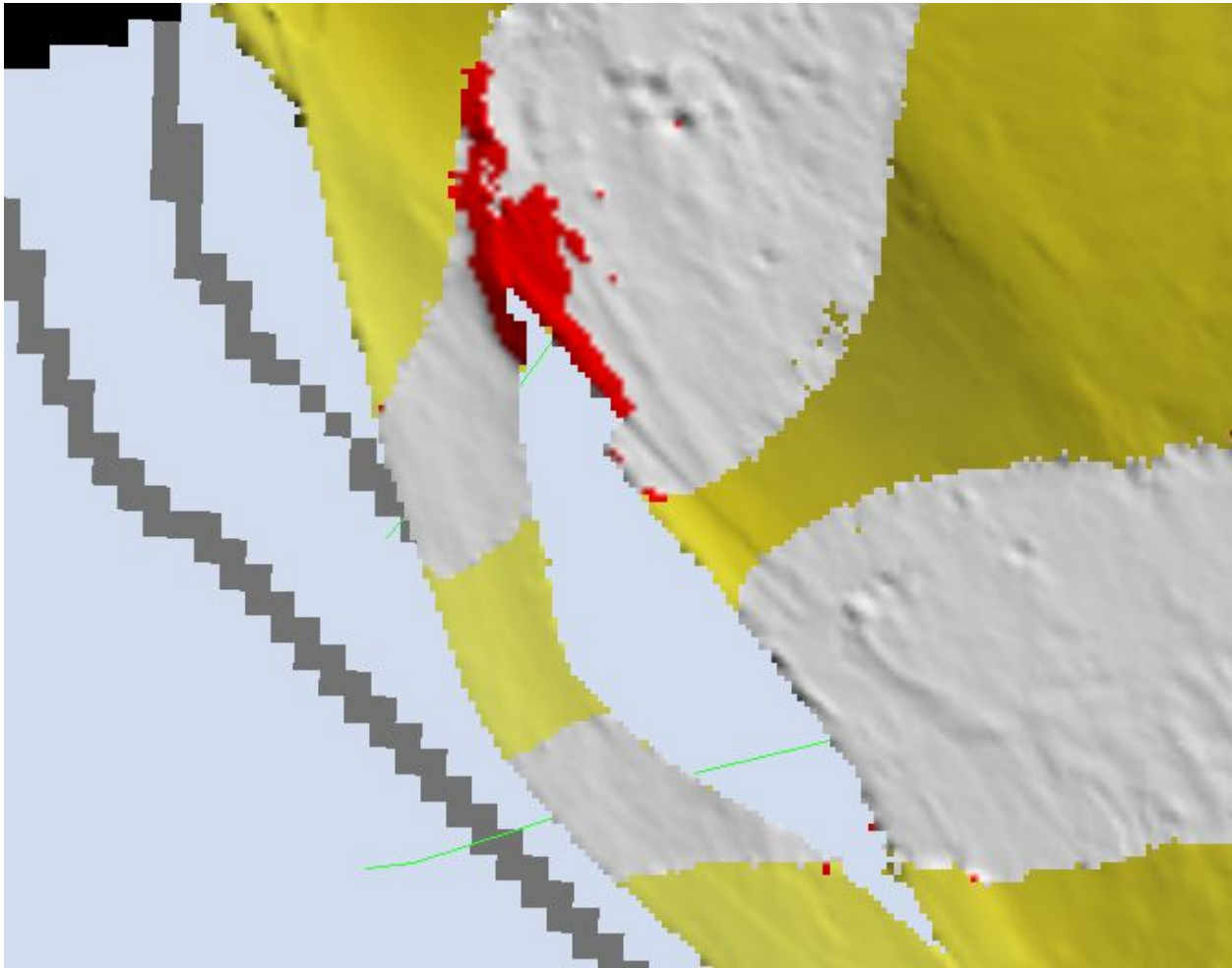


Figure 3: Graphical representation of differences greater than 0.5 meter between crossline and main scheme surfaces.

B.2.2 Uncertainty

The following survey specific parameters were used for this survey:

Measured	Zoning
0.00 meters	0.045 meters

Table 6: Survey Specific Tide TPU Values

Hull ID	Measured - CTD	Measured - MVP	Surface
S3002	4 meters/second		0.5 meters/second

Table 7: Survey Specific Sound Speed TPU Values

In the tide note that CO-OPS provided with the project instructions, they included the value of 0.045 meters for the total uncertainty from zoning and measurement. To account for this, we put the total value of 0.045 meters into the zoning uncertainty and 0.0 meters into the measured uncertainty.

B.2.3 Junctions

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

Vessel Position and Attitude System

On DN 346, the primary GPS receiver quit functioning on the POS computer system (PCS) serial# 3793. A spare PCS (serial# 2034) was installed and integrated onto the vessel on DN 346 and was used for acquisition for the remainder of the project. One day of acquisition was lost, but no data is suspected to have been affected by changing the PCS during the middle of the project.

Depth Filter During Acquisition

During DN 342, 343, 344, 345, and part of 347, a depth filter was accidentally enabled on the Kongsberg EM3002. The depth filter was set to reject all data deeper than 10 meters. The deep portions of the Potomac River in the north and south were reacquired after the depth filter was disabled on DN 347. After acquisition was complete and processing had commenced, some noisy data still had to be cleaned from the days when the depth filter was enabled. This cleaning produced a minimal amount of holes in the MBES coverage that may be perceived as holidays, but SSS coverage indicates that no significant features were in these areas.

B.2.6 Factors Affecting Soundings

Low Space Vehicles available near Bridges

There were a number of bridges that crossed over the Potomac and Anacostia Rivers. As data were acquired near the bridges, horizontal positioning degraded considerably because of the poor visibility of satellites from the GPS antennas. All data were still within Total Horizontal Uncertainty standards, but some obvious offsets were present (Figure 4).

