H12602

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

DESCRIPTIVE REPORT

Type of Survey:	Navigable Area
Registry Number:	H12602

LOCALITY

State(s):	New York
General Locality:	Vicinity of Southern Long Island
Sub-locality:	Vicinity of Moriches Inlet

2013

CHIEF OF PARTY
Ransom C. White III

LIBRARY & ARCHIVES

Date:

U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTRY NUMBER:
HYDROGRAPHIC TITLE SHEET	**H12602**

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):	**New York**
General Locality:	**Vicinity of Southern Long Island**
Sub-Locality:	**Vicinity of Moriches Inlet**
Scale:	**20000**
Dates of Survey:	**10/22/2013 to 12/31/2013**
Instructions Dated:	**06/27/2013**
Project Number:	**OPR-C331-KR-13**
Field Unit:	**Williamson & Associates, Inc.**
Chief of Party:	**Ransom C. White III**
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 H12602

Project: OPR-C331-KR-13

Locality: Vicinity of Southern Long Island

Sublocality: Vicinity of Moriches Inlet

Scale: 1:20000

October 2013 - December 2013

Williamson & Associates, Inc.

Chief of Party: Ransom C. White III

A. Area Surveyed

Williamson & Associates, Inc. conducted a hydrographic survey in the southern waters off of Long Island, NY. The sub-locality of this survey is described as Vicinity of Moriches Inlet, NY.

The survey encompassed an area of approximately 13 square nautical miles and was assigned registry number H12602. Project instructions required object detection coverage in 2-4 meters of water with 100% SSS and concurrent set line spacing SBES or MBES and backscatter. Object detection coverage was required as well in 4-20 meters of water with 200% SSS and concurrent MBES and backscatter. Complete MBES and backscatter were the only requirements in water depths greater than 20 meters.

It should be noted that the appendices and separates for this report were created using the XML Schema format from XMLDR v13.1 released in June 2013 and will not follow the layout described in HSSD 2012. This was approved through email correspondence with our COTR on 4/10/2013, see correspondence in Appendix II.

A.1 Survey Limits

Data were acquired within the following survey limits:

Northwest Limit	Southeast Limit
40° 46' 56.24" N 72° 41' 49.56" W	40° 42' 6.05" N 72° 48' 26.57" W

Table 1: Survey Limits

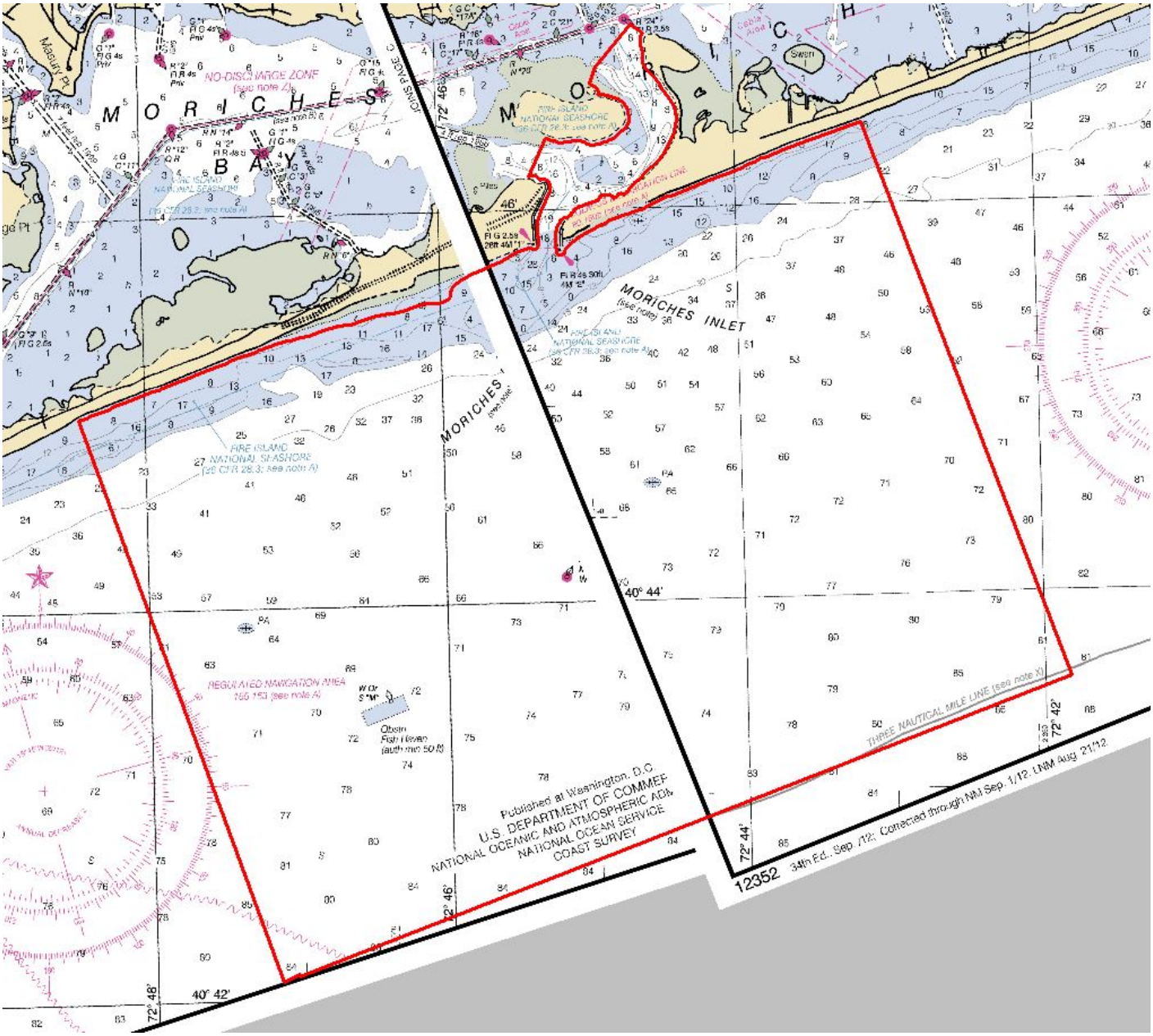

Figure 1: H12602 Sheet Boundaries Overlaid on Chart 12352

The correspondence is attached.

As per the field crews email confirmation (review correspondence folder) with the COTR on Oct 28th, sheet H12602 was surveyed to the 2m contour inshore of the inlet, and to the 4m contour offshore of the inlet within the bounds of vessel safety.

A.2 Survey Purpose

As per the project instructions: The purpose of this project is to provide contemporary surveys to update National Ocean Service (NOS) nautical charting products. This project is in response to different user group

needs following Hurricane Sandy landfall. Specifically these data will adjoin updated shoreline, address the need for updated bathymetry for inundation modeling, and help identify marine debris for potential removal.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

Survey quality was reviewed mainly by utilizing daily checks for data matchup, swath density and motion/ refraction artifacts. Sounding density was found to meet or exceed the object detection and single line spacing requirements out to roughly 40-45 degrees from nadir, which was deemed acceptable given that our requirements called for skunk strip MBES as a gap filler for 100% and 200% SSS. A full MBES coverage plan would include at least a 20% swath overlap, which is not possible with a set line spacing. Motion artifacts, when found, were due to excessive weather conditions. Latency values were checked and the motion artifacts were measured. The majority of motion artifacts found fell under our IHO Order 1a error budget and were located well offshore in easily navigable water. Considering the consistently poor working conditions during the winter months, motion artifacts became somewhat frequent, however they posed little threat to the usefulness of the data as expected vessel traffic in the area consists of no vessels that draw more than 2-3 meters.

In-depth crossline comparisons were performed. The results of the crossline comparison can be found in section B.2.1 of this report. The crossline comparisons consisted of analyzing each individual crossline with the finalized CUBE surface using the CARIS surface report tool. Once a CARIS surface report was generated, the results were inserted into a spreadsheet for total calculations of the survey area. The surface report informs the user of the percentage of soundings across the swath in increments set by the user that fall within the desired IHO specifications, in our case 10 degree increments, within IHO Order 1a. Areas that did not pass the IHO order 1a specification were due to shifting bathy near the inlets and can be reviewed in section B.2.6 of this report.

Survey quality is acceptable to supersede previous bathymetric, shoreline, overhead and submerged feature data within the project bounds.

The motion artifacts were determined to be within NOAA specifications during office review. The multibeam coverage and sounding density over several features was found to be inadequate during office review.

