## NEW HAVEN HARBOR CONNECTICUT NAVIGATION IMPROVEMENT PROJECT

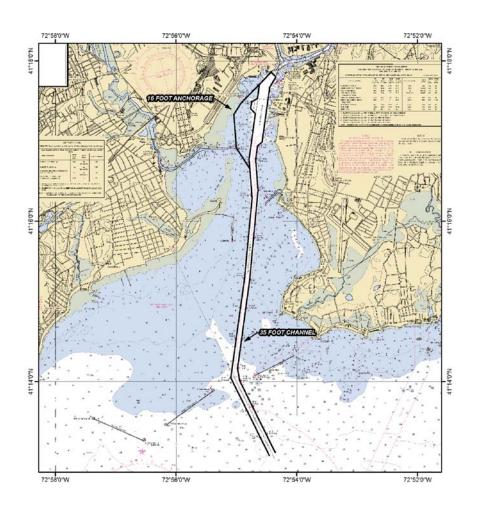
## INTEGRATED FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT

SUPPORTING TECHNICAL DOCUMENT #2 DATA REPORT HYDROACOUSTIC AND UNDERWATER VIDEO SURVEY

Data Report Hydroacoustic and Underwater Video Survey In Support of Project Design

Final

# New Haven Harbor Navigation Improvement Project Feasibility Study





March 2018

#### HYDROACOUSTIC AND UNDERWATER VIDEO SURVEY

#### **IN SUPPORT OF**

#### **PROJECT DESIGN**

#### **NEW HAVEN HARBOR**

#### NAVIGATION IMPROVEMENT PROJECT

#### FEASIBILITY STUDY

#### NEW HAVEN, CONNECTICUT

March 2018

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#### **1.0 INTRODUCTION**

New Haven Harbor is located along the northern shore of Long Island Sound in the city of New Haven, CT. The harbor is a shallow embayment occupying 10.5 square miles within boundaries established by three large stone breakwaters to the south and the mouths of the West, Mill, and Quinnipiac Rivers to the north. The harbor has an irregular shoreline consisting of intertidal mud flats, salt marshes, sections of sandy beach, and developed waterfront with docks and berthing facilities. The inner harbor is fairly well protected from storm and wave action by natural land barriers allowing fine-grained sediments to accumulate in lower energy environments such as in the navigation channel north of Lighthouse Point, Morris Cove, and areas adjacent to the breakwaters. The outer harbor, except for the areas sheltered by the breakwaters, is exposed to southerly storms.

The existing Federal Navigation Project (FNP) in New Haven Harbor (Figure 1) consists of a channel and turning basin that are 35 feet deep at mean lower low water (MLLW) as well as a 16 foot MLLW anchorage located along the western side of the channel in the inner harbor. Periodic maintenance dredging of these areas has been performed since the late 1800's. The project was last dredged in 2014 when approximately 830,000 cubic yards of shoaled material was mechanically removed from the 35 foot channel and turning basin and placed at the Central Long Island Sound Disposal Site (CLDS). Predredge testing performed in 2010 found the shoaled material throughout the harbor to be predominantly silt and poorly graded medium to fine sand.

The New England District (NAE) of the US Army Corps of Engineers (USACE) is currently preparing a feasibility study to evaluate improvements to the New Haven Harbor FNP. Aspects of the preliminary project design include: deepening and widening the main ship channel, widening the channel bend at Southwest Ledge, straightening the channel bend downstream of the existing turning basin, and relocating and deepening the turning basin. These combined actions would require the mechanical removal of up to 4,500,000 cubic yards of sediment and up to 32,000 cubic yards of rock depending on the selected channel alignment and dimensions.

Dredged sediments produced from the proposed improvement project are expected to be a mix of poorly graded sand and fine grained material within the existing channel profile and adjacent harbor seafloor with glaciofluvial deposits at depth. To the extent practical suitable dredged material will be beneficially reused for marsh creation, habitat restoration, and to cover historic dredged material disposal mounds at CLDS.

The purpose of the survey effort described in this report was to collect data to document surficial sediment type, sediment layering, and the presence of obstructions at or near the water-sediment interface within the proposed project area. Efforts undertaken to meet the project objectives included side scan sonar, sub-bottom profiling, and underwater video surveys.

#### 2.0 MATERIALS AND METHODS

Staff from the NAE Environmental Resources Section conducted survey efforts in May and August 2017. Work was carried out onboard the R/V Nomad, a 25 foot SBI Defender outfitted for coastal survey operations. Vessel positioning was achieved using a Hemisphere Vector VS330<sup>TM</sup> Real Time Kinematic (RTK) position and heading system interfaced to a computer running Hypack<sup>®</sup> survey software for navigation. RTK corrections from the CTDOT/UCONN VRS network were received in real time through a cellular internet connection.

The survey effort was separated into two phases. The first phase included a combined side scan sonar and sub-bottom profiler survey to delineate surficial sediment types, and to identify potential obstructions and anthropogenic features of interest. The second phase involved an underwater video survey using a remotely operated vehicle (ROV) to investigate sonar contacts identified in side scan sonar data from the initial survey.

#### 2.1 Side Scan Sonar and Bathymetry Survey

A side scan sonar and bathymetry survey was conducted from 1-3 August 2017 by staff from the NAE Environmental Resources Section. This survey of the proposed improvement project footprint included 22 transects (Figures 2 and 3) laid out using a line spacing of 100 feet in an orientation parallel to the channel boundary. Approximately 68.8 linear miles of high-resolution side scan sonar and bathymetry data was collected over the three day survey effort to provide full coverage of the 2.0 square mile study area. The length of transects 12 through 15 was shorted from 9.4 to 7.6 miles due to the rough sea state beyond the breakwaters which persisted throughout the survey effort.

Hydroacoustic data was collected using an Edgetech 6205 multiphase echosounder with a 230/550 kHz side-scan and 230 kHz bathymetry frequency configuration. The Edgetech 6205 was interfaced with a Teledyne DMS10 motion sensor and the Vector VS330<sup>TM</sup> position and heading system. The sonar head was fixed to an adjustable survey boom mounted along the starboard side of the vessel. The face of the sonar head was adjusted to be 16 inches below the water surface. Prior to the start of the survey effort a patch test was conducted to correct for pitch, roll, and yaw deviations resulting from sensor misalignment and to account for the latency of the system. Conductivity, temperature, and depth (CTD) profiles were collected throughout the survey using a Sontek Castaway®–CTD and were uploaded to Hypack® to correct for speed of sound variations in the water column.