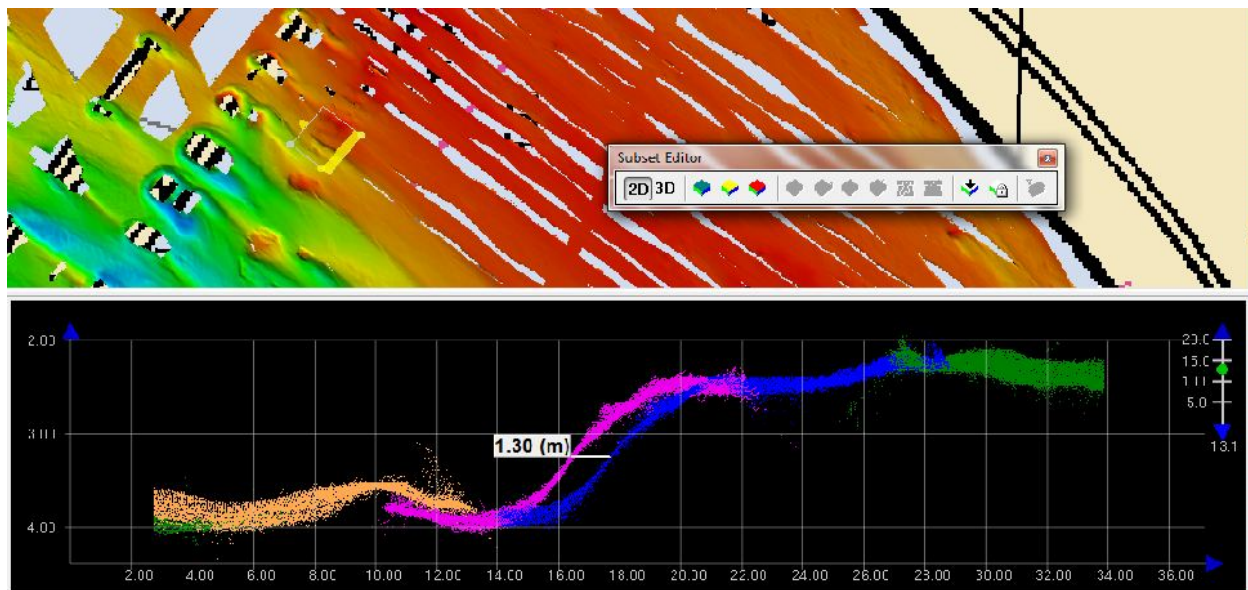


Figure 4: Poor positioning in North Potomac due to bridges causing poor visibility of satellites from GPS antennas.

Both horizontal and vertical offsets are evident throughout the survey area. Horizontal offsets are intermittent and range between 1m and 1.5m within uncertainty tolerances set forth in section 3.1.1 of the HSSD. Vertical offsets show up as a 0.1m vertical difference between lines throughout the survey area, and not attributed to any vertical displacements arising from horizontal offsets. These offsets are also within error budgets set forth in HSSD section 4.16 and 5.2.3.5 of the HSSD.

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: Surface sound speed was collected in real time and integrated into the Kongsberg EM3002 bathymetric data.

Sound Velocity Profile casts were generally acquired with a CTD every two to four hours or at a higher rate if a large change in sound speed was noticed. Sound speed values were then applied to the data in CARIS HIPS using the Nearest in Distance within Time option with the Time parameter set to 4 hours.

B.2.8 Coverage Equipment and Methods

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

B.2.9 IHO Uncertainty

The data meet the accuracy specifications as stated in the NOS Hydrographic Surveys Specifications and Deliverables (HSSD) dated April 2012, see Standards Compliance Review in Appendix V.

B.2.10 Density

Density requirements for the 0.5 meter finalized surface were achieved with at least 98.49% of finalized nodes containing five or more soundings. See Standards Compliance Review in Appendix V.

B.2.11 Holiday Assessment

Set spaced MBES was acquired with concurrent SSS for the entire survey area except in a few instances in the main channel of the Potomac River. In this area, holidays exist in the MBES lines because of an issue with how the data was acquired. In an effort to keep similar SSS and MBES lines, a new MBES line was created in concurrence with a new SSS line. As a new MBES line was started in the SIS software, a small holiday was created. Soon after acquisition was started on the project, this issue was identified and the practice of starting new MBES lines during acquisition was abandoned. With the time constraints of the project, the holidays that were present were not able to be collected.

B.3 Echo Sounding Corrections

B.3.1 Corrections to Echo Soundings

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

A detailed line query was performed during the Survey Acceptance Review which showed that 53 lines had no TruHeave applied during processing. A manual review of the data shows that there is no discernible deviation from expected values and all surveyed soundings are adequate to supersede charted soundings.

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

There were no software configuration changes after the DAPR was submitted.

The following Feature Object Catalog was used: NOAA Extended Attributes, V5.3 2013

B.5.2 Surfaces

The following surfaces and/or BAGs were submitted to the Processing Branch:

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
F00628_50cm	CUBE	0.5 meters	-	NOAA_0.5m	MBES TracklineSBES Set Line Spacing
F00628_50cm_Final	CUBE	0.5 meters	-	NOAA_0.5m	MBES TracklineSBES Set Line Spacing
F00628_50cm_100	SSS Mosaic	0.5 meters	-	N/A	100% SSS

Table 8: Submitted Surfaces

The NOAA CUBE parameters mandated in HSSD were used for the creation of the CUBE BASE surfaces in Survey F00628. The surfaces have been reviewed where noisy data, or 'fliers' are incorporated into the gridded solution causing the surface to be shallower than the true seafloor. Where these spurious soundings cause the gridded surface to be shallower than the reliably measured seabed by greater than the maximum allowable vertical uncertainty at that depth, the noisy data have been rejected and the surface recomputed.

Only the 0.5 meter resolution was used in creation of BASE surfaces as the greatest depth in the survey area was 12.5 meters.

The SSS Mosaic was created at the 0.5 meter resolution as this survey was in support of the USCG and it was desirable to identify smaller contacts than a 1m resolution would detect.

C. Vertical and Horizontal Control

No additional horizontal or vertical control was conducted for this project, so no HVCR is included with this report.

C.1 Vertical Control

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

Standard Vertical Control Methods Used:

Discrete Zoning

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

Station Name	Station ID
Washington	8594900

Table 9: NWLON Tide Stations

File Name	Status
8594900.tid	Final Approved

Table 10: Water Level Files (.tid)

File Name	Status
E937NRT52013CORP.zdf	Final

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

A request for final approved tides was sent to N/OPS1 on 12/19/2012. The final tide note was received on 01/04/2013.

After the application of preliminary tides, a large tidal offset was noticed in one day of acquisition. After verified and final tides were applied, this offset was reduced and is now within the total allowable vertical uncertainty.

The Tide Note is attached.

C.2 Horizontal Control

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

The projection used for this project is 18N.

The following DGPS Stations were used for horizontal control:

DGPS Stations
Hagerstown, MD - 307 kHz (100 BPS)

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	LNМ Date	NM Date
12289	1:40000	50	10/2010	04/30/2014	04/30/2014
12289	1:20000	50	10/2010	01/29/2013	01/19/2013
12285	1:40000	40	04/2010	03/05/2013	03/09/2013

Table 13: Largest Scale Raster Charts

12289

Chart 12289 (1:40,000) was added to the above table during office processing to distinguish it from the 1:20,000 inset.