A.4 Survey Coverage

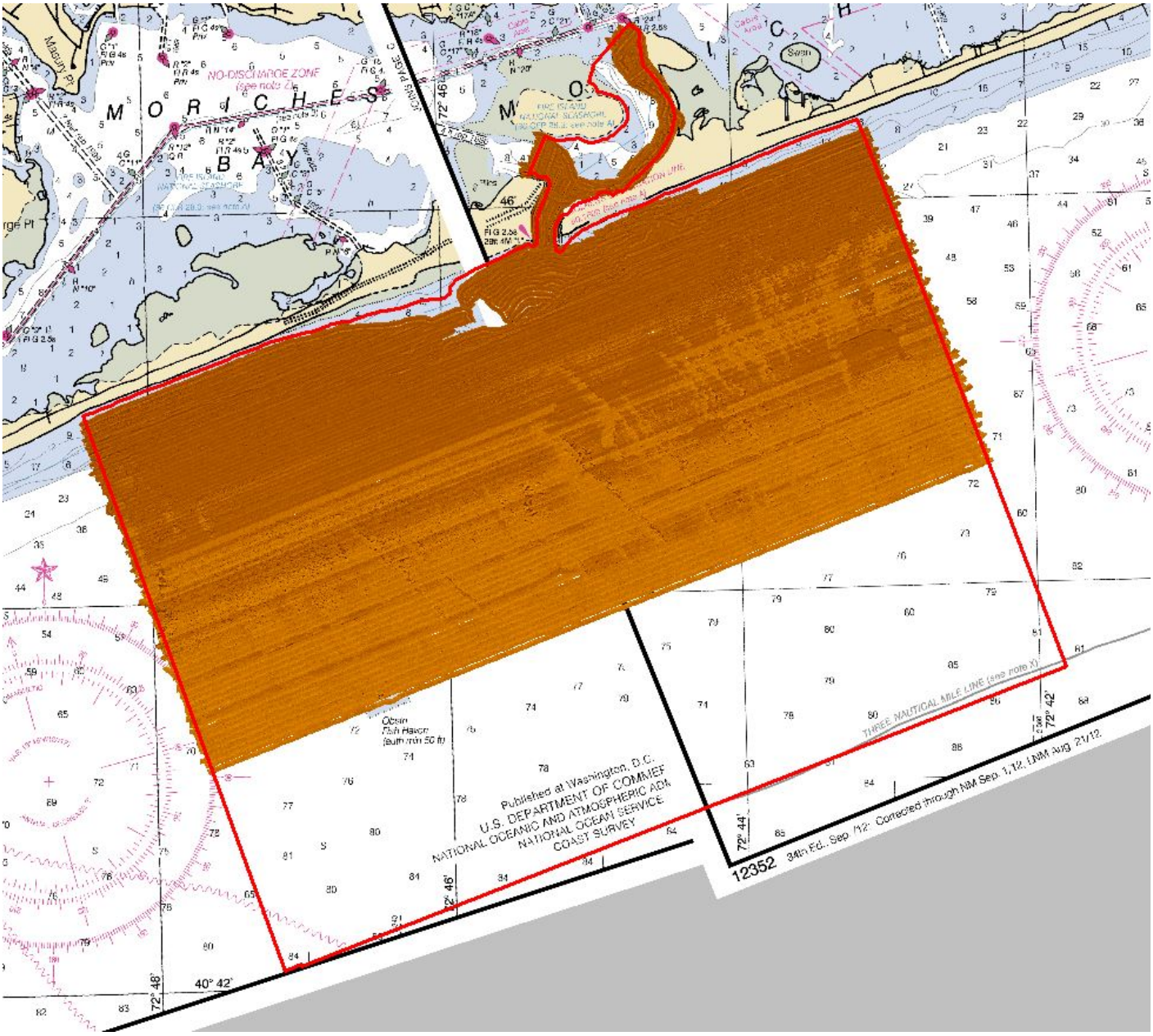

Figure 2: H12602 SSS Mosaic of all Data Acquired Overlaid on Chart 12352

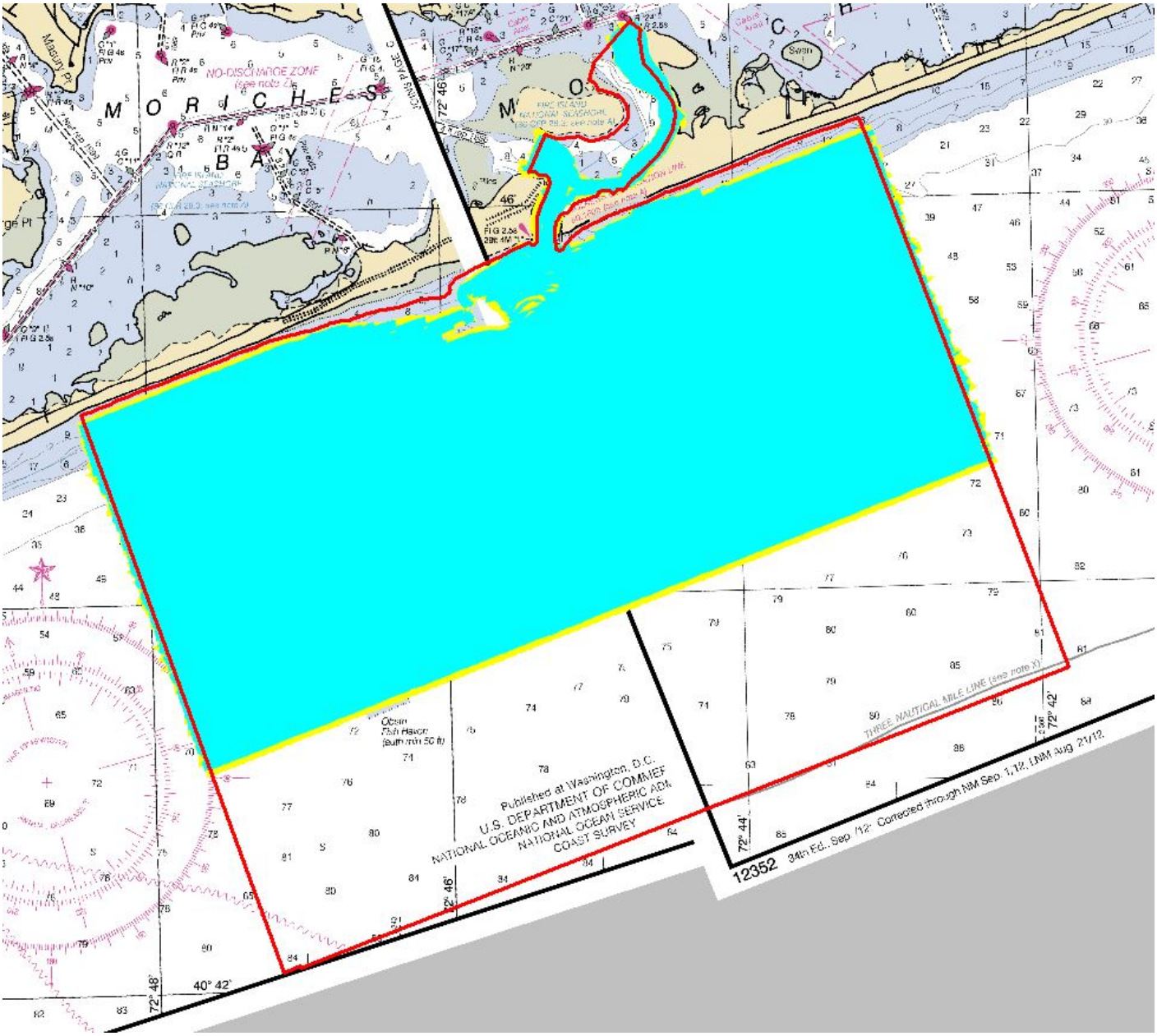

Figure 3: H12600 SSS Coverage Depicting percent of coverage: Yellow = 100%, Cyan = 200%

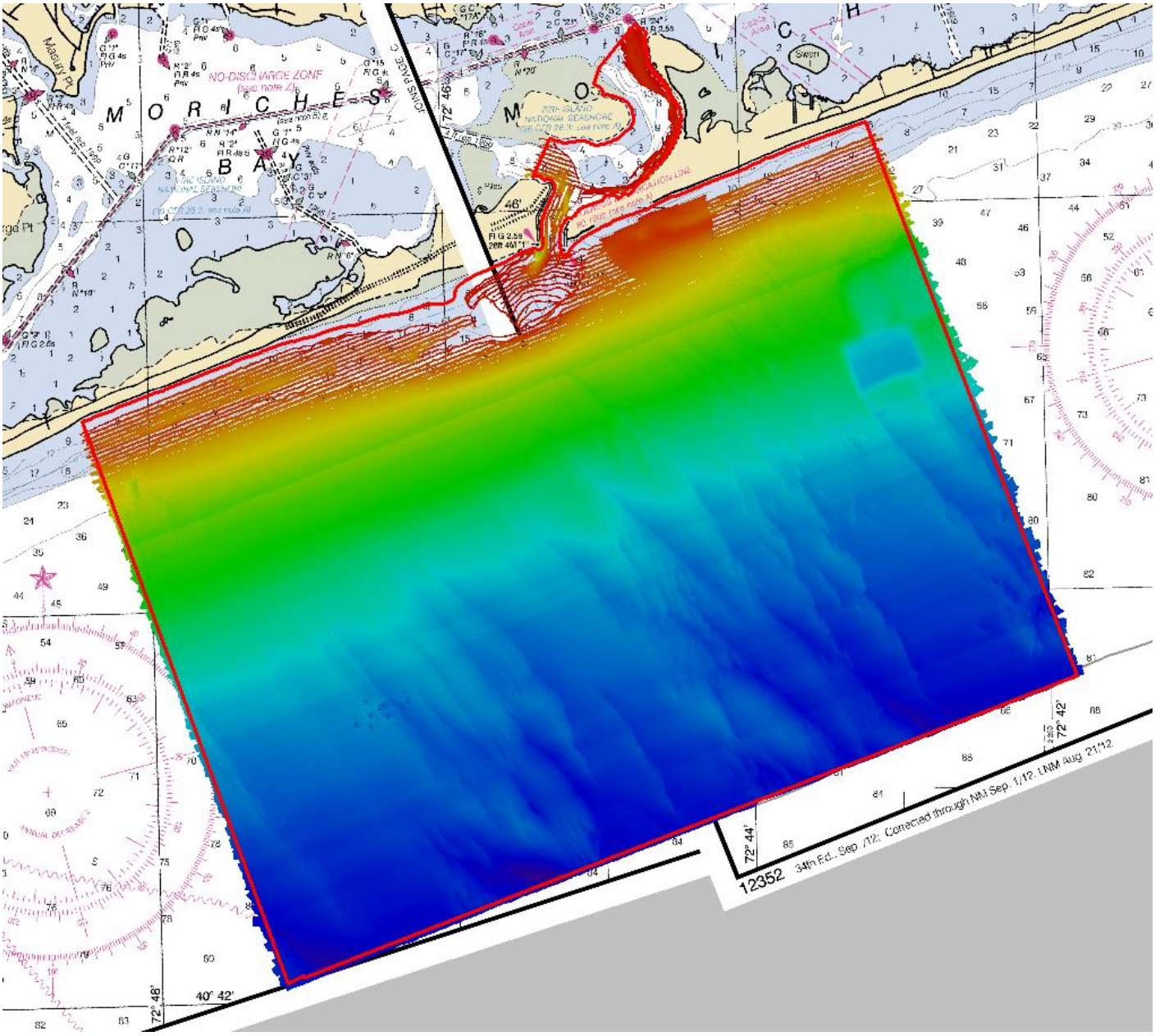

Figure 4: H12600 MBES Coverage Overlaid

Due to changing morphology and a combination of shoal and swell conditions, coverage gaps are present in SSS data. Vessel and crew safety was a priority and was always taken into consideration. There are four coverage gaps located on this sheet. Two coverage gaps are located southwest of Moriches Inlet, both of which occurred because of shoal conditions and a large swell that made the area inaccessible. Another shoal-caused gap is located southeast of the inlet. The fourth gap on this sheet is located inside the inlet east of Fire Island National Seashore.

It should be noted that during initial acquisition the survey line plan used was designed to obtain full multibeam coverage in shoal water depths. A new survey line plan was set in place on October 23rd containing line spacing to result in 200% SSS coverage with skunk strip MBES. The line plan was implemented on October 25th and was confirmed by the COTR via email on October 30th. Please refer to Appendix II of this report for email communications.

Certain sections associated with the NALL areas were not fully covered due to the extent of changes in seabed. Please refer to section D.2.1 "Shoreline" for NALL information and shoreline changes.

Please refer to section D.1.3 AWOIS" Items" for information on survey coverage gaps.

The correspondence is attached.

A.5 Survey Statistics

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

	HULL ID	*HEW46077J708*	*Total*
LNM	**SBES Mainscheme**	0	0
	MBES Mainscheme	159.57	159.57
	Lidar Mainscheme	0	0
	SSS Mainscheme	0	0
	SBES/SSS Mainscheme	0	0
	MBES/SSS Mainscheme	339.46	339.46
	SBES/MBES Crosslines	21.57	21.57
	Lidar Crosslines	0	0
Number of Bottom Samples			7
Number of AWOIS Items Investigated			3
Number Maritime Boundary Points Investigated			0
Number of DPs			0
Number of Items Investigated by Dive Ops			0
Total SNM			13.39

Table 2: Hydrographic Survey Statistics

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

Survey Dates	Day of the Year
10/22/2013	295
10/25/2013	298
10/26/2013	299
10/28/2013	301
10/29/2013	302
10/30/2013	303
10/31/2013	304
11/05/2013	309
11/06/2013	310
11/16/2013	320
11/19/2013	323
11/20/2013	324
11/21/2013	325
11/30/2013	334
12/01/2013	335
12/02/2013	336
12/03/2013	337
12/04/2013	338
12/12/2013	346
12/31/2013	365

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	***HEW46077J708***
LOA	7.32 meters
Draft	1.2 meters

Table 4: Vessels Used

Figure 5: M/V Nooit Volmaakt from the port side. The pole mount on the bow for the Edge Tech SSS can be seen.