Side-scan sonar and bathymetric data were viewed in real time on the survey vessel and recorded in Hypack<sup>®</sup>. The vessel operator navigated all transects at a speed of approximately 4 knots while recording data. Transects were run in opposite directions to minimize non-recording time. Transect information including the number, filename, start and stop time, direction, and pertinent observations were recorded in a field log throughout the survey.

Side-scan sonar data from the 550 kHz channel of each transect was imported to Chesapeake Technology (CTI) SonarWiz 6 software for processing and analysis. Processing included digitizing of the first signal return to remove the water column portion of the sonar record and adjustments for signal attenuation with distance using Time Varied Gain (TVG) corrections. The processed track lines were combined into a high resolution mosaic and used to interpret the surficial sediment type and to digitize features of interest within the survey area. A sonar contact report consisting of an image of each digitized feature along with position, dimensions, attributes, and other pertinent information was exported using CTI SonarWiz and is presented as Appendix A of this report.

Bathymetric data was not requested as product from this survey but the 230 kHz channel collected concurrently with the side scan sonar data from each transect was processed to provide an accurate surface for vertical alignment of sub-bottom profiler data. Bathymetric data was processed in Hypack® MBMax. Data from each transect was filtered to flag erroneous sonar returns (i.e. inaccurate bottom depth outputs resulting from acoustic artifacts, noise in the water column, or vegetation) and manually reviewed by a sonar technician for accuracy and to remove spurious points. Tide corrections were made in Hypack® by applying local tide model offsets from the NOAA Vertical Datum Transformation (VDatum) tool to the RTK orthametric heights recorded in the field. The finalized data set was exported from Hypack® MBMax as averaged soundings using a 3x3 foot grid spacing with depths referenced to Mean Lower Low Water (MLLW). This file was then used to generate depth contours and a triangular irregular network model in ESRI ArcGIS.

#### 2.2 Sub-Bottom Profiler Survey

A sub-bottom profiler survey was conducted on 4 August 2017 by staff from the NAE Environmental Resources Section. This survey of the proposed improvement project footprint included 28 transects (Figures 4 and 5) consisting of three along channel transects laid out using a line spacing of 500 feet in an orientation parallel to the channel boundary and 25 cross channel transects laid out using a line spacing of 1000 feet in an orientation perpendicular to the channel boundary. Approximately 17.0 linear miles of survey data were collected over the one day effort to provide sub-surface information in portions of the study area where signal penetration was adequate. A more intensive subbottom survey was initially planned but the number of inner harbor transects was reduced due to gas charged sediments resulting in poor signal penetration. The number of transects that could be run in the outer harbor was also limited by rough sea state beyond the breakwaters.

Sub-bottom data was collected with an Edgetech 3100 sub-bottom profiler system using a SB-216S towfish operating with a chirp pulse bandwith of 2-12 kHz. The Edgetech 6205 was interfaced with the Vector VS330<sup>™</sup> position and heading system. The towfish was fixed to an adjustable survey boom mounted along the starboard side of the vessel. The face of the transducer and hydrophone array was adjusted to be 24 inches below the water surface. Data was recorded in .JSF format to a dedicated computer running Edgetech

Discover® data acquisition software. The data from each sub-bottom transect was imported to CTI SonarWiz software for processing and analysis. Processing included adjustment of time varied gain (TVG) and digitizing the first signal return to track the seafloor as well as subsequent acoustic reflectors representing changes in sediment type at depth. The processed data from each transect was aligned to the bathymetric grid of the study area and used to generate a three dimensional intersection model to visualize the relationship of sub-bottom features between survey tracks. Scaled profiles for each sub-bottom transect were exported using SonarWiz and are presented as Appendix B of this report.

#### 2.3 Video Survey

An underwater video survey was conducted on 1 August 2017 by staff from the NAE Environmental Resources Section. Video footage was collected at 11 stations (Figure 6) corresponding to sonar contacts of interest identified in the processed side scan mosaic. These features were selected to confirm the interpretation of side scan sonar data and to gather additional information on unidentifiable features of potential anthropogenic origin. These features were digitized in CTI SonarWiz and transferred to Hypack® for navigation in the field.

At each station the survey vessel anchored in the vicinity of the sonar target and video footage was collected using a VideoRay Pro3 GTO ROV. The ROV was piloted from the surface by NAE personnel and the video feed was recorded to a portable DVR for review and analysis. Real time observations regarding the sonar target and the ambient seafloor conditions were recorded in a field log throughout the survey.

Video files were reviewed using CyberLink PowerDirector video editing software. Representative screen captures and video clips were created from the footage collected at each video survey station. A database of screen captures paired with associated sonar target information and field notes is presented as Appendix C of this report.

### **3.0 DATA INTERPRETATION**

#### 3.1 Side Scan Sonar

Side scan sonar creates an image of the seafloor by measuring the travel time and intensity of reflected acoustic energy, referred to as backscatter. The reflected signal strength is very sensitive to subtle variations in seafloor hardness and texture. Materials such as rock and sand are very efficient at reflecting acoustic energy and have a high backscatter signature while fine sediments such as silt and clay absorb more energy than they reflect and therefore exhibit low backscatter. Because of these characteristics it is possible to interpret changes in backscatter as a proxy for grain size and generate a map of surficial geology. It is also possible to distinguish the size and shape of other seafloor features by examining the pattern of their acoustic reflection and shadow.

The high resolution mosaic generated from the processed 550 kHz dataset (Figures 7 and 8) was imported to CTI SonarWiz 6 for interpretation and digitization of seafloor features

as individual targets. The study area was classified into two bottom types based on acoustic backscatter properties. This classification was verified by visual characterization and grain size data from sediment cores collected throughout the proposed project area in August of 2017 (AECOM, 2017).

The first bottom type within the survey area was a substrate with low acoustic backscatter properties consisting of fine sand and silt with numerous anthropogenic features. Isolated boulders and pockets of coarser substrate corresponding to sand or shell were present in this area. This bottom type was typical of the inner harbor from a point just north of the breakwaters and represents approximately 62%, or 1.5 square miles, of the 2.4 square mile area covered by the side scan sonar mosaic.

The second bottom type in the survey area consisted of coarse to medium sand with small scale relief features and a higher frequency of isolated boulders. This bottom type was characterized by relatively uniform high backscatter and was typical of the outer harbor. Several areas with a high density of small to medium sized boulders on a coarse substrate were delineated between the breakwaters and channel marker R4. These areas exhibited complex patches of high and low backscatter with individual well defined high-backscatter targets. This bottom type represented approximately 38%, or 0.9 square miles, of the total area covered by the side scan sonar mosaic.