12289

Sounding agreement between surveyed soundings on sheet F00628 were generally within 2-3 ft of chart 12289. The following are the only notable exceptions: a 16 ft surveyed sounding as compared to a 22 ft charted depth located just south of the George Mason Bridge (Figure 5) and a 21 ft surveyed sounding as compared to a 25 ft charted depth just south of the Arlington Memorial Fixed Bridge (Figure 6).

Contours generated in CARIS Bathy DataBase generally approximated the 6-ft, 12-ft, 18-ft, and 24-ft contours. The only notable exception is in northern Anacostia where a shoal on the south side of the channel (Figure 7) extends into the channel further than charted.

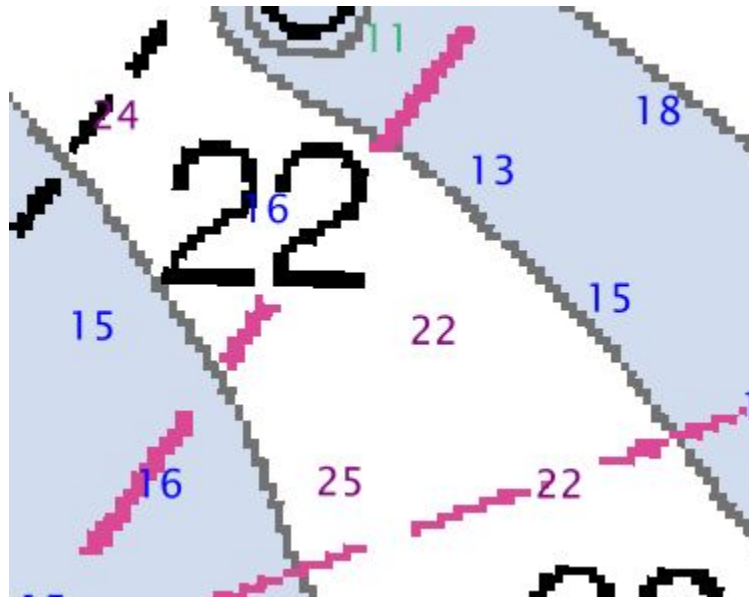


Figure 5: Chart 12289 charted depth difference between surveyed soundings just south of the George Mason Bridge. For reference, the charted 22 ft depth is located at 38/52/21.26N, 077/02/20.33W.

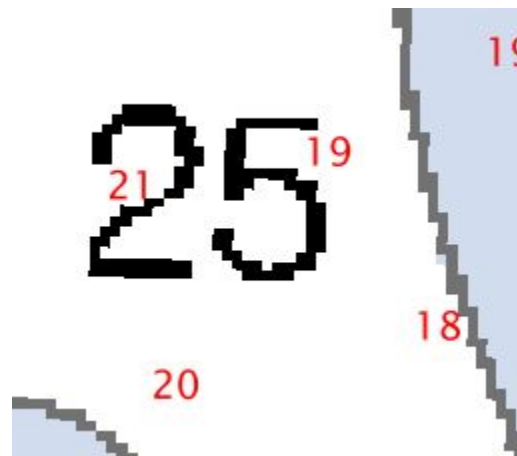


Figure 6: Chart 12289 charted depth difference between surveyed soundings just south of the Arlington Memorial Fixed Bridge. For reference, the charted 25 ft depth is located at 38/53/13.94N, 077/03/13.28W.



Figure 7: Chart 12289 shoal on the south side of the channel in the Anacostia River extends further into the channel than charted.

The deeper depths shown in Figure 5 are on the inset 12289 and have been replaced with new soundings in the chart update product.

The 25 ft. sounding in Figure 6 was replaced with an 18 ft. sounding in the chart update product.

The charted intertidal area shown in Figure 7 was not addressed by the survey. However, the shoal extent offshore of this feature was surveyed up to and beyond the channel limit. The shoal will be reflected in the chart update with a new 6 foot contour, which will abut the Anacostia Channel. The shoalest offshore surveyed depth is 5.153 ft, just under 10 meters inside the channel, and probably a part of the same 0.9 foot shoal indicated for the Right Outside Quarter of the Anacostia Channel Tabulation.

12285

Sounding agreement between surveyed soundings on sheet F00628 were generally within 2-3 ft of chart 12285. The only notable exception is a 21 ft surveyed sounding as compared to a 25 ft charted depth just south of the Arlington Memorial Fixed Bridge which was also a noted discrepancy for chart 12289.

Contours generated in CARIS Bathy DataBase generally approximated the 6-ft, 12-ft, 18-ft, and 24-ft contours. The only notable exception is in northern Anacostia where a shoal on the south side of the channel (position 38-52-09.43 N, 076-59-48.68 W) extends into the channel further than charted. This discrepancy is also noted on chart 12289.

The only other issue of note for chart 12289 is a charted 52 ft air draft in the northern Anacostia River for the Frederick Douglas Bridge. Figure 8 shows that the air draft is displayed so that it is ambiguous and

may be confused for a sounding as it is placed in the middle of the channel for the Anacostia River. It is recommended by the hydrographer that the air draft be charted on land so that it is less ambiguous.

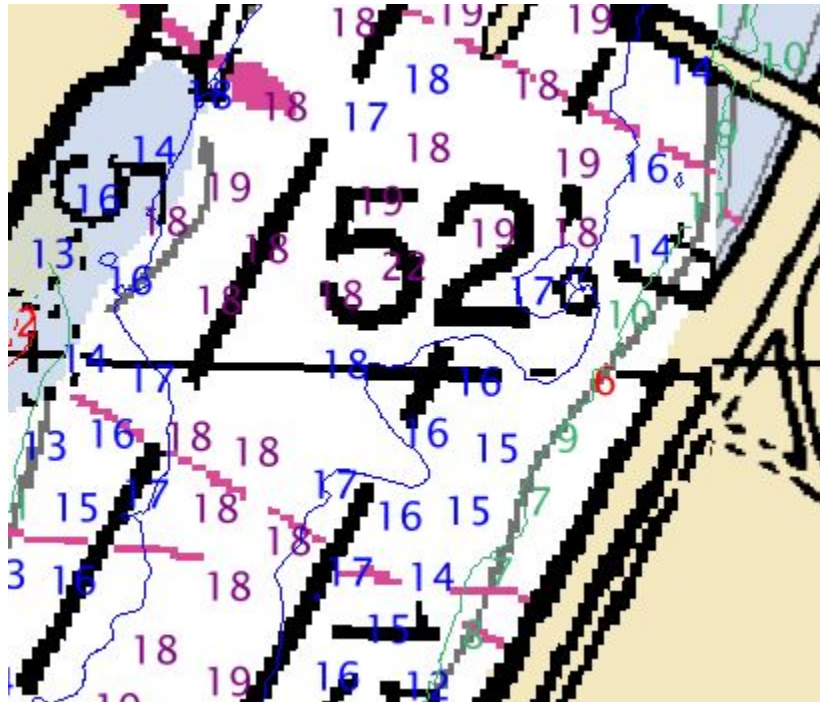


Figure 8: Chart 12289 charted 52 ft air draft that is ambiguous as it is placed in the middle of the Anacostia River. For reference, the charted 52 ft air draft is located at position 38°52'02.67N, 077°00'21.38W.