Figure 6: M/V Nooit Volmaakt from the starboard bow. The pole mount on the bow for the Edge Tech SSS can be seen.

The M/V Nooit Volmaakt acquired all multibeam data with a pole mounted R2Sonic 2024 at 400kHz and a pole mounted EdgeTech 4600 at 540 kHz using a POSMV for position, orientation and motion corrections. For more detailed information on equipment and vessel please refer to OPR-C331-KR-13 DAPR submitted under a different cover.

B.1.2 Equipment

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

Manufacturer	Model	Type
R2Sonic	2024	MBES
EdgeTech	4600	SSS
Applanix	POS MV 320	Positioning and Attitude System
Valeport	MiniSVS	Sound Speed System
SeaBird	SBE19	Conductivity, Temperature and Depth Sensor
SeaBird	SBE19+	Conductivity, Temperature and Depth Sensor

Table 5: Major Systems Used

B.2 Quality Control

B.2.1 Crosslines

Crosslines acquired for this survey totaled 4% of mainscheme acquisition.

Quality control crosslines were planned so that most main scheme lines would intersect with at least one crossline, they were well distributed geographically, and that total crossline nautical miles ran would total more than 4 % of the main scheme nautical miles (a specification set forth by the HSSD 2012). Our quantification of required crossline distance in this sheet was complicated by a change in our line plan to set line spacing from full MBES coverage, causing skunk striping in the shallower areas. Survey that had taken place prior to the line plan change caused there to be far more line miles of data than what the new line plan called for. The quantification for line miles of crosslines was based on the new line plan, which had fewer lines. Additionally, line miles across fouled areas were removed from the calculation. Therefore, the percentage of crosslines to total mainline mileage will appear to be less than what was required, however, the true percentage should be determined as described above.

Total cross-line length surveyed for task order OPR-C331-KR-13 sheet H12602 was 21.57 nautical miles or 4.6% of the total main scheme distance (469.42 nautical miles). All crosslines were compared to the main scheme line BASE, using the CARIS HIPS QC Report process for individual lines. The swath was split by swath angles in 10 degree increments for the crossline analysis. The seabed near the inlet was so dynamic, being current driven, that it changed significantly from day to day. Three crosslines obtained in the inlet failed to meet the standards set forth by the HSSD. The “outlier” lines only account for 0.1% of the main scheme nautical line mileage, however, the seabed shifting was so significant in the areas surrounding the inlet that with the outlier crosslines included the overall average only passed the 93.93% confidence level. These lines were deemed unacceptable due to seabed shift and not used resulting in a crossline mileage of 4.49% of the main scheme lines. The outlier lines are included in with the data delivered however they were not included in the final surface. Without these outlier lines the vast majority of beams passed within the IHO Order 1a specifications at a 95% confidence level or better with an overall confidence level average of 99.9% and a standard deviation of 0.18%. (See Separate IV). Lines that covered both the 50cm (0-20m water depth) and the 2m (18-40m water depth) surfaces were analyzed independently for each surface.

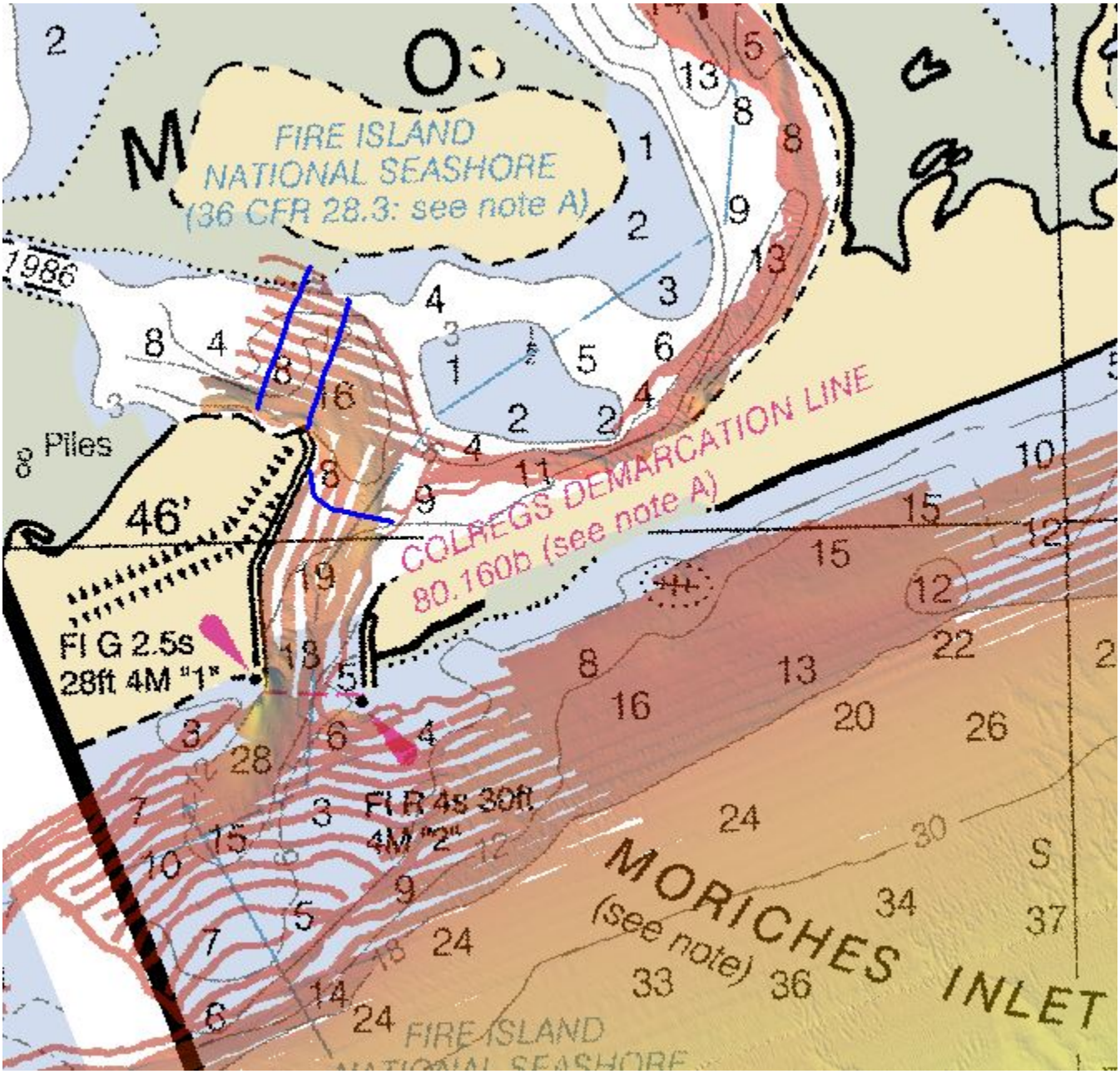

Figure 7: MBES data overlaid on Chart 12352. The cross-lines that were flagged as outliers and not used due to shifts over time in the seabed are highlighted in Blue.

The crossline calculation method described by the hydrographer was acknowledged and approved by NOAA Operations Branch. See attached correspondence.

B.2.2 Uncertainty

The following survey specific parameters were used for this survey:

Measured	Zoning
0 meters	0.204 meters

Table 6: Survey Specific Tide TPU Values

Hull ID	Measured - CTD	Measured - MVP	Surface
HEW46077J708	1.5 meters/second		0.2 meters/second

Table 7: Survey Specific Sound Speed TPU Values

Refer to the Data Acquisition and Processing Report (DAPR) for a complete description of the uncertainty values used for processing sheet H12602.

According to the confidence interval values reported by JOA Surveys, our tidal uncertainty value at 95% confidence level was 0.399m and includes the estimated gage measurement error, tidal datum computation error and tidal zoning error. The reported error value was then divided by 1.96 since CARIS assumes TPU values to be 1 sigma (Field Procedures Manual April 2013) resulting in a value of 0.204m. The tidal uncertainty field labeled in CARIS as “measured” was left at zero as the reported error value of 0.399m included the estimated gage measurement error and the tidal datum computation error as well as the tidal zoning error. Any max uncertainty measurements exceeding IHO Order 1a specifications are due to shifting sand bars and seabed morphology and are explained in section B.2.6 (Factors Affecting Soundings).

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

Motion Correction System

B.2.5.1 POS MV 320 functioned adequately throughout the survey considering the frequent higher sea state. The average sea state offshore during the high majority of survey days was a 1m swell. Depending on the direction of the swell some attitude artifacting resulted, mostly in deeper areas of the survey. These lines were not rejected as no latency was found to exist and the QC showed the lines to still be within spec using crossline analysis. This was concluded to be the result of a small survey vessel in large enough seas to challenge the accuracy of the IMU.

B.2.6 Factors Affecting Soundings

Shifting Sand Waves / Bars / Features

Sand features in waters shallower than 10 meters are constantly shifting, as much as 25cm per day in some areas. Areas concentrated around the inlet are subject to the strongest and most rapid tidal currents. As a result these areas experience the most morphological shifting resulting in poor data alignment, especially if overlapping acquisition was separated by 5-10 days. Due to this effect on the data overlapping the timing of acquisition was strongly considered in planning.

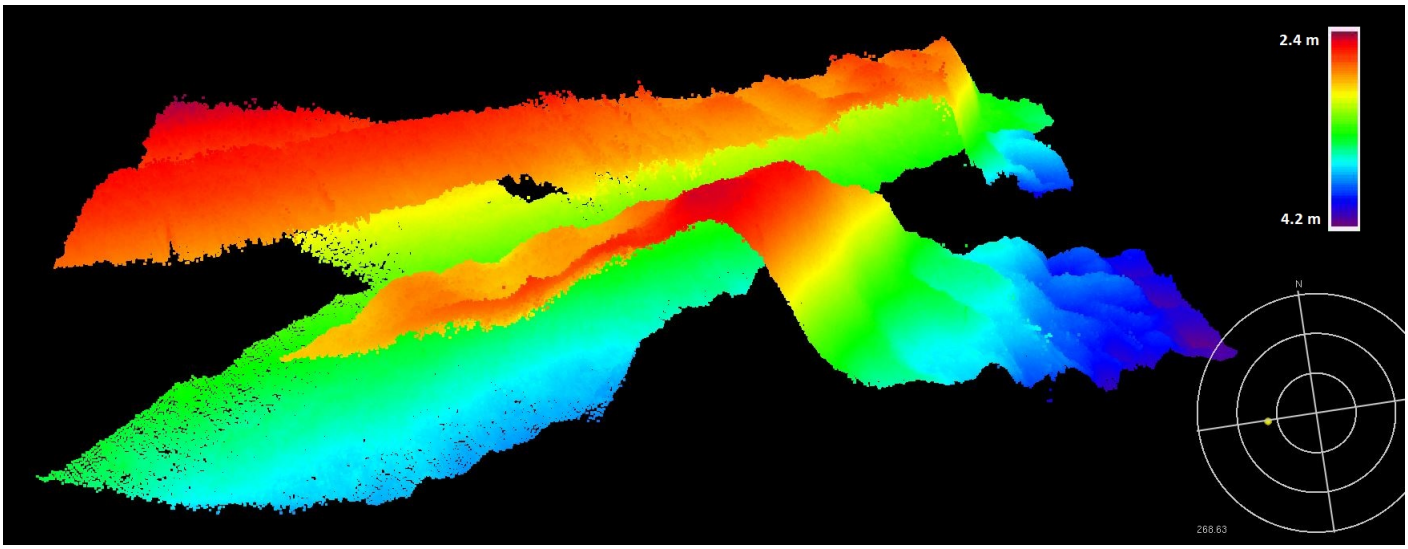

Figure 8: MBES soundings showing depths for 4 lines, two acquired on JD 302 and two on JD 337. The separation in seabed morphologies can be seen well here as the sand has shifted due to currents and other environmental factors.