Analysis of individual sonar contacts in the 2017 New Haven Harbor side scan sonar mosaic resulted in the identification and classification of 242 targets into one of 11 categories (Table 1). The predominant target categories encountered during data interpretation were derelict fishing gear, moorings, and isolated boulders. The position of mooring features digitized from the side scan mosaic demonstrated excellent agreement with the known position of navigation aids and the GPS position of surface buoys marked during the survey. Other identifiable features of interest included: debris in the vicinity of the terminal facilities corresponding to discarded cables, sunken pilings, and other manmade objects; areas of drag scars associated with commercial fishing activities adjacent to the existing federal channel; a concrete pipeline located along the western side of the channel in the vicinity of Sandy Point; and a sewer outfall located along the eastern side of the channel between channel markers RN18 and RN20.

Two sonar contacts identified in the side-scan mosaic were classified as possible wreckage. The first of these, located along the western side of the channel in the vicinity of Shag Bank, was approximately 130 feet long and 20 feet wide. This target was not marked on nautical charts for the area or recorded in the register of known shipwrecks (NOAA AWOIS).

The second possible wreck, located along the western side of the channel between channel markers G1 and G3, was approximately 85 feet long and 12 feet wide. This target was located along the westernmost extent of the survey boundary and was recorded in only the starboard channel of a single survey transect. No attempt was made to collect additional hydroacoustic data in the vicinity of the target because it was well outside of the proposed project footprint.

Thirteen targets within the survey area were not definitively classified into a category due to a lack of definition or poor signal reflectance resulting from positioning on the seafloor relative to the sonar head. These targets were assigned a tentative classification as either derelict moorings, partially buried fishing gear, or areas of disturbed sediment based on their dimensions and association with adjacent targets.

<b>Contact Category</b>	Count	Description
Fishing Gear	80	Feature with dimensions and characteristics consistent with commercial fishing gear. Most often observed as regularly spaced strings of three with visible line.
Rock or Rocky Areas	46	Isolated features with high backscatter and definition corresponding to individual boulders. Areas with high numbers of boulders on coarse substrate were delineated as single polygon features.
Mooring Related Features	38	Feature with dimensions and characteristics consistent with mooring blocks or anchors. Line to surface floats often visible. Includes derelict moorings in proximity to active mooring features.
Debris	35	Feature of anthropogenic origin with dimensions and characteristics consistent with sunken pilings, discarded cables, etc. Most frequently observed in proximity to terminal facilities or anchorage areas.
Isolated Sediment Features	15	Localized areas of high backscatter with low target definition corresponding pockets of coarse material, shell reefs, or disturbed sediment.
Unidentified Targets	13	Feature of apparent anthropogenic origin that could not be positively identified based on dimensions or reflectance properties. All targets in this category were tentatively classified as derelict moorings, partially buried fishing gear, or areas of disturbed sediment.
Drag Scars	8	Narrow linear depressions in the seafloor resulting from commercial fishing activities.
Wreckage	2	Features which appear to be associated with a sunken vessel or object
Containment Boom	1	Containment boom deployed around a petroleum product release in the inner harbor.
Pipeline	1	Raised linear feature extending east from Sandy Point. Possibly an inactive outfall associated with the West Haven wastewater treatment plant.
Sewer Outfall	1	Outfall associated with the New Haven wastewater treatment plant on the eastern shoreline.
Total No. Contacts	242	

#### 3.2 Bathymetry

The bathymetric data from the May 2017 survey was used to create a 3x3 foot gridded matrix consisting of 1,048,576 processed output points. This matrix was exported to ArcGIS for generation of depth contours and creation of a triangular irregular network model as depicted in Figures 9 and 10. Tide corrected depths in the inner harbor ranged from -3 to -53 feet MLLW while depths in the outer harbor ranged from -14 to -55 feet MLLW. As previously discussed, bathymetric data was not requested as product of this survey but was processed to provide an accurate surface for vertical alignment of subbottom profiler data. As such, an in depth discussion of bathymetric features is not presented in this report.

### 3.3 Sub-Bottom Profiler

A sub-bottom profiler transmits low frequency acoustic energy which is able to penetrate the sea floor and reflect off sub-surface sediment layers. Changes in sediment type can be distinguished because changes in acoustic impedance reflect part of the acoustic signal. The system interprets the travel time and intensity of these signals to create a two dimensional profile of the stratigraphy along a survey transect.

Sub-bottom profiles collected in the inner harbor from lines 350+00 to 310+00 and 270+00 to 155+00 exhibited little to no signal penetration in the vicinity of the existing FNP due to the presence of gas charged organic sediments at the surface. Signal penetration in the portions of these transects outside of the existing FNP ranged from 10 to 30 feet. Interpretation of subsurface data from areas of the inner harbor with adequate signal penetration does not indicate the presence of bedrock or dense overburden such as glacial till within the proposed dredge prism.

Sub-bottom profiles collected from the outer harbor exhibited very good signal penetration ranging from 10 to 45 feet below the sediment surface. Signal returns from the area between the breakwaters in the vicinity of lines 145+00 to 135+00 displayed a well-defined infill pattern overlying a strong reflector corresponding to bedrock. At several locations this reflector was observed to rise above a depth of -42 feet MLLW. The apparent depth to bedrock throughout the remainder of the entrance channel was below the proposed dredge elevation.