The 52 ft. air draft does not appear on the most recent version of charts 12285 or 12289.

D.1.2 Electronic Navigational Charts

The following are the largest scale ENC's, which cover the survey area:

ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US5MD40M	1:40000	3	05/23/2012	05/23/2012	NO
US5MD44M	1:20000	12	05/21/2012	10/15/2012	NO

Table 14: Largest Scale ENC's

US5MD40M

ENC US5MD40M does not overlap with any of the data collected.

US5MD44M

ENC US5MD44M depths match RNC 12289, therefore all RNC comparisons stated in D.1.1 apply to US5MD44M.

D.1.3 AWOIS Items

The AWOIS items with the following identification numbers had their investigation requirements completed, a feature was identified, and therefore it is recommended that the AWOIS database be updated with new information: 8353, 14588, 15037.

The AWOIS items with the following identification numbers had their investigation requirements completed, no feature was found and are therefore recommended for removal from the AWOIS database: 8354, 1171, 15038, 15040, 15041, 15043, 15046, 15047, 15049, 15059.

The AWOIS items with the following identification numbers did not have their investigation requirements completed and therefore were not addressed: 8355, 15035, 15036, 15039, 15042, 15044, 15045, 15048, 15050, 15051.

Additional information on all AWOIS items can be found in the Final Feature File: S-E937-NRT5-12-Final_Feature_File.000

The chart update product compiler recommended AWOIS 15037 for deletion from the AWOIS database, and noted the OBSTRN for removal from the chart.

There is no charted feature for AWOIS 8354, therefore no charting action was required. AWOIS 15046 was recommended for retention by the field, but found to be disproved, so noted for removal from the chart.

There is no charted feature for AWOIS 8355, therefore no charting action was required. AWOIS 15044 is a new wreck which was compiled to the chart update product.

See attached AWOIS Report for charting recommendations.

D.1.4 Maritime Boundary Points

No Maritime Boundary Points were assigned for this survey.

D.1.5 Charted Features

An obstruction reported located just south of the George Mason Railroad Bridge was disproved with complete MBES.

A position approximate wreck is located in the Anacostia River north of the Frederick Douglass Bridge on the north side of the channel. This wreck was disproved by complete MBES.

Additional information on both of these features is located within the Final Feature File: S-E937-NRT5-12-Final_Feature_File.000

D.1.6 Uncharted Features

No uncharted features exist for this survey.

D.1.7 Dangers to Navigation

No Danger to Navigation Reports were submitted for this survey.

D.1.8 Shoal and Hazardous Features

The shoal in the northern Anacostia River discussed in section D.1.1 is further into the channel than charted (Fig 9). The edge of the shoal was determined with MBES, but no least depth was found.



Figure 9: Shoal further into the Anacostia channel than charted.

The extent of the charted intertidal area was not addressed by the survey. However, the shoal extent offshore will be reflected in the chart update with the new 6 foot contour, which will extend to the edge of the Anacostia Channel. The shoalest offshore surveyed depth is 5.153 feet, just under 10 meters inside the channel, and is deeper than the shoalest depth listed in the tabulation for ROQ of the Anacostia Channel.

D.1.9 Channels

Two channels exist within the survey limits that have controlling depths: the Anacostia Channel and the Washington Channel. The tabulation on chart 12289 states that the controlling depths for these two channels are from surveys by the U.S. Army Corps of Engineers from May 2011. All controlling depths are from seaward in feet at mean lower low water (MLLW).

The Anacostia Channel has controlling depths of 4 ft in the left outside quarter, 5 ft in the middle half of the channel, and 7 ft in the right outside quarter. All surveyed depths in the channel were at least 10 ft at MLLW except at the shoal mentioned in sections D.1.1 and D.1.7.

The Washington Channel has controlling depths of 8 ft in the left outside quarter, 11 ft in the middle half of the channel, and 12 ft in the right outside quarter. All surveyed depths in the channel were at least 12 ft at MLLW.

This survey area had no designated anchorages, precautionary areas, safety fairways, separation schemes, pilot boarding areas, or range lines.

D.1.10 Bottom Samples

No bottom samples were required for this survey.

D.2 Additional Results

D.2.1 Shoreline

Limited shoreline investigation was conducted by field personnel, but not all assigned features were addressed due to time constraints and for safety of vessel navigation.

An extensive shoreline orthoimagery review should be completed to more accurately portray shoreline features and land area displayed on all applicable RNC and ENC. The majority of the discrepancies observed by field personnel were located in the Anacostia River.

More extensive information is included in the Final Feature File: S-E937-NRT5-12-Final_Feature_File.000

D.2.2 Prior Surveys

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

D.2.3 Aids to Navigation

No ATONs were specifically assigned for this project. Field personnel visually verified that ATONs served their intended purpose and were generally located in the right position.

D.2.4 Overhead Features

Overhead features exist for this survey, but were not investigated. The only issue that was found was a 52 ft air draft for the Frederick Douglas Bridge over the Anacostia River. The 52 ft air draft was charted in the middle of the Anacostia River Channel and was ambiguous and could be confused as a depth for mariners. This issue was also noted in the chart comparison section D.1.1.

D.2.5 Submarine Features

Many cable areas and tunnel areas exist throughout the survey area. The only submarine feature that was easily visible in the MBES data was in a cable area located just south of the George Mason Bridge (Fig 10).