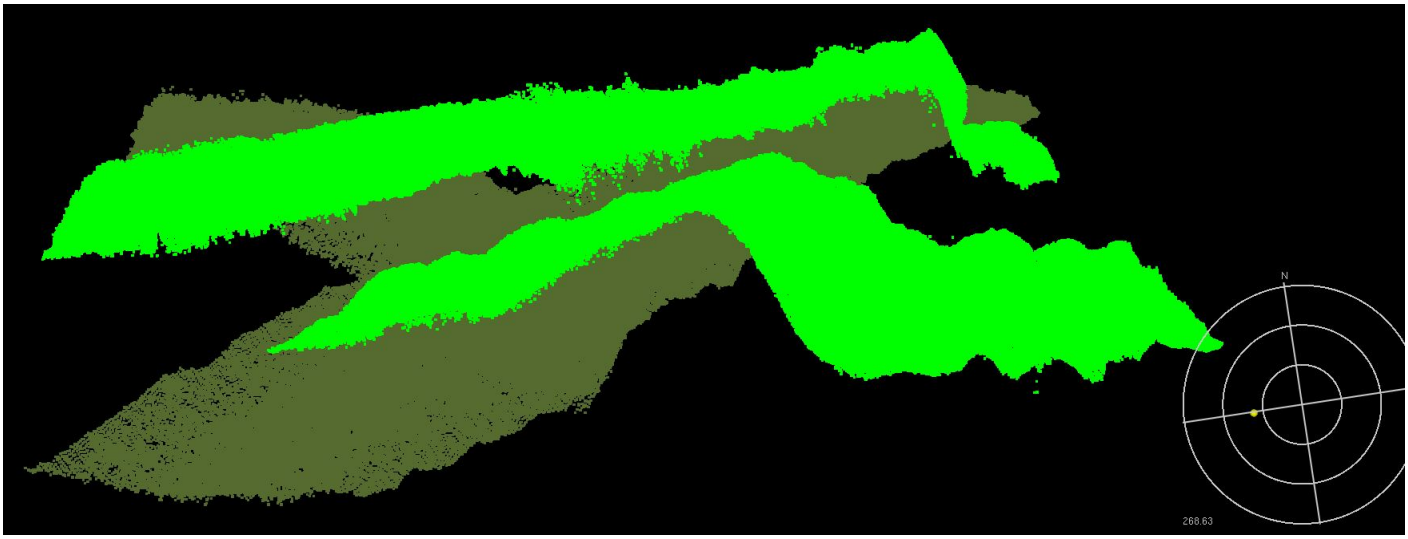

Figure 9: Image to be associated with the previous figure. The colors signify days of acquisition. Light green for JD 302 and dark green for JD 337.

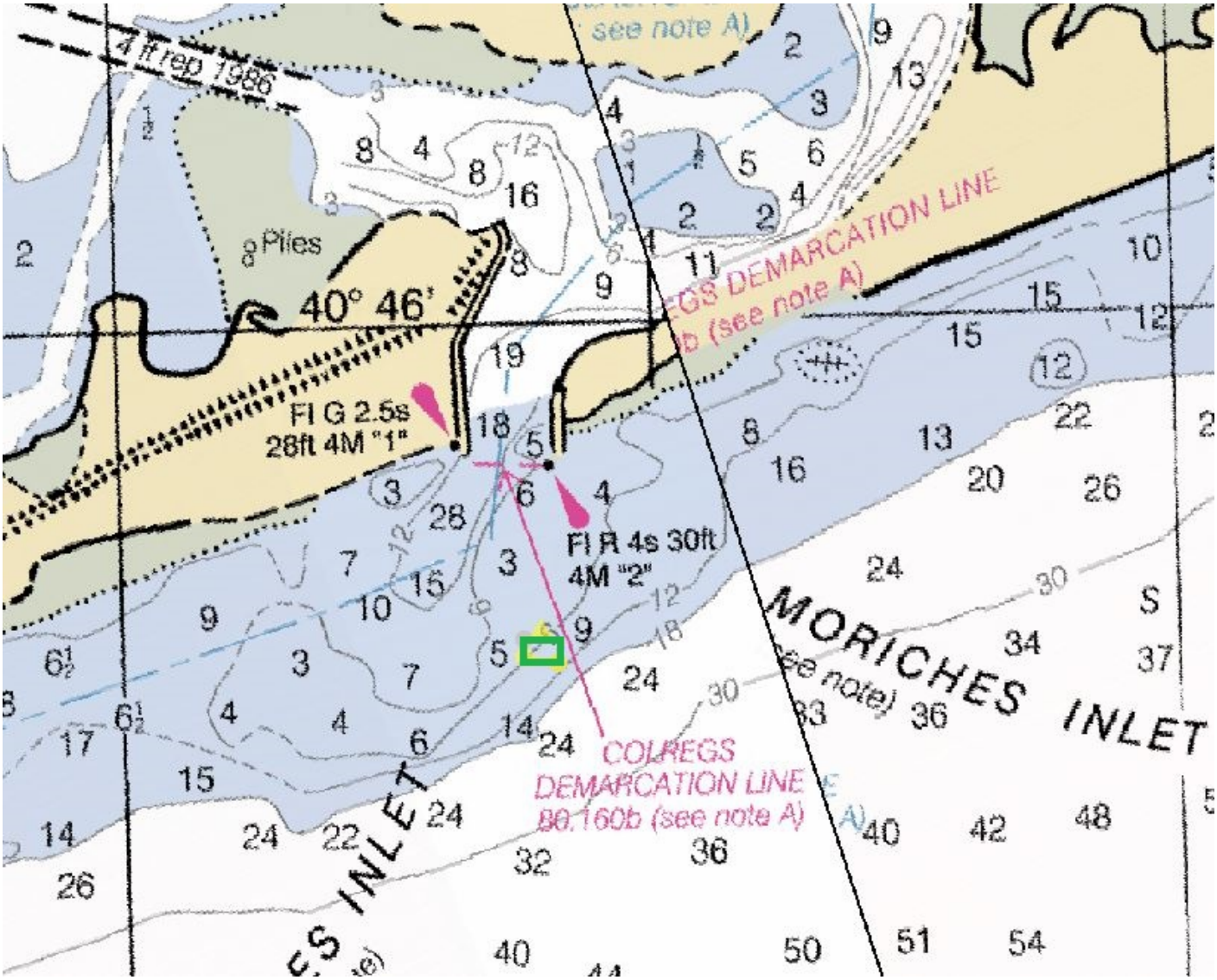

Figure 10: Chart 12352 overlain with a green box highlighting the area of shifting seabed shown in the previous two figures.

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: 4 hours

A Sea-Bird CTD was used every 2-4 hours depending on variation in the surface sound velocity. As per the HSSD casts were taken if the surface sound velocity changed by more than 2 m/s. Two Sea-Bird CTDs were used aboard the survey vessel, a SBE 19 and SBE 19+.

Sound Velocity was close to homogeneous from day to day. No significant sound velocity errors were encountered.

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

The following calibrations were conducted after the initial system calibration discussed in the DAPR:

Calibration Type	Date	Reason
MBES	2013-10-02	Vessel ran sensor aground on Sand Bar.
MBES	2013-10-06	Vessel ran sensor aground on Sand Bar.
MBES	2013-10-15	Vessel ran sensor aground on Sand Bar.
MBES	2013-10-18	Vessel ran sensor aground on Sand Bar.
MBES	2013-11-05	Vessel ran sensor aground on Sand Bar.
MBES	2013-11-11	Vessel ran sensor hard aground on Sand Bar.

Table 8: Calibrations not discussed in the DAPR.

Multiple calibration patch tests were conducted for the MBES system after the initial calibration. These were conducted to account for small shifts in the mounting flange. No resulting issues were found to adversely affect the data.

B.4 Backscatter

Backscatter was converted to HDCS file and is included with the data submitted to the Branch.

R2Sonic backscatter data is not supported by NOAA's current backscatter processing software. Backscatter products were not created during office processing.

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: 5.2

No software updates were implemented since the DAPR.

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
H12602_West_MB_50cm_MLLW_Final	CUBE	0.5 meters	0 meters - 20 meters	NOAA_0.5m	Object Detection
H12602_Central_MB_50cm_MLLW_Final	CUBE	0.5 meters	0 meters - 20 meters	NOAA_0.5m	Object Detection
H12602_East_MB_50cm_MLLW_Final	CUBE	0.5 meters	0 meters - 20 meters	NOAA_0.5m	Object Detection
H12602_MB_2m_MLLW_Final	CUBE	2 meters	18 meters - 28.28 meters	NOAA_2m	Complete MBES
H12601_SSS_1m_100%_A	SSS Mosaic	1 meters	0 meters - 22.5 meters	N/A	100% SSS
H12601_SSS_1m_100%_B	SSS Mosaic	1 meters	0 meters - 22.5 meters	N/A	100% SSS
H12602_AWOIS_15112_MB_50cm_MLLW_Final	CUBE	0.5 meters	10.6 meters - 23.61 meters	NOAA_0.5m	Object Detection
H12602_AWOIS_15111_MB_50cm_MLLW_Final	CUBE	0.5 meters	16.25 meters -	NOAA_0.5m	Object Detection

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
			20.03 meters		

Table 9: Submitted Surfaces

As per the project instructions a 1m SSS mosaic resolution was used. The 200% SSS coverage was split into 100% coverage mosaics. The MBES data was gridded at 0.5 meters for water depths ranging between 0-20 meters, and gridded at 2 meters in water depths between 18-40m. Multiple 50cm surfaces were created in lieu of one large surface to reduce the file size and allow for quicker localized surface loading. Separate surfaces were created for the AWOIS areas that extended into water depths greater than 20m, as the required resolution for data at depths greater than 20m (2m resolution) differ from that required for AWOIS coverage (50cm resolution).

C. Vertical and Horizontal Control

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

C.1 Vertical Control

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

Standard Vertical Control Methods Used:

Discrete Zoning

The following subordinate water level stations were established for this survey:

Station Name	Station ID
Moriches Coast Guard Station	8513388
Moriches Inlet Open Coast	8513398

Table 10: Subordinate Tide Stations

File Name	Status
Z:\CARIS\Tide\8513388.tid	Final Approved
Z:\CARIS\Tide\8513398.tid	Final Approved

Table 11: Water Level Files (.tid)

File Name	Status
Z:\CARIS\Tide\JOA-C331KR2013-MORICHES BAY 20140419.zdf	Final

Table 12: Tide Correctors (.zdf or .tc)

Two subordinate tide gauges, 8513388 and 8513398 were installed for final use in sheet H12602. An auxiliary pressure gauge was used just offshore of the inlet to aid in finalized zoning procedures. Staff observations were performed for gauge 8513398 once per week for a 2 hour period weather permitting. Refer to Appendix I for tide notes.