### 3.4 Video Survey

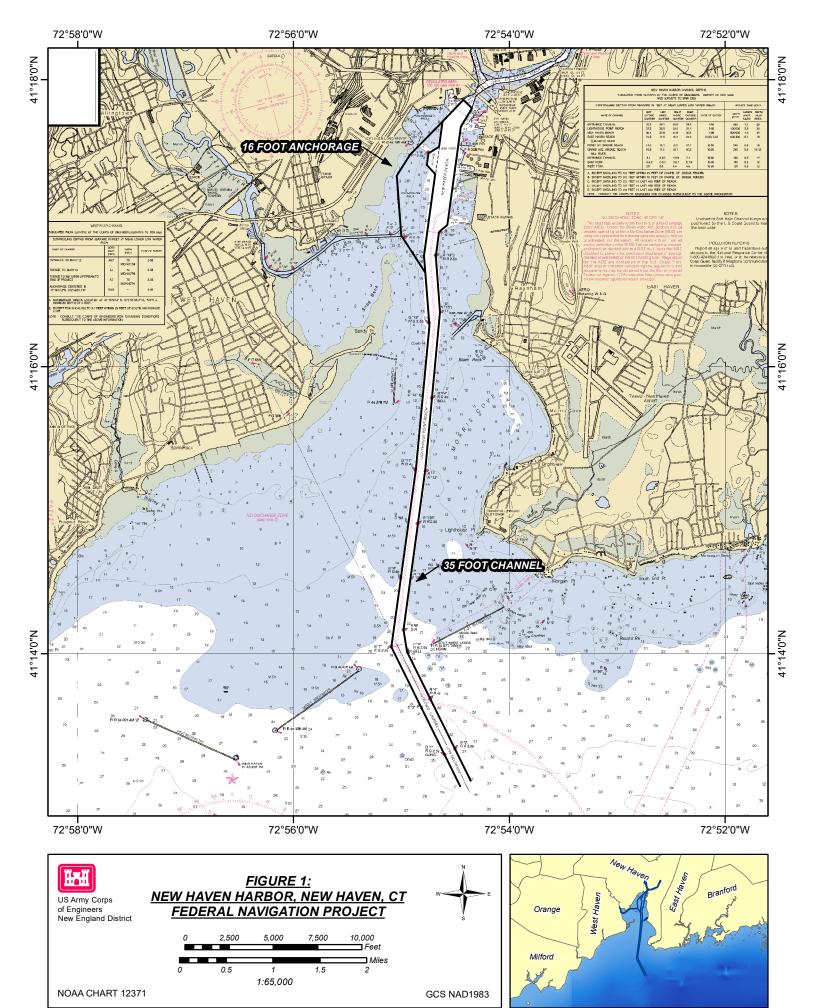
Examination of ROV footage collected during the August 2017 survey confirmed the interpretation of May 2017 side scan sonar data and provided additional information on unclassified targets of interest in the vicinity of the proposed project. A summary of video survey targets and descriptions is presented in Table 2.

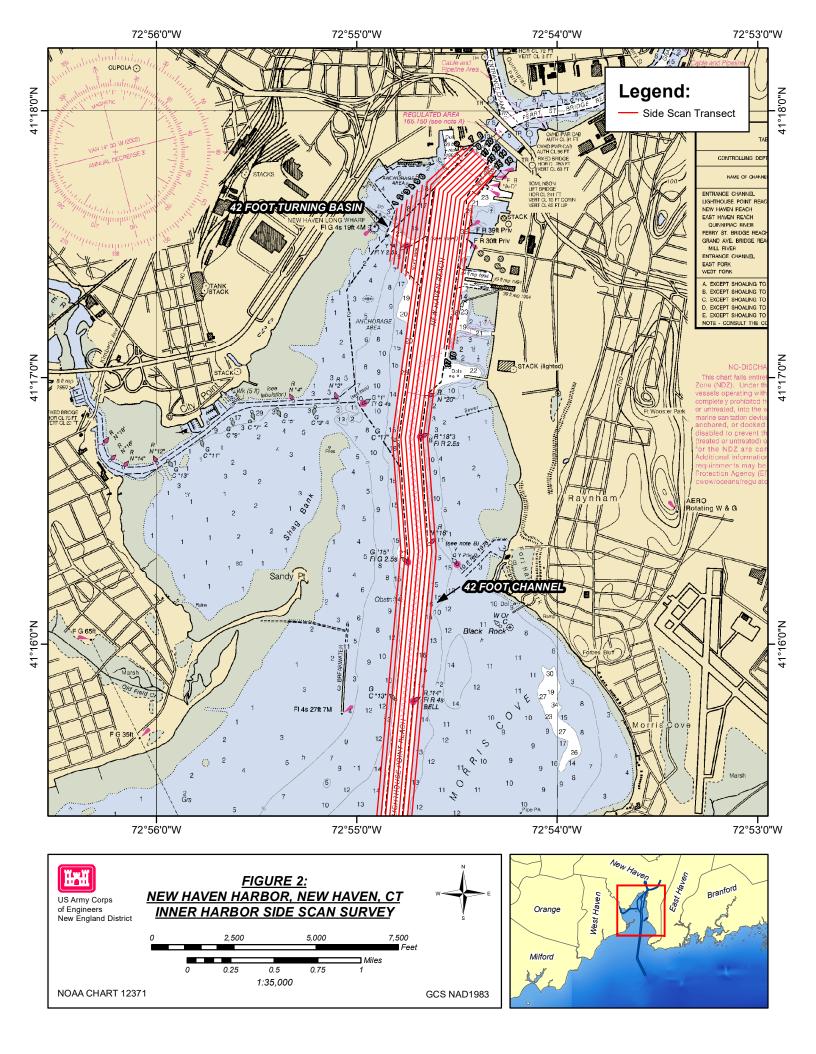
The primary features of interest documented during this survey were the two targets classified as possible wreckage during interpretation of the side scan sonar data. The first of these, NHH0176, was identified as a large and irregularly shaped metallic object with

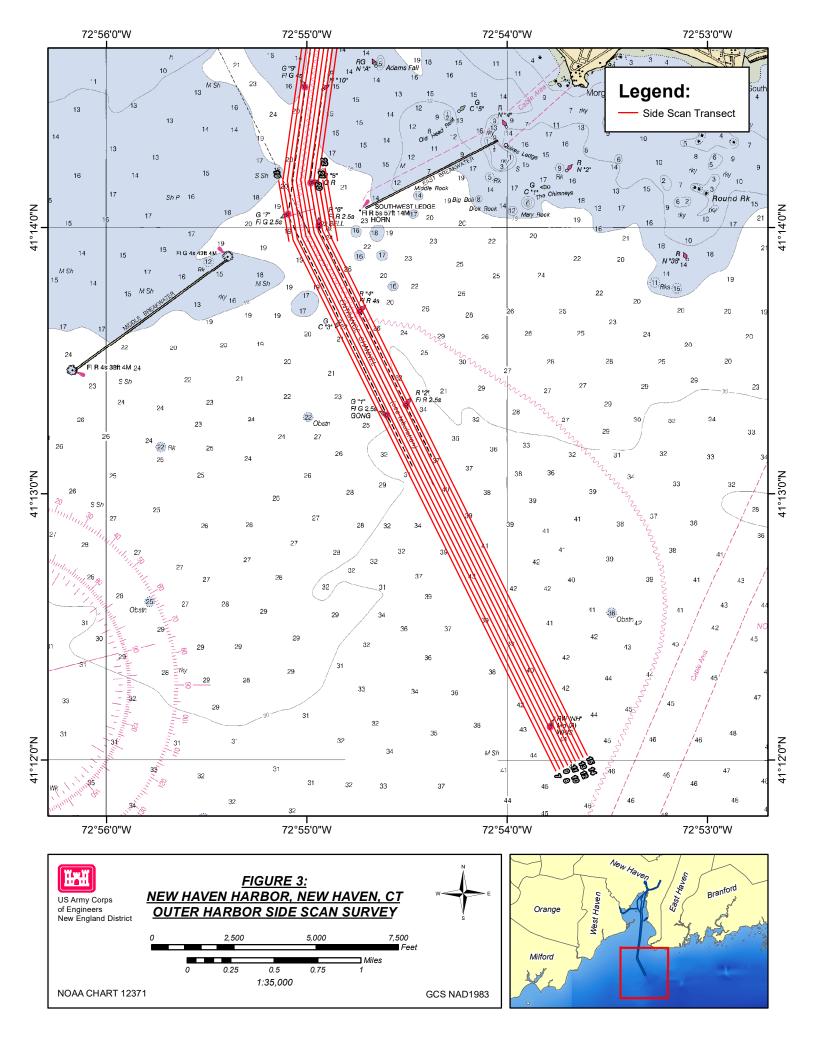
heavy marine growth. The target was partially buried in the sediment and had no distinguishing markings. Due to limited visibility it was not possible to obtain a wide angle view of the entire target but close up video footage documented a hollow structure with an elongated and rounded form. Video footage suggests the presence of rolled metal edges but the amount of marine growth present makes this observation uncertain. Based on the information available, a classification of 'debris – possible wreckage' was assigned to the target.