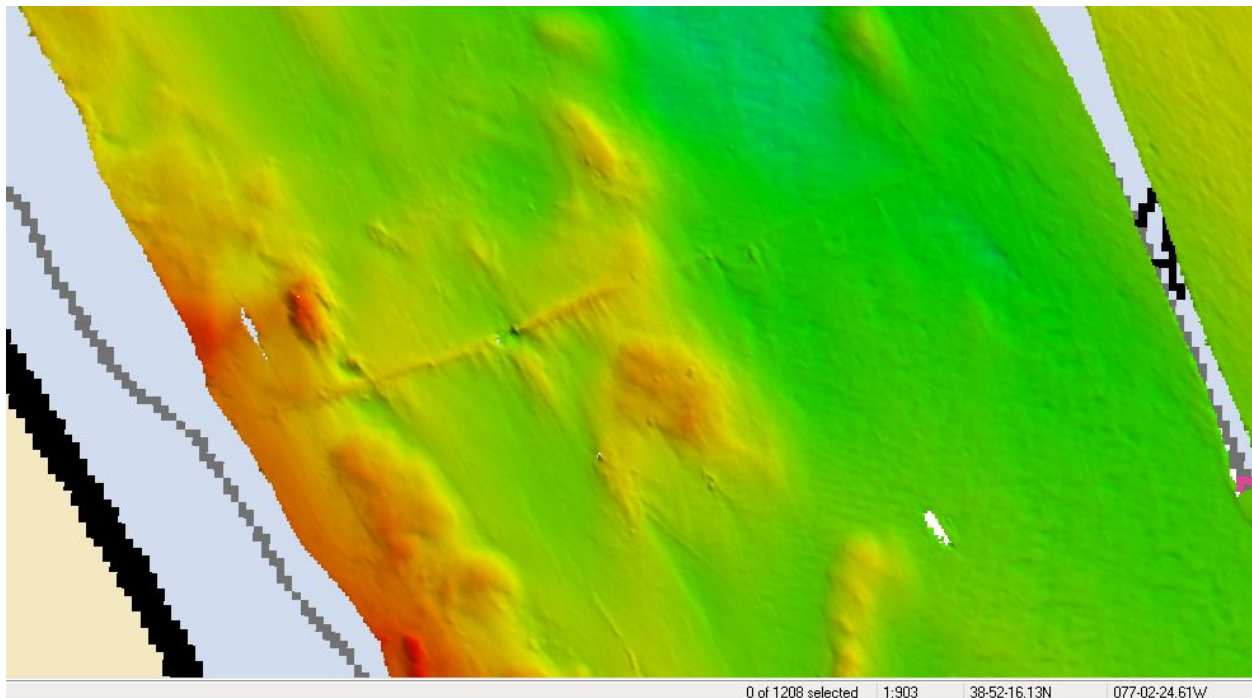


Figure 10: Cable present in MBES data just south of the George Mason Bridge.

D.2.6 Ferry Routes and Terminals

No ferry routes or terminals exist for this survey.

D.2.7 Platforms

No platforms exist for this survey.

D.2.8 Significant Features

No significant features exist for this survey.

D.2.9 Construction and Dredging

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

D.2.10 New Survey Recommendations

No new surveys or further investigations are recommended for this area.

D.2.11 New Inset Recommendations

No new insets are recommended for this area.



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	2013-03-19

Approver Name	Approver Title	Approval Date	Signature
LTjg Daniel D. Smith	Chief of Party	03/19/2013	 SMITH.DANIEL.DUNNINGTON.139 2691517 2013.03.18 12:02:54 -04'00'
Nicole Trenholm	Assistant Survey Technician	03/19/2013	 Nicole Trenholm 2013.03.18 12:48:59 -04'00'

F. Table of Acronyms

Acronym	Definition
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
FFF	Final Feature File
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
HSSD	Hydrographic Survey Specifications and Deliverables

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 : January 02, 2013

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: S-E937-NRT5-2013
HYDROGRAPHIC SHEET: F00628

LOCALITY: Key Bridge to the Woodrow Wilson Bridge, Potomac River
TIME PERIOD: December 07 - December 17, 2012

TIDE STATION USED: 859-4900 Washington, DC
Lat. 38° 52.4'N Long. 77° 1.3' W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.897 meters

REMARKS: RECOMMENDED ZONING

Preliminary zoning is accepted as the final zoning for project S-E937-NRT5-2013, F00628, during the time period between December 07 and December 17, 2012.

Please use the zoning file E937NRT52013CORP submitted with the project instructions for S-E937-NRT5-2013. Zones POTR56, POTR57, and POTR60 are the applicable zones for F00628.

Refer to attachments for zoning 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).

HOVIS.GERALD.THOMAS.1365860250
Digitally signed by
HOVIS.GERALD.THOMAS.1365860250
DN: c=US, o=U.S. Government, ou=DoD,
ou=PKI, ou=OTHER,
cn=HOVIS.GERALD.THOMAS.1365860250
Date: 2013.01.04 15:58:16 -05'00'

CHIEF, PRODUCTS AND SERVICES BRANCH



SOUNDINGS IN FEET

12289

POTR60
Time Corrector +6 mins.
Range Corrector x1.02
Reference 859-4900

**Preliminary as Final Tidal Zoning for
S-E937-NRT5-2013, Registry No. F00628
Potomac River**

859-4900 WASHINGTON

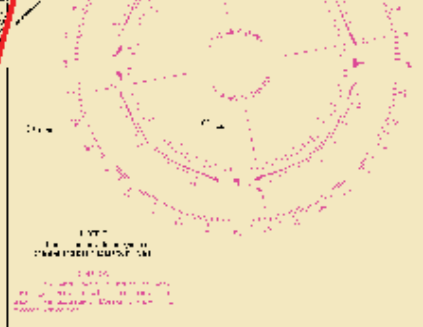
POTR57 *
Time Corrector -6 mins.
Range Corrector x0.99
Reference 8594900

POTR56
Time Corrector -12 mins.
Range Corrector x0.95
Reference 859-4900

Fish tr
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structures



NOT TO SCALE
UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN FEET
UNLESS OTHERWISE SPECIFIED
DATE: 10/15/13
DRAWN BY: [illegible]
CHECKED BY: [illegible]
APPROVED BY: [illegible]

AWOIS and Wreck Report

Registry Number: F00628
State: Maryland
Locality: Potomac River
Sub-locality: Key Bridge to the Woodrow Wilson Bridge
Project Number: S-E937-NRT5-12
Survey Dates: 01/01/1981 - 12/17/2012

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12285	41st	03/01/2013	1:20,000 (12285_12)	USCG LNM: 4/2/2013 (2/25/2014) NGA NTM: None (3/1/2014)
12289	50th	10/01/2010	1:20,000 (12289_2)	USCG LNM: 2/21/2012 (2/25/2014) NGA NTM: None (3/1/2014)
12285	39th	03/01/2008	1:80,000 (12285_15) 1:40,000 (12285_14)	[L]NTM: ?
12289	50th	10/01/2010	1:40,000 (12289_1)	USCG LNM: 1/28/2014 (2/25/2014) NGA NTM: 10/18/2008 (3/1/2014)
12280	8th	03/01/2008	1:200,000 (12280_1)	[L]NTM: ?