C.2 Horizontal Control

The horizontal datum for this project is North American Datum of 1983 (NAD83). Date were acquired in WGS84, as shown in the HVF, but were converted to NAD83 for processing and delivery. See DAPR A.3 and B.1.

The projection used for this project is UTM 18N.

The following DGPS Stations were used for horizontal control:

DGPS Stations
Moriches, Broadcast Site ID: 803

Table 13: 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
12352	1:40000	34	09/2012	04/18/2014	04/18/2014
12352	1:40000	34	09/2012	04/17/2014	04/17/2014
12353	1:80000	19	11/2011	04/18/2014	04/18/2014

Table 14: Largest Scale Raster Charts

12352

Refer to the discussion for chart 12353.

Raster chart 12352_1

12352

Refer to the discussion for chart 12353.

Raster chart 12352_2

12353

H12602 survey data was compared to Raster Chart 12352 and 12353. In general chart and survey depths match well. The areas that have shoaled or are constantly shifting are discussed in the section labeled Shoal and Hazardous Features.

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?
ENC US4NY53M	1:80000	9	11/30/2012	11/30/2012	NO
ENC US5NY52M	1:40000	10	12/27/2012	03/12/2013	NO

Table 15: Largest Scale ENCs

ENC US4NY53M

H12602 survey data was compared to Electronic Chart US4NY53N. Results were very similar to the above comparisons with Raster Chart 12352 and 12353. See discussion for chart 12353 for Chart comparison.

ENC US5NY52M

H12602 survey data was compared to Electronic Chart US5NY52M. Results were very similar to the above comparisons with Raster Chart 12352 and 12353. See discussion for Chart 12353 for chart comparison.

D.1.3 AWOIS Items

Three AWOIS items were investigated, items 1685, 15111 and 15112.

We investigated the three AWOIS items listed above. The search radius for items1685 contained three contacts: two small rocks and the third was an 80m long ship. This wreck associated with AWOIS item 1685 was in very shallow water near the coastline and has retained the shape of its hull as it is sitting flat on the seabed. The housing structures of the vessel have been heavily corroded and worn down. The search radius for both items 15111 and 15112 contained no contacts or features, significant or otherwise.

As discussed in section A.4 regarding shoal and swell conditions degrading survey data, there were some AWOIS items with nodes containing less than the required number of soundings. Feature UWTROC 4925 contains less than the required density of soundings. Seas did not always allow many passes over certain locations. We did achieve 200% SSS coverage in these areas and operated under the assumption that this would make up for small discrepancies of this nature.

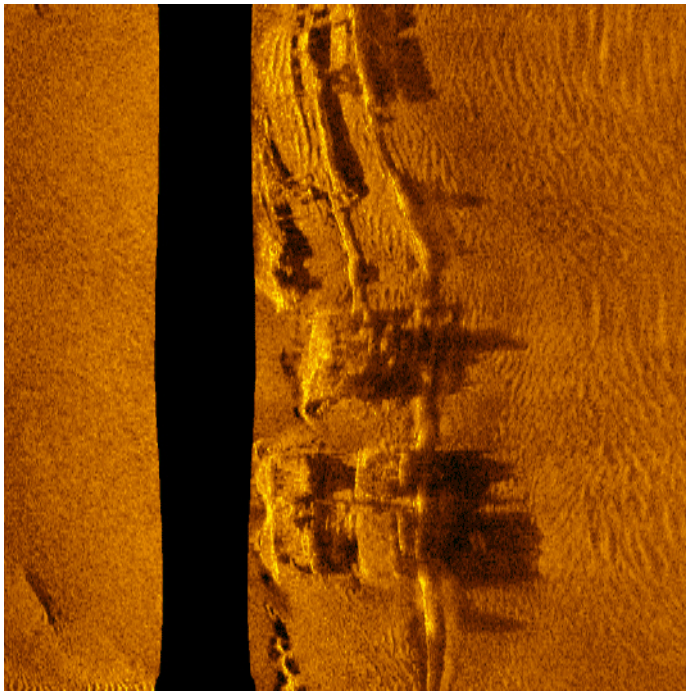

Figure 11: SSS imagery showing the central portion of the wreck associated with AWOIS 1685.

The multibeam coverage over UWTROC 4925 was determined to meet requirements for object detection sounding density during office review.
The AWOIS Report is attached.

D.1.4 Maritime Boundary Points

No Maritime Boundary Points were assigned for this survey.

D.1.5 Charted Features

One charted feature was investigated that was not assigned as an AWOIS. An offshore fish haven was found to be charted correctly with at least 11 associated significant wrecks.

Do not concur, multiple wrecks and obstructions were found outside the charted fish haven. The extents of the fish haven should be expanded to include the new features found by this survey.

D.1.6 Uncharted Features

H12602 did not contain a large number of uncharted features. Only 4 significant features were found that were not associated with either an AWOIS radius or a fish haven, two of which were wreckage. These two wrecks were both located near to shore and not far from AWOIS item 1685, one looks to be a barge while the other appears to be a mast of sorts.

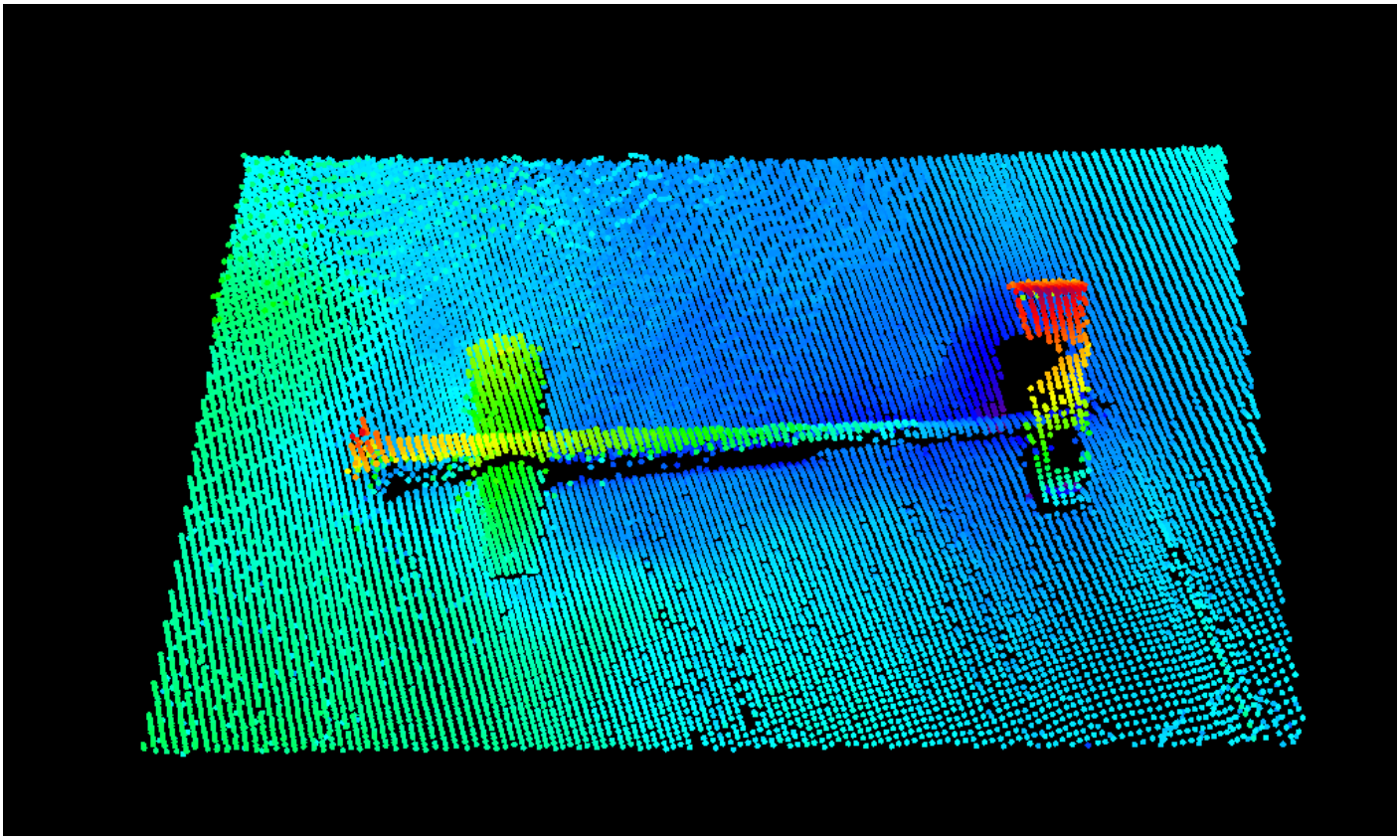

Figure 12: MBES image showing the mast-like wreckage.

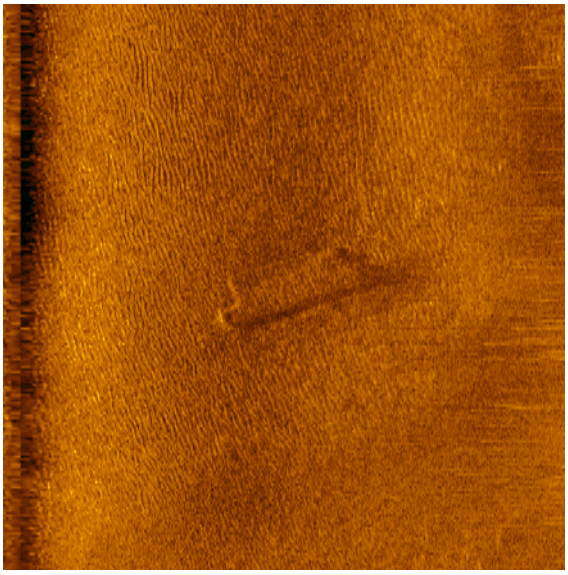

Figure 13: SSS Imagery showing significant barge feature.

D.1.7 Dangers to Navigation

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

The DTON Report is attached.

D.1.8 Shoal and Hazardous Features

In order to investigate shoaling areas and compare to charted depths a grid was overlaid on raster chart 12352. This allowed the area to be compared visually and easily obtain depth value differences with a high level of accuracy. The only significant shoaling differing from the chart is occurring inshore of the inlet along the eastern channel. The shoal just offshore and surrounding the inlet is significant and can be very perilous during a strong southern sea. Breaking seas can often be seen focused over the offshore east portion of the inlet where the sand bar is the most shoal. The chart accurately reflects this.

