

**W00322**

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

**DESCRIPTIVE REPORT**

Type of Survey: External Source Data

Registry Number: W00322

**LOCALITY**

State(s): Maryland

General Locality: Chesapeake Bay, Choptank River

Sub-locality: Harris Creek

**2016**

NOAA National Geodetic Survey  
Remote Sensing Division

**LIBRARY & ARCHIVES**

Date:

**HYDROGRAPHIC TITLE SHEET**

**W00322**

**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: **Chesapeake Bay, Choptank River**

Sub-Locality: **Harris Creek**

Scale: **20000**

Dates of Survey: **08/01/2012 to 12/14/2015**

Project Number: **OSD-DISCOVERY-16**

Data Source: **NOAA Chesapeake Bay Office - R/V Potawaugh**

Chief of Party: **John Lazar**

Soundings by: **R2Sonic 2024**

Imagery by: **N/A**

Verification by: **Atlantic Hydrographic Branch Meters at Mean Lower**

Soundings Acquired in: **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. Any revisions to the Descriptive Report (DR) generated during office processing are shown in bold red italic text. The processing branch maintains the DR as a field unit product, therefore, all information and recommendations within the body of the DR are considered preliminary unless otherwise noted. The final disposition of surveyed features is represented in the OCS nautical chart update products. All pertinent records for this survey, including the DR, are archived at the National Centers for Environmental Information (NCEI) and can be retrieved via <https://www.ncei.noaa.gov/>.***

## W00322 DR SUMMARY

Descriptive Report Summary	
Project	OSD-DISCOVERY-16
Survey	W00322
State	Maryland
Locality	Chesapeake Bay, Choptank River
Sub Locality	Harris Creek
Scale of Survey	1:20,000
Sonars Used	R2Sonic 2024
Horizontal Datum	North American Datum of 1983 (NAD83)
Vertical Datum	Mean Lower Low Water (MLLW)
Vertical Datum Correction	Verified Observed Tides
Projection	NAD83 - UTM Zone 18N
Field Unit	NOAA Chesapeake Bay Office - R/V Potawaugh
Survey Dates	08/01/2012 – 12/14/2015
Chief of Party	John Lazar

**A. Area Surveyed**

This hydrographic survey was acquired in accordance with the requirements defined in the Project Instructions.

Data was acquired within the following survey limits:

Northeast Limit	Southwest Limit
38 46.816880 N	38 42.256381 N
076 16.178035 W	076 19.577693 W



**B. Survey Purpose**

This survey was conducted to document the construction of Oyster reefs in the Harris Creek tributary by the US Army Corps of Engineers in partnership with the Maryland Department Natural Resources. The survey was requested by the Maryland Interagency Oyster Restoration Workgroup of the Chesapeake Bay Program's Sustainable Fisheries Goal Implementation Team. Newly constructed reefs consist of granite, crushed shell, and fossilized shell placed on the bottom. All are covered with live oyster spat on shells. The survey limits encompass the full scope of the project. The NOAA Chesapeake Bay Offices' Survey Vessel Potawaugh and its sonar systems were used to collect all of the data present.

**C. Intended Use of Survey**

Data is adequate to supersede prior data and is intended for chart compilation.

**D. Data Acquisition and Processing**

Please reference Data Acquisition and Processing Report '2015-NCBO-F3002-MB-DAPR' for a complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods.

**E. Uncertainty**

The Greatest challenge encountered on this survey is the large timeline of data collection. Data was acquired over multiple years of construction at varying times of year. Vertical control was acquired using zoned verified tides from the Cambridge NOAA COOPS Tide Station. Various meteorological characteristics may have affected the actual tide conditions of the survey site differently between days. As a result of this a local vertical benchmark was used to set a tide at the mouth of neighboring Broad Creek. A single survey line up and down the survey area was conducted to validate the vertical control for each site. After comparison no area was found to be in excess of 10 cm deviation from the locally measured tide.

**F. Results and Recommendations**

The following are the largest scale RNC and ENC, which cover the survey area:

Chart	Scale	Edition	Edition Date	LNМ Date	NM Date
12266	1:40000	31	10/01/2013	12/03/2015	
12270	1:40000	37	12/01/2015	02/11/2016	
12263	1:80000	56	06/01/2012	12/31/2015	
12280	1:200000	11	02/01/2014	02/11/2016	
13003	1:1200000	52	12/01/2015	02/11/2016	
ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US5MD16M	1:40000	25.5	12/10/2015		
US5MD17M	1:40000	15.5	07/30/2015		
US4MD81M	1:80000	14	12/22/2015		
US3EC08M	1:200000	23.16	02/09/2016		
US2EC03M	1:1200000	27.10	01/25/2016		

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
PO-2012-2015-CB-HACR-CUBE_1m_ZonedTide_UTM_MLLW_Final	Bathymetric- CUBE	1.00 meter	0.73-9.46 meters	Depth	Constructed Oyster Reef As-Builts
PO-2015-CB-HACR-BaldEaglePt_Wreck_Finalized	Bathymetric- CUBE	1.00 meter	5.26 – 12.11 meters	Depth	Uncharted ship wreck

### G. Vertical and Horizontal Control

The vertical datum for this project is Mean Lower Low Water. Discrete Zoning was the vertical control method used. The following NOAA National Ocean Services Center for Operation Oceanographic Products and Services (NOS CO-OPS) stations served as datum control for this survey:

Station Name	Station ID
Cambridge MD	8571892

The horizontal datum for this project is North American Datum of 1983 (NAD83). Post Processed Kinematic Differential GPS (PPK GPS) was the sole method of positioning. The following DGPS station was used for horizontal control.

DGPS Station:
Annapolis MD. Site ID:847. 301kHz

### H. Additional Results

Due to the long timeline of this project data sets are divided between years and in some cases subdivided into individual survey efforts conducted throughout the year. Data management of all these data sets has proven a challenge and several survey days are without any sound velocity correction records. The days effects are; 2012 Julian days: 297,354; 2014 Julian day: 246. Due to the constantly applied surface sound velocity employed by the R2, the inherently shallow water nature of our location, and the relatively stable sound velocity profile typically observed in the survey area we do not believe this greatly affects the data and have not noticed any significant sound velocity related artifacts associated with the effected survey days. In the case of 2014-246 a vertical profile matching the surface sound speed velocity was applied to the dataset.

### I. Approval

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 Survey Summary 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 Survey Summary Report.

Approver Name	Approver Title	Approval Date	Signature
John V Lazar Jr	Chief Scientist	March 8, 2016	LAZAR.JOHN.V.JR. 1383925629

# APPENDIX I

## TIDES AND WATER LEVELS

Survey W00322 does not include supplemental tide or water level information.

APPENDIX II

SUPPLEMENTAL SURVEY RECORDS  
AND CORRESPONDENCE

Survey W00322 does not include supplemental survey records or correspondence.

APPROVAL PAGE

W00322

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 NCEI for archive

- W00322\_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- W00322\_GeoImage.pdf

The survey evaluation and verification has been conducted according current OCS Specifications, and the survey has been approved for dissemination and usage of updating NOAA's suite of nautical charts.

Approved: \_\_\_\_\_

**Lieutenant Commander Briana Hillstrom, NOAA**  
Chief, Atlantic Hydrographic Branch