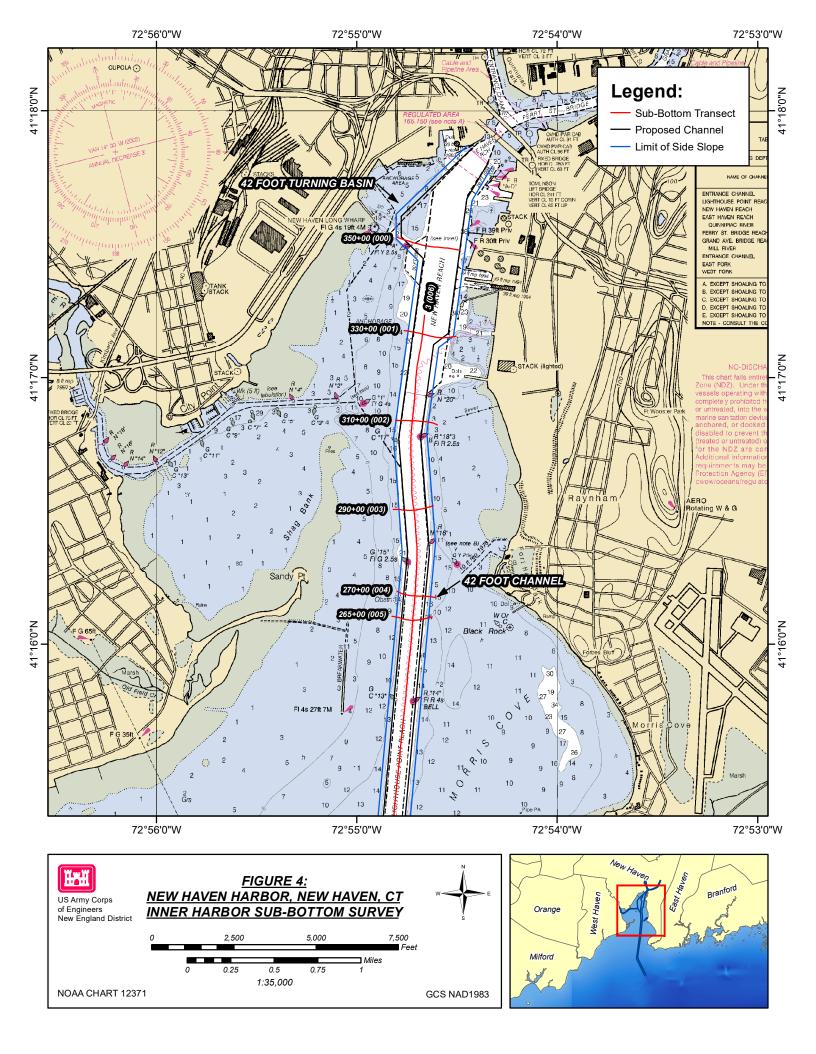
The second target, NHH0019, was determined to be an elongated *Crepidula* sp. reef with a linear furrow running along the edge furthest from the channel. The shell area created a high intensity return in the side scan sonar imagery followed by a data gap in the area corresponding to the narrow depression. During side scan sonar processing this was incorrectly interpreted as a linear structure that was proud of the seafloor creating an acoustic shadow. Based on the video survey footage the classification for this target was changed to 'isolated sediment feature – shell reef'.