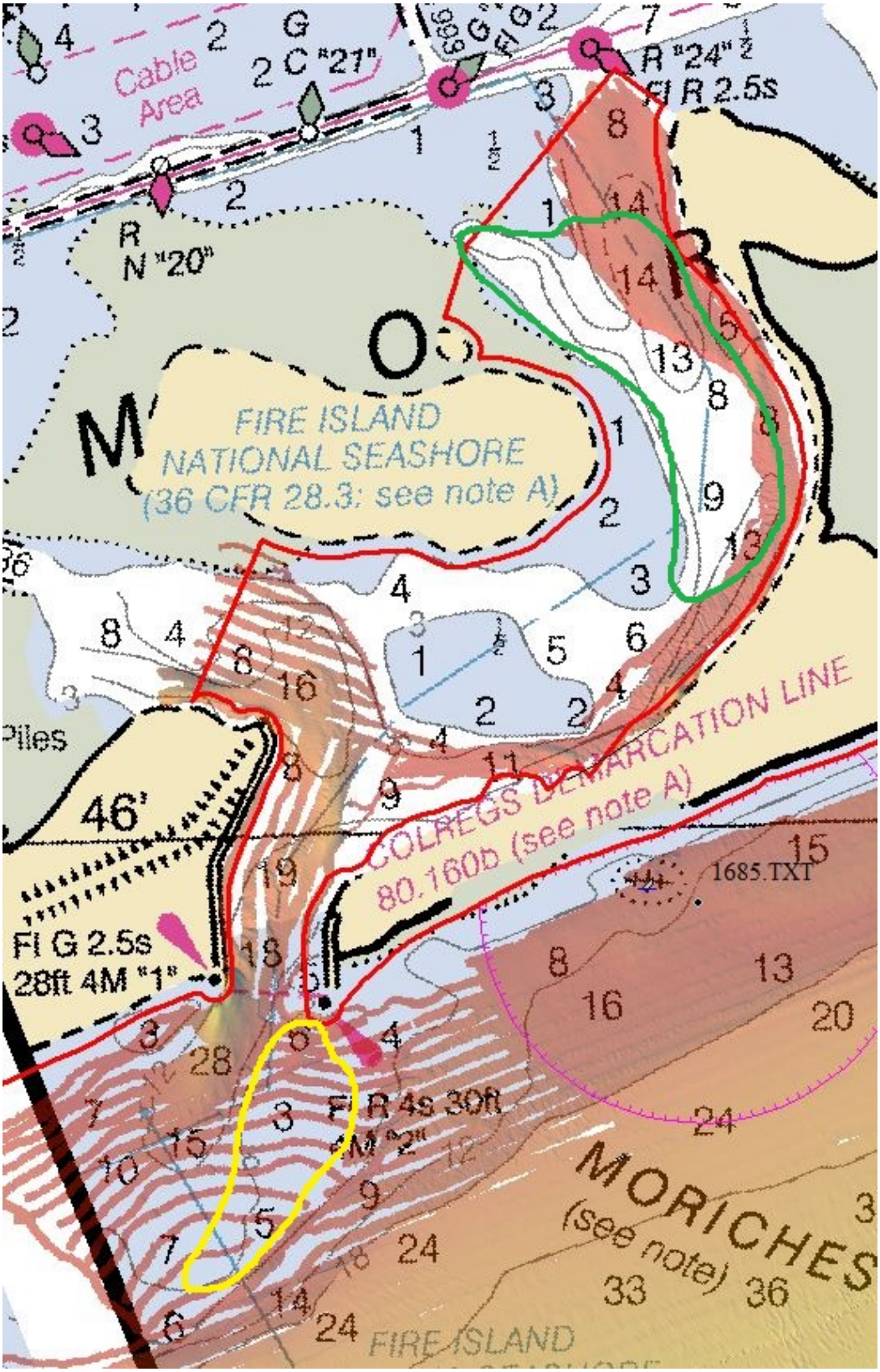

Figure 14: Overhead image of the Moriches Inlet in sheet H12602. The area circled in green highlights the shoaling area inshore. The area circled in yellow highlights the area of dangerous shoals and breaking seas offshore of the inlet.

D.1.9 Channels

There are no prominent channels in sheet H12602 besides the channel into the inlet. The inlet is as charted. Channel buoys do exist in the inshore area however it should be noted the Moriches Coast Guard Station monitor and move them to adapt with the shifting sand bars just inshore of the inlet. No channel markers are charted.

D.1.10 Bottom Samples

Seven bottom samples were acquired for this survey.

D.2 Additional Results

D.2.1 Shoreline

A limited shoreline investigation was completed as per the project instructions. The majority of the shoreline associated with the survey sheet remained as charted. A small portion of shoreline was assigned to investigate. This was the northern coast of the barrier island just to the east of the inshore side of the inlet. The shore line had been eroded shore-ward roughly 35 meters at the most extreme point. More information concerning the verified shoreline can be found in the Final Feature File.

Sheet H12602 contains areas where the NALL requirements were not achieved. Any areas that were not satisfied were due to safety concerns with swell or sand bar impacts on the vessel. The sonar was grounded several times, so the crew became more cautious of shallow water as the survey continued. In some areas, however, survey coverage exceeded NALL because water depths were deeper than previously charted due to Sandy.

The area located near Moriches Inlet contained several new sand bars and shoal areas. The largest of unsatisfied NALL areas are located south of the inlet and run parallel to the shoreline. Another NALL area not surveyed is located northeast of the inlet.

D.2.2 Prior Surveys

No prior survey comparisons exist for this survey.

D.2.3 Aids to Navigation

All ATONS were found in place and serving their intended purpose.

D.2.4 Overhead Features

Overhead features do not exist for this survey.

D.2.5 Submarine Features

Sheet H12602 contained one feature that appeared to be a submerged exposed pipe or cable. This feature was found near the western inshore edge of the inlet and is not associated with a charted cable area. Details for this feature can be found in the H12602 Final Feature File.

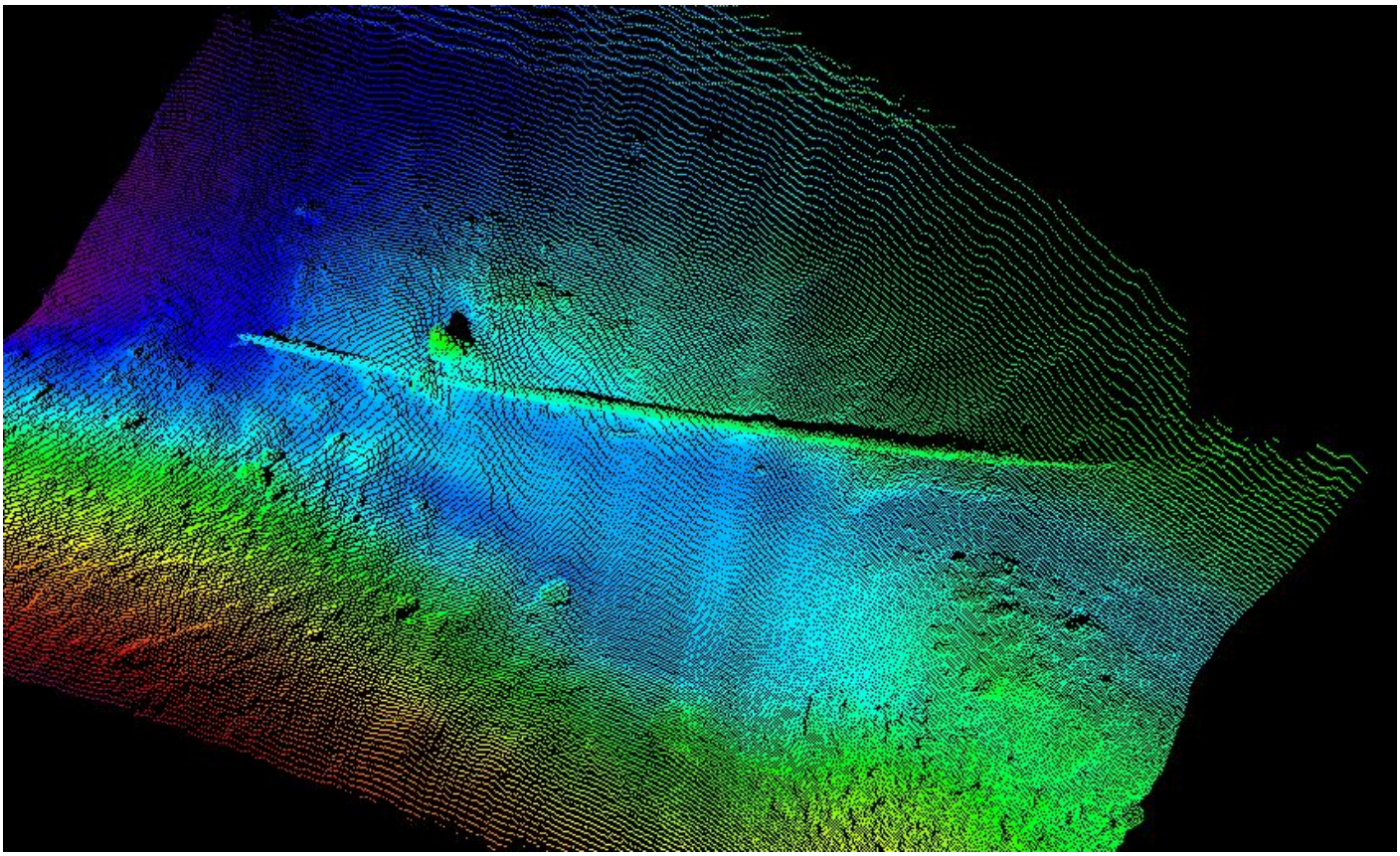

Figure 15: MBES Image showing the exposed portion of the long linear feature that was classified as a submerged pipe/cable.

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

Features that we identified as significant and not pre-existing were investigated and the LEAST depth sounding was used as the designated sounding. Additionally, see previous sections D.1.4 "Charted Features" and D.1.5 "Uncharted Features."

D.2.9 Construction and Dredging

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

D.2.10 New Survey Recommendation

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

D.2.11 Inset Recommendation

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.

Approver Name	Approver Title	Approval Date	Signature
Ransom C. White III	Cheif of Party	11/20/2014	
Curtis Clement	Project Manager	11/20/2014	

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

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Center for Operational Oceanographic Products and Services
Silver Spring, MD 20910

Date: July 16, 2014

TO: LCDR Michael Gonsalves
Chief, Operations Branch
Hydrographic Services Division
Office of Coast Survey

FROM: Gerald Hovis
Chief, Products and Services Branch
Oceanographic Division
CO-OPS

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: 2014.07.17 10:03:37 -04'00'

RE: Validation of Zoning supplied in support of OPR-C331-KR-2013, Vicinity of Southern Long Island, NY

John Oswald & Associates (JOA) submitted discrete tidal zoning for validation by CO-OPS based on subordinate water level data collected at Fire Island (851-5186), Moriches Inlet (851-3398), Moriches Coast Guard Station (851-3388), Shinnecock Inlet (851-2354), and Ponquogue Point (851-2451). CO-OPS finds the water level data as well as discrete zoning submitted in support of OPR-C331-KR-2013 to be valid and meet the requirements under NOS Specifications and Deliverables.

CO-OPS bases its validation of the contractor supplied zoning on the following reasons:

1. JOA's method to develop final zoning geometry and tide correctors is reasonable
2. The estimate of total propagated error within the survey area using JOA's final tidal zoning and provided zoning station water level data (BMPGs and Seaview Ferry (851-4779)) is within 0.26 meters.