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

Features

Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude
AWOIS 15035	Wreck	[None]	38° 53' 53.4" N	077° 03' 35.3" W
AWOIS 15036	Wreck	[None]	38° 53' 43.5" N	077° 03' 35.0" W
New Wreck	Wreck	4.00 m	38° 53' 09.1" N	077° 03' 18.8" W
AWOIS 15059	Obstruction	[None]	38° 52' 17.0" N	077° 02' 26.4" W
AWOIS 15037	GP	[None]	38° 52' 26.5" N	077° 02' 18.2" W
AWOIS 15038	Wreck	[None]	38° 52' 16.4" N	077° 02' 16.5" W
AWOIS 14588	GP	[None]	38° 47' 54.0" N	077° 02' 15.8" W
AWOIS 15048	GP	[None]	38° 49' 39.9" N	077° 02' 13.8" W
AWOIS 15039	GP	[None]	38° 51' 40.6" N	077° 02' 09.6" W
AWOIS 15050	GP	[None]	38° 49' 06.5" N	077° 02' 08.5" W

AWOIS 15049	GP	[None]	38° 49' 19.0" N	077° 02' 05.6" W
AWOIS 15040	GP	[None]	38° 51' 57.0" N	077° 02' 00.2" W
AWOIS 15051	Wreck	[None]	38° 48' 33.1" N	077° 01' 54.2" W
New Wreck	Wreck	5.10 m	38° 52' 54.1" N	077° 01' 53.4" W
AWOIS 15043	Wreck	[None]	38° 52' 35.3" N	077° 01' 33.3" W
AWOIS 15041	GP	[None]	38° 50' 44.8" N	077° 01' 21.1" W
AWOIS 1171	Wreck	[None]	38° 52' 00.8" N	077° 01' 11.4" W
AWOIS 15042	GP	[None]	38° 52' 14.2" N	077° 01' 08.7" W
AWOIS 15044	Wreck	2.10 m	38° 51' 47.4" N	077° 00' 41.8" W
AWOIS 15045	Wreck	[None]	38° 51' 59.9" N	077° 00' 33.0" W
AWOIS 15046	Wreck	[None]	38° 52' 13.9" N	077° 00' 22.4" W
AWOIS 15047	Wreck	[None]	38° 52' 20.2" N	077° 00' 08.5" W
AWOIS 8353	GP	[None]	38° 52' 21.0" N	077° 00' 07.1" W
AWOIS 8354	GP	[None]	38° 52' 16.7" N	076° 59' 47.7" W
AWOIS 8355	GP	[None]	38° 52' 17.6" N	076° 59' 45.4" W

1 - Tree

1.1) AWOIS 15035

Survey Summary

Survey Position: 38° 53' 53.4" N, 077° 03' 35.3" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2005-152.00:00:00.000 (06/01/2005)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_ 0000076338 00001(FFFE00012A320001)
Charts Affected: 12285_12, 12289_2, 12289_1, 12280_1

Remarks:

Inshore NALL.

Hydrographer Recommendations

Retain charted wreck.

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 1:non-dangerous wreck
QUASOU - 2:depth unknown
SORDAT - 20050600
SORIND - US,US,graph,Chart 12289
WATLEV - 3:always under water/submerged

Office Notes

The charted wreck was not adequately investigated. The feature was retained as charted in the chart update product, but as a dangerous instead of non-dangerous wreck.

1.2) AWOIS 15036

Survey Summary

Survey Position: 38° 53' 43.5" N, 077° 03' 35.0" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2005-152.00:00:00.000 (06/01/2005)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_ 0000076242 00001(FFFE000129D20001)
Charts Affected: 12285_12, 12289_2, 12289_1, 12280_1

Remarks:

Inshore NALL

Hydrographer Recommendations

Retain wreck.

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
QUASOU - 2:depth unknown
SORDAT - 20050600
SORIND - US,US,graph,Chart 12289
WATLEV - 3:always under water/submerged

Office Notes

The charted wreck was not investigated. It was retained as charted in the chart update product.

1.3) New Wreck

Survey Summary

Survey Position: 38° 53' 09.1" N, 077° 03' 18.8" W
Least Depth: 4.00 m (= 13.12 ft = 2.187 fm = 2 fm 1.12 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp: 2012-352.00:00:00.000 (12/17/2012)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_ 0000076344 00001(FFFE00012A380001)
Charts Affected: 12285_12, 12289_2, 12289_1, 12280_1

Remarks:

New wreck least depth found by MBES.

Hydrographer Recommendations

Chart WRECK.

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
QUASOU - 6:least depth known
SORDAT - 20121217
SORIND - US,US,graph,F00628
TECSOU - 3:found by multi-beam
VALSOU - 4.000 m
WATLEV - 3:always under water/submerged

Office Notes

Concur.

1.4) AWOIS 15059

Survey Summary

Survey Position: 38° 52' 17.0" N, 077° 02' 26.4" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 1981-001.00:00:00.000 (01/01/1981)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_0000076372_00001(FFFE00012A540001)
Charts Affected: 12285_12, 12289_2, 12285_14, 12289_1, 12280_1

Remarks:

Investigation requirements completed with 200% SSS and no feature was found.

Type: OBSTRUCTION, Itemstatus: ASSIGNED, Searchtype: FULL, Technique: S2, ES, MB

Hydrographer Recommendations

Remove AWOIS item from database and delete feature from the chart.

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: CATOBS - 1:snag / stump

Office Notes

The charted Obstrn line feature, CATOBS=snag/stumps, was noted for deletion in the chart update product.

1.5) AWOIS 15037

Survey Summary

Survey Position: 38° 52' 26.5" N, 077° 02' 18.2" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 1981-001.00:00:00.000 (01/01/1981)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_0000076370 00001(FFFE00012A520001)
Charts Affected: 12285_12, 12289_2, 12285_14, 12289_1, 12280_1

Remarks:

****Unknown Source-- An obstruction was charted before 1969 and labeled Obstrn rep.

Type: OBSTRUCTION, Itemstatus: ASSIGNED, Searchtype: FULL, Technique: S2, MB, ES

Hydrographer Recommendations

Update AWOIS item information with UWTROC and 1.9m depth info.

S-57 Data

[None]

Office Notes

Do not concur. Significant shoaling is not apparent at the AWOIS site. This feature should be removed from the AWOIS database.

Depths of 7 ft are found at the location of the Obstrn, but shoaler depths are found nearby. The Obstrn feature was noted for deletion, and two nearby 3 ft shoal soundings were compiled to the chart update product.

1.6) AWOIS 15038

Survey Summary

Survey Position: 38° 52' 16.4" N, 077° 02' 16.5" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2005-152.00:00:00.000 (06/01/2005)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_ 0000076198 00001(FFFE000129A60001)
Charts Affected: 12285_12, 12289_2, 12285_14, 12289_1, 12280_1

Remarks:

Disproved with complete MBES

Hydrographer Recommendations

Remove charted wreck.

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
QUASOU - 2:depth unknown
SORDAT - 20050600
SORIND - US,US,graph,Chart 12289
WATLEV - 3:always under water/submerged

Office Notes

Concur.