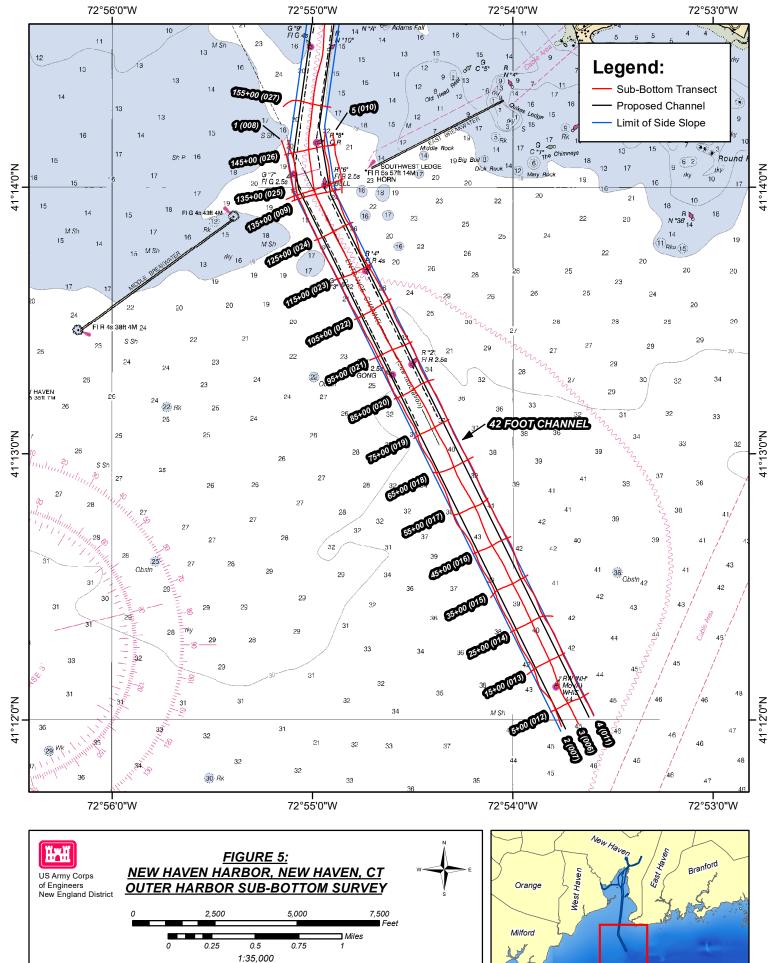
Target ID	Classification	Description
NHH0019	Shell Reef	Linear furrow with shell and gravel substrate on west side of channel.
NHH0153	Pipeline	Open end of exposed corrugated steel/ concrete pipeline extending west of channel. Associated debris in vicinity.
NHH0176	Debris - Possible Shipwreck	Large, irregularly shaped metallic object with heavy marine growth. Partially buried in sediment. Likely wreckage or debris. No identifying markings.
NHH0178	Fishing Gear	String of derelict fishing gear. Line and wire mesh lobster traps covered in heavy marine growth.
NHH0203	Shell Reef	Large shell and gravel reef adjacent to eastern edge of channel.
NHH0205	Disturbed Sediment	Disturbed sediment at base of existing channel slope. Partially buried macroalgae at depth suggests material slumping.
NHH0215	Coarse Substrate	Cluster of five targets on side scan mosaic in channel with high backscatter. Corresponding to isolated areas of shell and clumps of macroalgae.
NHH0217	Debris - Cable	Section of discarded cable adjacent to terminal facility on eastern shore.
NHH0221	Debris - Unidentified	Unidentifiable target with heavy marine growth in existing anchorage area. Partially buried with attached line. Ribbing or multiple lines running along the length of target.
NHH0228	Debris - Unidentified	Unidentifiable string of targets on side scan mosaic. No target found with ROV. High turbidity and location in harbor suggests reworking of sediment.
NHH0242	Debris - Piling	Fallen timber piling in vicinity of pier along eastern side of channel.