CC:
Jeff Ferguson
Patrick Burke
Michael Brown
Matthew Jaskoski
Castle "Gene" Parker
LCDR Ben Evans
Laura Rear McLaughlin
Corey Allen
Cristina Urizar
Grant Froelich
Colleen Fanelli

(no subject)

2 messages

Ransom White <ransom.white@gmail.com> Mon, Oct 28, 2013 at 1:51 PM
To: Megan Greenaway - NOAA Federal <Megan.Greenaway@noaa.gov>, Marc Moser <marc.s.moser@noaa.gov>
Cc: Brian Bunge <bbunge@wassoc.com>, Art Wright <artw@wassoc.com>, Colin Stewart <cstewart@wassoc.com>, Curtis Clement <curtisc@wassoc.com>

Hi Megan,

I just wanted to confirm some of the changes we have implemented as per our conversation last week. The line plan has changed significantly. Our line spacing in the shallows has been increased almost 3 fold in order to achieve the project instructions specifications while not exceeding them.

Our line plan spacing and side scan range values associated with depth are as below:

Water Depth	SSS Range	Line Spacing/Coverage
2-4m (Shoreline)	30m	40m / 100%
4-15m	50m	40m / 200%
15-20m	75m	60m / 200%
>20m	Backscatter	60m / Full MBES

We are surveying to the 4 meter contour at MLLW offshore (within safety) and the 2 meter contour inshore. The line plan was also created using the boundaries included in the PRF file. I am attaching a dxf of the line file for your review.

Please let me know if you have any concerns of questions and thanks again for clarifying our questions.

Cheers

Ransom

--
Ransom C. White III
941.730.6729

opr-c331-kr-13_AllSheets_lineplan.dxf

1209K

Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov> Wed, Oct 30, 2013 at 2:27 PM
To: Ransom White <ransom.white@gmail.com>
Cc: Marc Moser <marc.s.moser@noaa.gov>, Brian Bunge <bbunge@wassoc.com>, Art Wright <artw@wassoc.com>, Colin Stewart <cstewart@wassoc.com>, Curtis Clement <curtisc@wassoc.com>

Ransom,
Yes, I agree with the changes you have described in this email. Thanks for the update.
Megan
[Quoted text hidden]

SSS Deliverables

17 messages

Ransom White <ransom.white@gmail.com> Tue, Jan 7, 2014 at 1:16 PM
To: Megan Greenaway - NOAA Federal <Megan.Greenaway@noaa.gov>

Hi Megan,

WOW, its cold here! Hope your staying warm up in NH!

I had a question about the digital deliverables for the SSS data.

In the HSSD section 8.4 it says
"Contractors should separate digital deliverables into two data types: raw and processed. Raw should be uncorrected or with exception of online corrections. Processed data should include the Caris HDCS format or GSF."

The problem with that is we have used Sonar Wiz to do all our SSS Processing. The raw data (.JSF) is convertible through CARIS SIPS however no data has actually been bought into Caris HDSC format. I'm not sure what GSF is. Sonar Wiz data is in .CSF format.

We will have two 1m resolution, 100% coverage mosaics ready for each sheet as well as the raw .JSF formatted data. What would you advise us to prepare for the processed data?

Thanks
Ransom

--
Ransom C. White III
941.730.6729

Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov> Tue, Jan 7, 2014 at 4:14 PM
To: Ransom White <ransom.white@gmail.com>

Ransom,
You will need to deliver processed geocoded (i.e. towfish position corrected) SSS data in a format readable by CARIS SIPS. I believe you can export .xtf format from Sonar Wiz which is readable by CARIS SIPS.

Do you have your SSS contacts in a .000 format? This is not a requirement for the 2012 HSSD but is a requirement for 2013 HSSD and forward.
Megan
[Quoted text hidden]

Ransom White <ransom.white@gmail.com> Tue, Jan 7, 2014 at 5:12 PM
To: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Ok, I am testing out the XTF export from Sonar Wiz right now. Thanks.

We can also deliver a HIPS Vessel File containing the offsets for the SSS which can be used with the raw .JSF data. This would allow for import into HIPS with the offsets being applied upon import. Would that work?

We do have the contacts in .000 format. Both our SSS contact list and my current .000 feature file contain all our contacts. As we discussed before I am removing some of the shoreline features from the FFF, should I however leave them in the final SSS contact list? I believe in the HSSD it states to just mark them as rejected or similar. We can submit an S-57 with all our SSS contacts if you'd like, it will be fully attributed.

[Quoted text hidden]

Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov> Thu, Jan 9, 2014 at 8:23 AM
To: Ransom White <ransom.white@gmail.com>

Ransom,
Just wanted to let you know I have not forgotten about this email. I'm still working on responses to your email. Hope to have a response today or tomorrow.
Megan
[Quoted text hidden]

Ransom White <ransom.white@gmail.com> Thu, Jan 9, 2014 at 10:08 PM
To: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Ok, Thanks Megan! We are running into export formatting issues with Sonar Wiz. If you are unable to accept the JSF and a HIPS vessel file we will begin troubleshooting with the Sonar Wiz support team to get what we need into an XTF. As of the moment I am not sure what all that will entail.

Thanks Again!
[Quoted text hidden]

Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov> Fri, Jan 10, 2014 at 1:29 PM
To: Ransom White <ransom.white@gmail.com>
Cc: Michael Gonsalves - NOAA Federal <Michael.Gonsalves@noaa.gov>, Mark Lathrop - NOAA Federal <mark.t.lathrop@noaa.gov>, Lori Powdrell - NOAA Federal <Lori.Powdrell@noaa.gov>, Grant Froelich - NOAA Federal <grant.froelich@noaa.gov>, Crescent Moegling - NOAA Federal <crescent.moegling@noaa.gov>

Ransom,
Since the SSS Data Deliverable requirements for raw and processed data are a format that is readable by CARIS SIPS and geocoded using the towfish position, W&A will need to submit a format where NOAA personnel can open the processed data in CARIS SIPS with no data conversion. From my experience using CARIS SIPS, this means you will have to convert the raw Sonar Wiz data (.jsf) in to CARIS SIPS, recompute towfish navigation and conduct the bottom tracking. You will not need to pick all of the contacts again as long as you deliver the SSS contacts in a .000 format and they contain attribution.

Can you clarify what features you are "removing" from the FFF? Are these features the one's you added which are piles that support piers that you derived from the SSS contacts? If that is the case, then yes, remove them from the FFF and leave them in the SSS contact .000 file. If they are existing (already in the CSF) features then they need to be processed according to the HSSD (i.e. you will need to use the NOAA Extended Attribute flags and S-57 attribution and you don't actually delete the feature from the file).

For your information, Crescent Moegling is moving out of the Team Lead position at PHB. Please contact Grant Froelich at grant.froelich@noaa.gov if you have specific questions for PHB.

Let me know if you still need clarification on either of these items.
Megan
[Quoted text hidden]

Ransom White <ransom.white@gmail.com> Fri, Jan 10, 2014 at 4:19 PM
To: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Cc: Michael Gonsalves - NOAA Federal <Michael.Gonsalves@noaa.gov>, Mark Lathrop - NOAA Federal <mark.t.lathrop@noaa.gov>, Lori Powdrell - NOAA Federal <Lori.Powdrell@noaa.gov>, Grant Froelich - NOAA Federal <grant.froelich@noaa.gov>, Crescent Moegling - NOAA Federal <crescent.moegling@noaa.gov>

Ok, the SSS is vessel mounted so its a single one time offset, easy to account for. I think I will see if Sonar Wiz can adjust their XTF format to be convertible by SIPS. If that for some reason will not work we will import them into SIPS.

Yes, most off the features I referred too are areas of piles that support existing docks and pries. I will leave them in the SSS contact list but remove them from the FFF. However I was also planning on removing contacts from the FFF that correlated with existing features in the CSF but are NOT flagged as Assigned. For example charted boat launches, groins, marinas or breakwaters. These I leave in the SSS contact list, yes, but also in the FFF?

Roger that, thanks for Grants information.
[Quoted text hidden]

Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov> Mon, Jan 13, 2014 at 5:29 PM
To: Ransom White <ransom.white@gmail.com>

Ransom,
Let me know how it goes with Sonar Wiz.

As for contacts that correlate to existing features (3rd sentence in paragraph 2), yes you can leave the contacts in the SSS contact file and remove them from the FFF if the charted (CSF) features are not "assigned". The only exception is if you feel that the inshore feature (i.e. groin, breakwater) is navigationally significant and the charted feature is in error. I have a feeling, most of them are not navigationally significant, correct?
Megan
[Quoted text hidden]

Ransom White <ransom.white@gmail.com> Wed, Jan 29, 2014 at 3:38 PM
To: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

HI Megan,

Sorry, not sure if we finished this string of emails off!

We will be able to import the Sonar Wiz files into CARIS with a new software update from Sonar Wiz, so good there.

Roger that concerning the features, I don't think the groins are of navigational significance. I will removed these features from the FFF and leave them in the SSS contact file/list.

Thanks!
[Quoted text hidden]

Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov> Thu, Jan 30, 2014 at 9:27 AM
To: Ransom White <ransom.white@gmail.com>

Ransom,
That is great news that Sonar Wiz is implementing an update to import the files in to CARIS with no conversion or processing. Do you know the details of the update? I'm asking because we have multiple contractors who use Sonar Wiz. This update is a really big deal if they are capturing a geocoded value using the towfish position.
Thanks,
Megan
[Quoted text hidden]

Ransom White <ransom.white@gmail.com> Mon, Feb 3, 2014 at 1:21 PM
To: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Hi Megan,

The update version we are using is Sonar Wiz 5 V5.06.0043. You can export as XTFs and CARIS can properly time the navigation now. Big Help :)

Cheers
Ransom
[Quoted text hidden]

Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov> Wed, Feb 5, 2014 at 12:44 PM
To: Ransom White <ransom.white@gmail.com>

Ransom,
Just to clarify, W & A is exporting processed (geocoded towfish navigation) Sonar Wiz (JSF) data to XTF format from Sonar Wiz. Then W & A is converting the XTF in CARIS to HDCS format? The HDCS will be the deliverable to NOAA.

Do you know if any downsampling is occuring? In the past we have had issues with CARIS (versions prior to CARIS 8.0) downsampling XTF data converted in CARIS. They say they are able to support 16bit data but when the data is displayed and during processing, only 8bit is used. I believe CARIS has corrected this issue in CARIS 8.0 but I'm not sure what Sonar Wiz is doing. I sent Sonar Wiz an email this morning to try to get the details but I figured I would ask you as well.
Thanks,
Megan
[Quoted text hidden]

Ransom White <ransom.white@gmail.com> Wed, Feb 5, 2014 at 1:22 PM
To: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Hi Megan,

That is correct.

I will look into this as well. I believe you can select your bit size upon export from Sonar Wiz. Let me do some snooping and I will get back to you.

Cheers
Ransom
[Quoted text hidden]

Ransom White <ransom.white@gmail.com> Thu, Feb 6, 2014 at 3:32 PM
To: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Hi Megan,

I don't see any evidence of CARIS down sampling the XTFs exported from Sonar Wiz. Sonar Wiz exports at 16-bit and I can easily grid things in CARIS to 20cm resolutions.

Looks like they did in fact fix that issue.

Cheers
Ransom

[Quoted text hidden]

Ransom White <ransom.white@gmail.com> Thu, Mar 27, 2014 at 5:02 PM
To: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Hi Megan,

Another question for you on this: When we convert the SSS projects into CARIS to make then HDCS format, do we also need to split them into acquisition days? Curious because splitting them out takes time that if not needed would be a waste.