1.7) AWOIS 14588

Survey Summary

Survey Position: 38° 47' 54.0" N, 077° 02' 15.8" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 1981-001.00:00:00.000 (01/01/1981)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_0000076367_00001(FFFE00012A4F0001)
Charts Affected: 12285_14, 12289_1, 12285_15, 12280_1

Remarks:

Investigation requirements completed with complete MBES and feature was found.

Type: OBSTRUCTION, Itemstatus: ASSIGNED, Searchtype: FULL, Technique: S2, ES, MB

Hydrographer Recommendations

Update AWOIS item information and feature information on the chart.

S-57 Data

[None]

Office Notes

The obstruction was recommended to be retained with updated attribution and a new least depth of 23.714 feet.

1.8) AWOIS 15048

Survey Summary

Survey Position: 38° 49' 39.9" N, 077° 02' 13.8" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 1981-001.00:00:00.000 (01/01/1981)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_0000076317_00001(FFFE00012A1D0001)
Charts Affected: 12285_14, 12289_1, 12280_1

Remarks:

Not safe for vessel navigation to complete investigation requirements.

Type: UNKNOWN, Itemstatus: ASSIGNED, Searchtype: FULL, Technique: S2, ES, MB

Hydrographer Recommendations

Retain wreck.

S-57 Data

[None]

Office Notes

Concur with clarification. Feature was reported as a wreck (2009), but mis-digitized as an OBSTRN, INFORM=Wreck on the ENC (2009), then was mistakenly compiled as an OBSTRN to the RNC. The OBSTRN feature has been noted for deletion from the RNC, and a WRECK compiled to the chart update product.

1.9) AWOIS 15039

Survey Summary

Survey Position: 38° 51' 40.6" N, 077° 02' 09.6" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 1981-001.00:00:00.000 (01/01/1981)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_0000076173 00001(FFFE0001298D0001)
Charts Affected: 12285_12, 12289_2, 12285_14, 12289_1, 12280_1

Remarks:

Not safe for vessel navigation to complete investigation requirements.

Type: OBSTRUCTIONS, Itemstatus: ASSIGNED, Searchtype: FULL, Technique: S2, ES, MB

Hydrographer Recommendations

Retain obstructions.

S-57 Data

[None]

Office Notes

The two snags were not investigated. They were retained as charted in the chart update product.

1.10) AWOIS 15050

Survey Summary

Survey Position: 38° 49' 06.5" N, 077° 02' 08.5" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 1981-001.00:00:00.000 (01/01/1981)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_0000076181_00001(FFFE000129950001)
Charts Affected: 12285_14, 12289_1, 12280_1

Remarks:

Not Addressed due to time constraints

Type: OBSTRUCTION, Itemstatus: ASSIGNED, Searchtype: FULL, Technique: S2, ES, MB

Hydrographer Recommendations

Retain obstruction.

S-57 Data

[None]

Office Notes

The snag was not investigated. It was retained as charted in the chart update product.

1.11) AWOIS 15049

Survey Summary

Survey Position: 38° 49' 19.0" N, 077° 02' 05.6" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 1981-001.00:00:00.000 (01/01/1981)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_0000076360 00001(FFFE00012A480001)
Charts Affected: 12285_14, 12289_1, 12280_1

Remarks:

Investigation requirements completed with 200% SSS and no feature was found.

Type: OBSTRUCTIONS, Itemstatus: ASSIGNED, Searchtype: FULL, Technique: S2, ES, MB

Hydrographer Recommendations

Delete submerged pile.

S-57 Data

[None]

Office Notes

This snag has been noted for deletion in the chart update product.

1.12) AWOIS 15040

Survey Summary

Survey Position: 38° 51' 57.0" N, 077° 02' 00.2" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 1981-001.00:00:00.000 (01/01/1981)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_0000076365 00001(FFFE00012A4D0001)
Charts Affected: 12285_12, 12289_2, 12285_14, 12289_1, 12280_1

Remarks:

Investigation requirements completed with 200% SSS and no feature was found.

Type: OBSTRUCTION, Itemstatus: ASSIGNED, Searchtype: FULL, Technique: S2, ES, MB

Hydrographer Recommendations

Delete snag.

S-57 Data

[None]

Office Notes

Concur.

1.13) AWOIS 15051

Survey Summary

Survey Position: 38° 48' 33.1" N, 077° 01' 54.2" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2005-152.00:00:00.000 (06/01/2005)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_ 0000076330 00001(FFFE00012A2A0001)
Charts Affected: 12285_14, 12289_1, 12280_1

Remarks:

Inshore NALL

Hydrographer Recommendations

Retain wreck.

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
QUASOU - 2:depth unknown
SORDAT - 20050600
SORIND - US,US,graph,Chart 12289
WATLEV - 3:always under water/submerged

Office Notes

The charted wreck was not investigated. It was retained as charted in the chart update product.

1.14) New Wreck

Survey Summary

Survey Position: 38° 52' 54.1" N, 077° 01' 53.4" W
Least Depth: 5.10 m (= 16.73 ft = 2.789 fm = 2 fm 4.73 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp: 2012-352.00:00:00.000 (12/17/2012)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_ 0000076349 00001(FFFE00012A3D0001)
Charts Affected: 12285_12, 12289_2, 12285_14, 12289_1, 12280_1

Remarks:

New wreck least depth found by MBES.

Hydrographer Recommendations

Chart new WRECK.

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
QUASOU - 6:least depth known
SORDAT - 20121217
SORIND - US,US,graph,F00628
TECSOU - 3:found by multi-beam
VALSOU - 5.100 m
WATLEV - 3:always under water/submerged

Office Notes

Concur.

1.15) AWOIS 15043

Survey Summary

Survey Position: 38° 52' 35.3" N, 077° 01' 33.3" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2005-152.00:00:00.000 (06/01/2005)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_ 0000076194 00001(FFFE000129A20001)
Charts Affected: 12285_12, 12289_2, 12285_14, 12289_1, 12280_1

Remarks:

Disproved with complete MBES

Hydrographer Recommendations

Remove charted wreck

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
QUASOU - 2:depth unknown
SORDAT - 20050600
SORIND - US,US,graph,Chart 12289
WATLEV - 3:always under water/submerged

Office Notes

Concur.

1.16) AWOIS 15041

Survey Summary

Survey Position: 38° 50' 44.8" N, 077° 01' 21.1" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 1981-001.00:00:00.000 (01/01/1981)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_0000076374 00001(FFFE00012A560001)
Charts Affected: 12289_2, 12285_14, 12289_1, 12280_1

Remarks:

Investigation requirements completed with 200% SSS and no feature was found.

Type: OBSTRUCTIONS, Itemstatus: ASSIGNED, Searchtype: FULL, Technique: S2, ES, MB

Hydrographer Recommendations

Delete submerged piles.