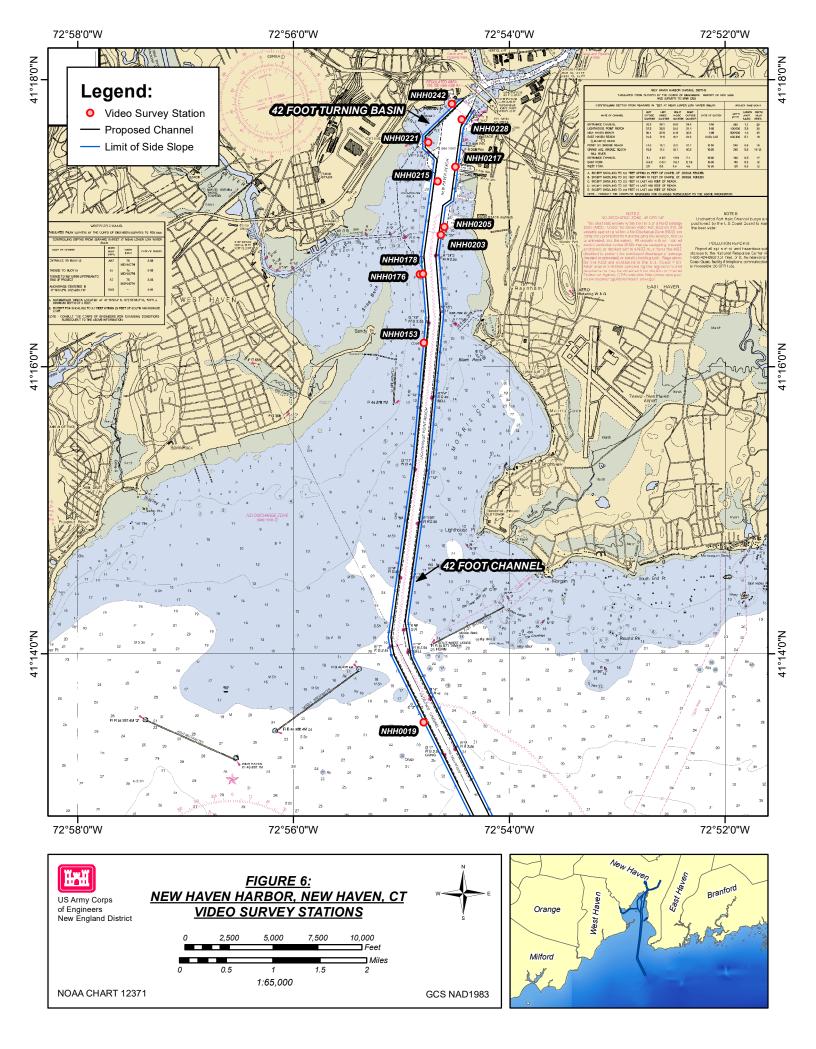


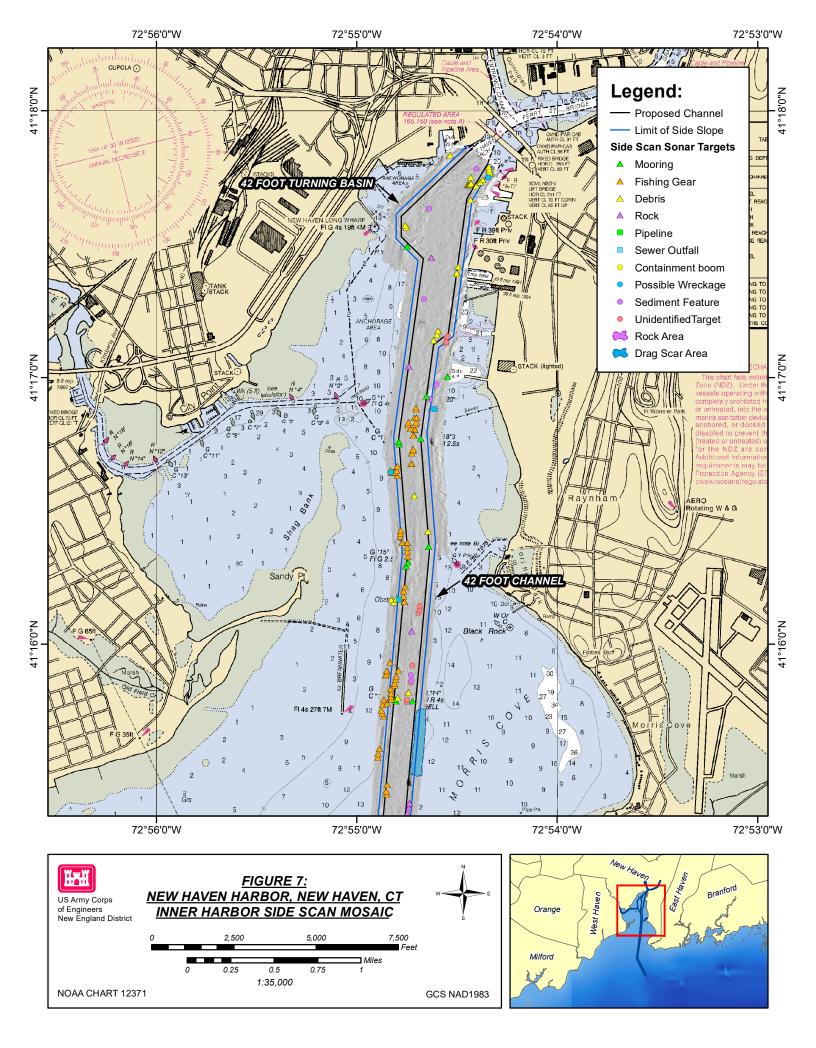


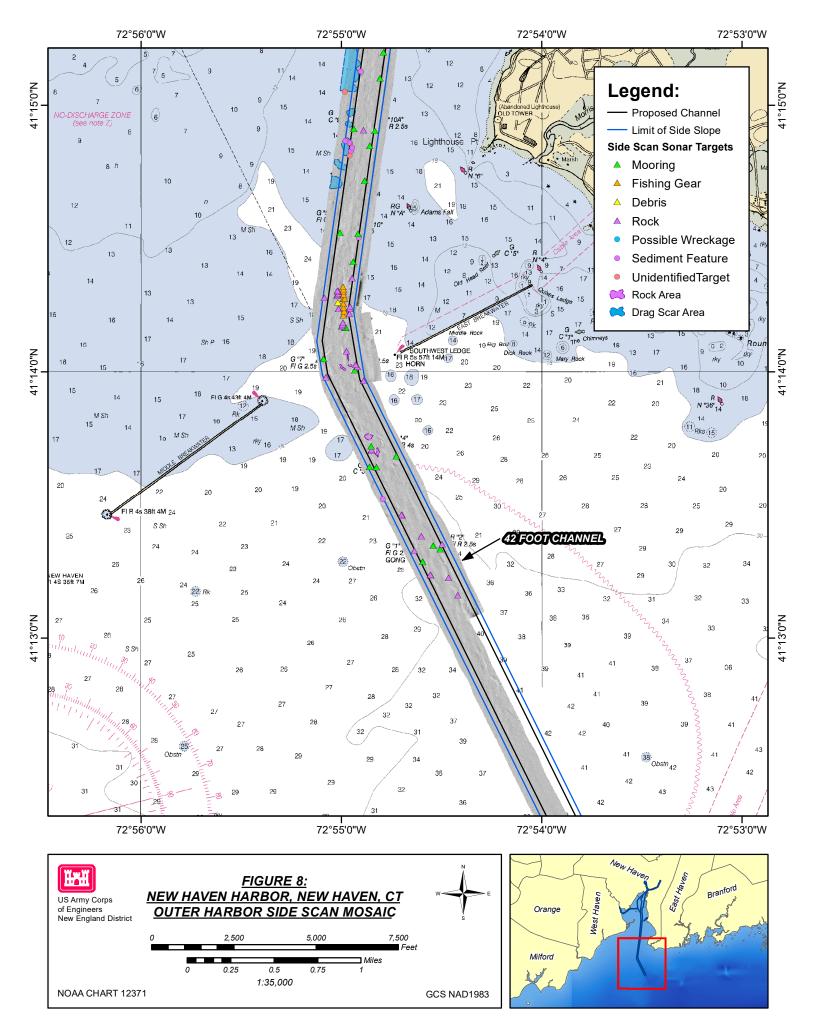


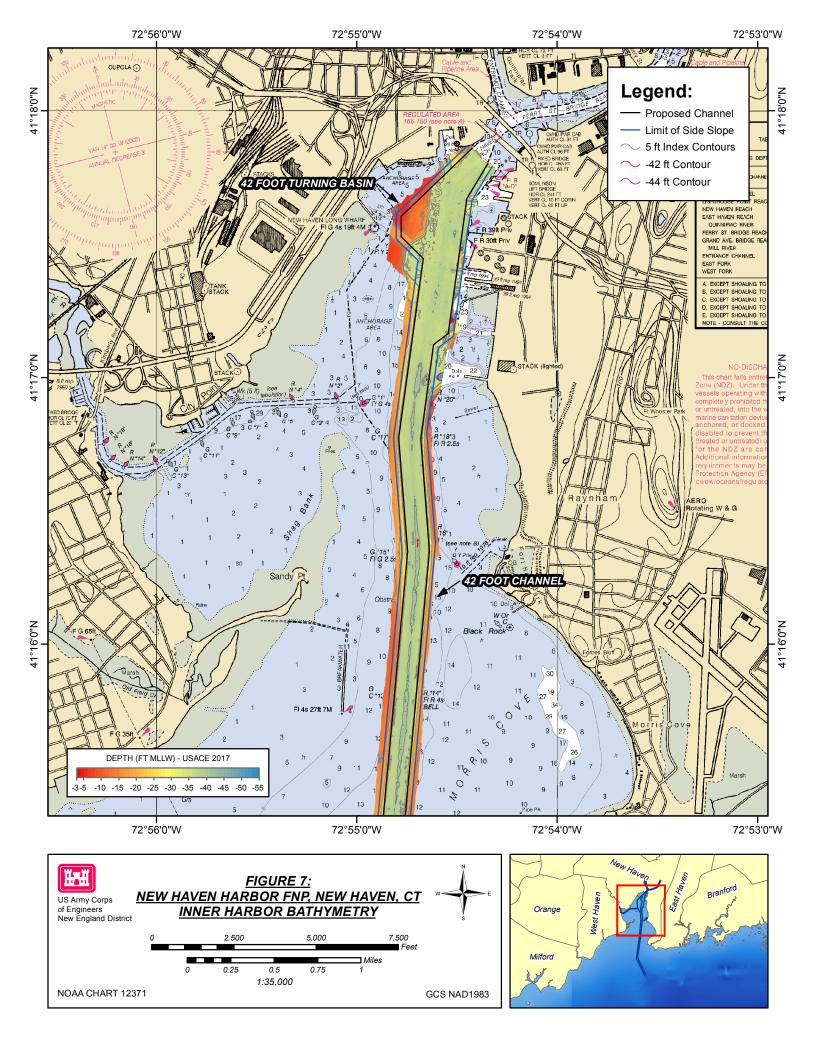
NOAA CHART 12371

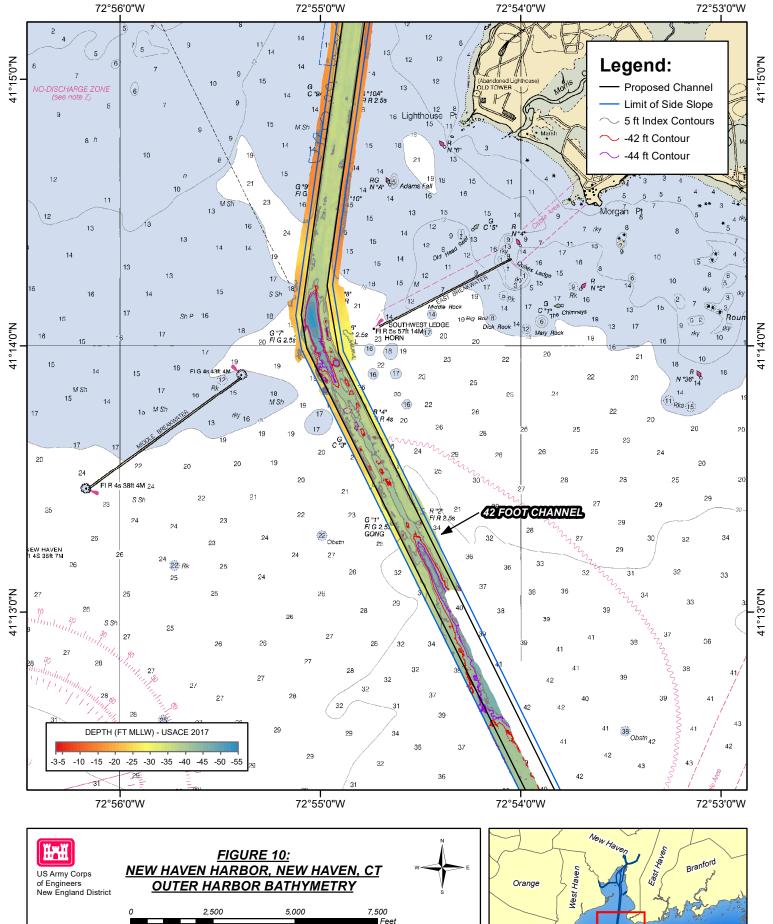
GCS NAD1983











☐ Miles

GCS NAD1983

1

0.5 0.75 0 0.25 1:35,000 NOAA CHART 12371



## **APPENDIX A**

## SIDE SCAN SONAR CONTACT REPORT

## Sonar Contact Report

#### Generated on 9/7/2017 9:52:24 AM

Target Image	Target Info	User Entered Info
- 50 - 100 - 50 us tt 100	NHH0000 • Sonar Time at Target: 5/4/2017 2:56:32 PM • Click Position 41.2020785361 -72.8964777880 (WGS84) (X) 959690.99 (Y) 634390.03 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:Projects\NewHaven2017\Raw\010_1454.HSX • Ping Number: 20319 • Range to target: 26.71 US ft • Fish Height: 48.94 US ft • Heading: 336.070 Degrees • Event Number: 67 • Line Name: 010_1454 • Water Depth: 149.93 US ft	Dimensions and attributes • Target Width: 5.21 US ft • Target Height: 3.68 US ft • Target Length: 5.17 US ft • Target Shadow: 4.53 US ft • Classification1: Mooring • Classification2: • Description: Mooring for RW NH. Line visible.
- 50 - 100 - 150 - 220 - 220 - 300 - 50 100 150 <sub>US ft</sub> 200 250 300	NHH0001 • Sonar Time at Target: 5/4/2017 2:56:44 PM • Click Position 41.2022270940 -72.8969900307 (WGS84) (X) 959550.12 (Y) 634444.40 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1454.HSX • Ping Number: 20405 • Range to target: 75.62 US ft • Fish Height: 48.30 US ft • Heading: 337.920 Degrees • Event Number: 67 • Line Name: 010_1454 • Water Depth: 146.65 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Length: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: • Description: Unknown target near mooring for RW NH