Cheers
Ransom
[Quoted text hidden]

Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov> Fri, Mar 28, 2014 at 9:25 AM
To: Ransom White <ransom.white@gmail.com>

Ransom,
Yes. The SSS data should also be in the Project Vessel Day Line (PVDL) format. Is that what you are asking?
Megan
[Quoted text hidden]

Ransom White <ransom.white@gmail.com> Fri, Mar 28, 2014 at 10:48 AM
To: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Yes. Ok thanks.

Xlines

3 messages

Ransom White <ransom.white@gmail.com> Sun, Nov 10, 2013 at 11:10 PM
To: Megan Greenaway - NOAA Federal <Megan.Greenaway@noaa.gov>
Cc: Brian Bunge <bbunge@wassoc.com>, Colin Stewart <cstewart@wassoc.com>, Art Wright <artw@wassoc.com>

Hi Megan,

I have a quick question concerning xlines. In order to complete a xline distance equal to 4% of main scheme line distance I am using the newest line plan (with skunk stripe MBES). Will this suffice?

The other option is to tally the line distance run prior to the change in the line plan and add those line distances to the newer total main scheme distance to compute our 4% value.

This will increase our xline distance a good deal.

Thanks
Ransom

--
Ransom C. White III
941.730.6729

Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov> Tue, Nov 12, 2013 at 12:52 PM
To: Ransom White <ransom.white@gmail.com>
Cc: Brian Bunge <bbunge@wassoc.com>, Colin Stewart <cstewart@wassoc.com>, Art Wright <artw@wassoc.com>, Mark Lathrop - NOAA Federal <mark.t.lathrop@noaa.gov>, Michael Gonsalves - NOAA Federal <Michael.Gonsalves@noaa.gov>

Ransom,
Yes, you should use the updated line plan which accurately follows the requirements in the project instructions and is supported by the HSSD. You do not need to use the original line plan where you were collecting excessive data (extra 400%?).

Please make note in the DR that the cross lines are following the updated line plan and that the original line plan was in error. In addition, place a copy of this email correspondence in the Project_Correspondence folder.
Megan
[Quoted text hidden]

Ransom White <ransom.white@gmail.com> Tue, Nov 12, 2013 at 1:22 PM
To: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>
Cc: Brian Bunge <bbunge@wassoc.com>, Colin Stewart <cstewart@wassoc.com>, Art Wright <artw@wassoc.com>, Mark Lathrop - NOAA Federal <mark.t.lathrop@noaa.gov>, Michael Gonsalves - NOAA Federal <Michael.Gonsalves@noaa.gov>

Will Do, Thanks Megan.
[Quoted text hidden]

AWOIS and DTON Report

Registry Number: H12602
State: New York
Locality: Vicinity of Southern Long Island
Sub-locality: Vicinity of Moriches Inlet
Project Number: OPR-C331-KR-13
Survey Dates: 03/01/2006 - 12/31/2013

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12352	34th	09/01/2012	1:40,000 (12352_1)	USCG LNM: 4/7/2015 (4/21/2015) CHS NTM: None (3/27/2015) NGA NTM: None (5/2/2015)
12352	34th	09/01/2012	1:40,000 (12352_2)	USCG LNM: 4/7/2015 (4/21/2015) CHS NTM: None (3/27/2015) NGA NTM: 2/27/1999 (5/2/2015)
12353	18th	11/01/2003	1:80,000 (12353_1)	[L]NTM: ?
12300	47th	05/01/2008	1:400,000 (12300_1)	[L]NTM: ?
13006	34th	05/01/2007	1:675,000 (13006_1)	[L]NTM: ?
5161	13th	10/01/2003	1:1,058,400 (5161_1)	[L]NTM: ?
13003	49th	04/01/2007	1:1,200,000 (13003_1)	[L]NTM: ?

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

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Wreck	[None]	40° 43' 54.4" N	072° 47' 21.5" W	---
1.2	Wreck	1.56 m	40° 45' 57.5" N	072° 44' 36.6" W	---
1.3	Wreck	[None]	40° 44' 35.9" N	072° 44' 36.2" W	---
1.4	Wreck	9.93 m	40° 45' 39.9" N	072° 43' 45.2" W	---

1 - Tree

1.1) AWOIS 15111

Survey Summary

Survey Position: 40° 43' 54.4" N, 072° 47' 21.5" W

Least Depth: [None]

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-060.00:00:00.000 (03/01/2006)

Dataset: H12602_AWOIS_Wrecks.000

FOID: US 0000379751 00001(02260005CB670001)

Charts Affected: 12352_2, 12353_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Wreck investigated with 200% Side Scan and Object detection multibeam. No evidence of the wreck.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12602_AWOIS_Wrecks.000	US 0000379751 00001	0.00	000.0	Primary

Hydrographer Recommendations

Delete wreck

S-57 Data

Geo object 1: Wreck (WRECKS)

Attributes:

CATWRK - 2:dangerous wreck

EXPSOU - 1:within the range of depth of the surrounding depth area

NINFOM - Delete Wreck - AWOIS Item 15111

QUASOU - 2:depth unknown

SORDAT - 20060300

SORIND - US,US,graph,Chart 12352

WATLEV - 3:always under water/submerged

Office Notes

Concur

1.2) AWOIS 1685

Survey Summary

Survey Position:	40° 45' 57.6" N, 072° 44' 42.7" W
Least Depth:	1.56 m (= 5.11 ft = 0.851 fm = 0 fm 5.11 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-365.00:00:00.000 (12/31/2013)
Dataset:	H12602_AWOIS_Wrecks.000
FOID:	US 0000379750 00001(02260005CB660001)
Charts Affected:	12352_1, 12353_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Wreck found in new position.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12602_AWOIS_Wrecks.000	US 0000379750 00001	0.00	000.0	Primary

Hydrographer Recommendations

Update wreck

S-57 Data

Geo object 1:	Wreck (WRECKS)
Attributes:	CATWRK - 2:dangerous wreck
	NINFOM - Chart wreck. AWOIS Item 1685.
	QUASOU - 6:least depth known
	SORDAT - 20131231
	SORIND - US,US,graph,H12602
	VALSOU - 1.557 m
	WATLEV - 3:always under water/submerged

Office Notes

Concur

1.3) AWOIS 15112

Survey Summary

Survey Position:	40° 44' 35.9" N, 072° 44' 36.2" W
Least Depth:	[None]
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2006-060.00:00:00.000 (03/01/2006)
Dataset:	H12602_AWOIS_Wrecks.000
FOID:	US 0000379752 00001(02260005CB680001)
Charts Affected:	12352_1, 12352_2, 12353_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Wreck investigated with 200% Side Scan and Object detection multibeam. No evidence of the wreck.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12602_AWOIS_Wrecks.000	US 0000379752 00001	0.00	000.0	Primary

Hydrographer Recommendations

Delete wreck

S-57 Data

Geo object 1:	Wreck (WRECKS)
Attributes:	CATWRK - 2:dangerous wreck
	NINFOM - Delete wreck. AWOIS item 15112
	QUASOU - 2:depth unknown
	SORDAT - 20060300
	SORIND - US,US,graph,Chart 12352
	WATLEV - 3:always under water/submerged

Office Notes

Concur

1.4) DTON - Wreck

Survey Summary

Survey Position:	40° 45' 39.9" N, 072° 43' 45.2" W
Least Depth:	9.93 m (= 32.58 ft = 5.430 fm = 5 fm 2.58 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-365.00:00:00.000 (12/31/2013)
Dataset:	H12602_AWOIS_Wrecks.000
FOID:	US 0000379749 00001(02260005CB650001)
Charts Affected:	12352_1, 12353_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

New wreck found and submitted as DTON.

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12602_AWOIS_Wrecks.000	US 0000379749 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart wreck

S-57 Data

Geo object 1:	Wreck (WRECKS)
Attributes:	CATWRK - 2:dangerous wreck
	NINFOM - Chart wreck. DTON.
	QUASOU - 6:least depth known
	SORDAT - 20131231
	SORIND - US,US,graph,H12602
	VALSOU - 9.930 m
	WATLEV - 3:always under water/submerged

Office Notes

Concur

Wreck Report

Registry Number: H12602
State: Washington
Locality: Vicinity of Southern Long Island
Sub-locality: Vicinity of Moriches Inlet
Project Number: IPR-C331_KR-13
Survey Dates: 10/22/2013 - 12/31/2013

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
12352	34th	09/01/2012	1:40,000 (12352_2)	USCG LNM: 9/16/2014 (1/27/2015) CHS NTM: None (12/26/2014) NGA NTM: 2/27/1999 (1/31/2015)
12353	19th	11/01/2011	1:80,000 (12353_1)	USCG LNM: 2/11/2014 (1/20/2015) CHS NTM: None (12/26/2014) NGA NTM: 2/27/1999 (1/31/2015)
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

Feature Type	Survey Depth	Survey Latitude	Survey Longitude
Wreck	16.33 m	40° 43' 24.7" N	072° 46' 39.8" W
Wreck	20.57 m	40° 43' 30.5" N	072° 46' 29.4" W

1 - Tree

1.1) Wreck

Survey Summary

Survey Position:	40° 43' 24.7" N, 072° 46' 39.8" W
Least Depth:	16.33 m (= 53.58 ft = 8.929 fm = 8 fm 5.58 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-365.00:00:00.000 (12/31/2013)
Dataset:	wreckss.000
FOID:	US 0000372564 00001(02260005AF540001)
Charts Affected:	12352_2, 12353_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

New wreck found with MB near charted fish haven.

Feature Correlation

Source	Feature	Range	Azimuth	Status
wreckss.000	US 0000372564 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart wreck.

Office Notes

Concur

1.2) Wreck

Survey Summary

Survey Position:	40° 43' 30.5" N, 072° 46' 29.4" W
Least Depth:	20.57 m (= 67.49 ft = 11.248 fm = 11 fm 1.49 ft)
TPU (±1.96σ):	**THU (TPEh)** [None] ; **TVU (TPEv)** [None]
Timestamp:	2013-365.00:00:00.000 (12/31/2013)
Dataset:	wreckss.000
FOID:	US 0000372561 00001(02260005AF510001)
Charts Affected:	12352_2, 12353_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

New wreck found with MB near charted fish haven.

Feature Correlation

Source	Feature	Range	Azimuth	Status
wreckss.000	US 0000372561 00001	0.00	000.0	Primary

Hydrographer Recommendations

Chart wreck

Office Notes

Concur

APPROVAL

PAGE H12602

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

- H12602_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12602_GeoImage.pdf

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

Digitally signed by HOLMBERG.PETER.SCOTT.1365886101
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER, cn=HOLMBERG.PETER.SCOTT.1365886101
Date: 2015.07.01 09:32:21 -07'00'

Approved:_____

Pete Holmberg
Cartographic Team Lead, Pacific Hydrographic Branch

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

Digitally signed by EVANS.BENJAMIN.K.1237217094
Reason: I am approving this document
Date: 2015.07.01 13:39:05 -07'00'

Approved:_____

CDR Benjamin K. Evans, NOAA
Chief, Pacific Hydrographic Branch