S-57 Data

[None]

Office Notes

Concur with clarification. Only the three offshore piles were recommended to be deleted.

1.17) AWOIS 1171

Survey Summary

Survey Position: 38° 52' 00.8" N, 077° 01' 11.4" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2005-152.00:00:00.000 (06/01/2005)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_ 0000076156 00001(FFFE0001297C0001)
Charts Affected: 12285_12, 12289_2, 12285_14, 12289_1, 12280_1

Remarks:

Disproved with complete MBES

Hydrographer Recommendations

Delete charted wreck.

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
QUASOU - 2:depth unknown
SORDAT - 20050600
SORIND - US,US,graph,Chart 12289
WATLEV - 3:always under water/submerged

Office Notes

Concur.

1.18) AWOIS 15042

Survey Summary

Survey Position: 38° 52' 14.2" N, 077° 01' 08.7" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 1981-001.00:00:00.000 (01/01/1981)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_0000076174 00001(FFFE0001298E0001)
Charts Affected: 12285_12, 12289_2, 12285_14, 12289_1, 12280_1

Remarks:

Not safe for vessel navigation to complete investigation requirements.

Type: OBSTRUCTIONS, Itemstatus: ASSIGNED, Searchtype: FULL, Technique: S2, ES, MB

Hydrographer Recommendations

Retain submerged piles.

S-57 Data

[None]

Office Notes

Concur.

1.19) AWOIS 15044

Survey Summary

Survey Position: 38° 51' 47.4" N, 077° 00' 41.8" W
Least Depth: 2.10 m (= 6.89 ft = 1.148 fm = 1 fm 0.89 ft)
TPU ($\pm 1.96\sigma$): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp: 2012-352.00:00:00.000 (12/17/2012)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_ 0000076342 00001(FFFE00012A360001)
Charts Affected: 12285_12, 12289_2, 12285_14, 12289_1, 12280_1

Remarks:

Hydrographer Recommendations

Chart new wreck

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
QUASOU - 1:depth known
SORDAT - 20121217
SORIND - US,US,graph,F00628
TECSOU - 3:found by multi-beam
VALSOU - 2.100 m
WATLEV - 3:always under water/submerged

Office Notes

A new wreck was recommended to be charted at the following position:
38-51-47.36N,077-00-41.78W, depth = 8.369 ft.

1.20) AWOIS 15045

Survey Summary

Survey Position: 38° 51' 59.9" N, 077° 00' 33.0" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2005-152.00:00:00.000 (06/01/2005)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_ 0000076331 00001(FFFE00012A2B0001)
Charts Affected: 12285_12, 12289_2, 12285_14, 12289_1, 12280_1

Remarks:

Inshore NALL

Hydrographer Recommendations

Retain wreck

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
QUASOU - 2:depth unknown
SORDAT - 20050600
SORIND - US,US,graph,Chart 12289
WATLEV - 3:always under water/submerged

Office Notes

The charted wreck was not investigated. It was retained as charted in the chart update product.

1.21) AWOIS 15046

Survey Summary

Survey Position: 38° 52' 13.9" N, 077° 00' 22.4" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2005-152.00:00:00.000 (06/01/2005)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_ 0000076185 00001(FFFE000129990001)
Charts Affected: 12285_12, 12289_2, 12285_14, 12289_1, 12280_1

Remarks:

Not Addressed due to time constraints.

Hydrographer Recommendations

Retain wrecks.

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
INFORM - Wrecks
QUASOU - 2:depth unknown
SORDAT - 20050600
SORIND - US,US,graph,Chart 12289
WATLEV - 3:always under water/submerged

Office Notes

The charted wrecks were retained in the chart update product.

1.22) AWOIS 15047

Survey Summary

Survey Position: 38° 52' 20.2" N, 077° 00' 08.5" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2005-152.00:00:00.000 (06/01/2005)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_ 0000076323 00001(FFFE00012A230001)
Charts Affected: 12285_12, 12289_2, 12289_1, 12280_1

Remarks:

Disproved with complete MBES

Hydrographer Recommendations

Remove charted wreck

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
QUASOU - 2:depth unknown
SORDAT - 20050600
SORIND - US,US,graph,Chart 12289
WATLEV - 3:always under water/submerged

Office Notes

Concur.

1.23) AWOIS 8353

Survey Summary

Survey Position: 38° 52' 21.0" N, 077° 00' 07.1" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 1981-001.00:00:00.000 (01/01/1981)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_0000076373 00001(FFFE00012A550001)
Charts Affected: 12285_12, 12289_2, 12289_1, 12280_1

Remarks:

Investigation requirements completed with 200% SSS and a feature was found.

Type: OBSTRUCTION, Itemstatus: ASSIGNED, Searchtype: INFORMATION, Technique: ES, S2, MB

Hydrographer Recommendations

Update AWOIS item information.

S-57 Data

[None]

Office Notes

Concur. Two submerged piles were recommended for charting at positions:

38-52-20.77N, 077-00-06.91W, depth = 11.224 ft.

38-52-21.34N, 077-00-06.75W, depth = 11.115 ft.

1.24) AWOIS 8354

Survey Summary

Survey Position: 38° 52' 16.7" N, 076° 59' 47.7" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 1981-001.00:00:00.000 (01/01/1981)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_0000076364_00001(FFFE00012A4C0001)
Charts Affected: 12285_12, 12289_2, 12289_1, 12280_1

Remarks:

Investigation requirements completed with 200% SSS and no feature was found.

Type: OBSTRUCTION, Itemstatus: ASSIGNED, Searchtype: INFORMATION, Technique: ES, S2, MB

Hydrographer Recommendations

Remove AWOIS item from database.

S-57 Data

[None]

Office Notes

There is no charted feature in this location, so no charting action was required.

1.25) AWOIS 8355

Survey Summary

Survey Position: 38° 52' 17.6" N, 076° 59' 45.4" W
Least Depth: [None]
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 1981-001.00:00:00.000 (01/01/1981)
Dataset: F00628_Feature_Report_Office.000
FOID: 0_0000076175 00001(FFFE0001298F0001)
Charts Affected: 12285_12, 12289_2, 12289_1, 12280_1

Remarks:

Not safe for vessel navigation to complete investigation requirements.

Type: OBSTRUCTION, Itemstatus: ASSIGNED, Searchtype: INFORMATION, Technique: ES, MB, S2

Hydrographer Recommendations

[None]

S-57 Data

[None]

Office Notes

There is no charted feature in this location, so no charting action was required.

APPROVAL PAGE

F00628

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

- F00628_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- F00628_GeoImage.pdf

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

Approved: _____

Cathleen Barry
Cartographer, Pacific Hydrographic Branch

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

Approved: _____

Pete Holmberg,
Cartographic Team Lead, Pacific Hydrographic Branch