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 200 - 250 - 300	NHH0002 • Sonar Time at Target: 5/4/2017 2:56:43 PM • Click Position 41.2022935471 -72.8967711137 (WGS84) (X) 959610.40 (Y) 634468.51 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1454.HSX • Ping Number: 20401 • Range to target: 10.89 US ft • Fish Height: 48.62 US ft • Heading: 337.820 Degrees • Event Number: 67 • Line Name: 010_1454 • Water Depth: 147.97 US ft	Dimensions and attributes • Target Width: 8.21 US ft • Target Height: 5.61 US ft • Target Length: 8.42 US ft • Target Shadow: 6.49 US ft • Classification1: Mooring • Classification2: • Description: Possible derelict mooring for RW NH. No line visible.

50 100 150 to 100 100 100 100 100 100 100 100 100 10	NHH0003 • Sonar Time at Target: 5/4/2017 2:57:11 PM • Click Position 41.2027074079 -72.8977739592 (WGS84) (X) 959334.69 (Y) 634619.78 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1454.HSX • Ping Number: 20601 • Range to target: 189.04 US ft • Fish Height: 47.03 US ft • Heading: 336.230 Degrees • Event Number: 67 • Line Name: 010_1454 • Water Depth: 141.40 US ft	Dimensions and attributes • Target Width: 3.31 US ft • Target Height: 0.92 US ft • Target Length: 4.54 US ft • Target Shadow: 3.90 US ft • Classification1: Rock • Classification2: • Description: Irregular target in channel. Likely rock.
- 50 - 100 - 150 - 220 - 250 - 300	NHH0004 • Sonar Time at Target: 5/4/2017 2:57:19 PM • Click Position 41.2028703964 -72.8979005801 (WGS84) (X) 959299.95 (Y) 634679.22 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1454.HSX • Ping Number: 20653 • Range to target: 193.52 US ft • Fish Height: 46.39 US ft • Heading: 337.760 Degrees • Event Number: 67 • Line Name: 010_1454 • Water Depth: 140.42 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Classification1: Rock • Classification2: • Description: Irregular target in channel. Likely rock
- 50 - 100 - 150 - 220 - 250 - 300 - 50 - 100 - 150 - 220 - 300 - 300	NHH0006 • Sonar Time at Target: 5/4/2017 2:57:20 PM • Click Position 41.2029016688 -72.8979367329 (WGS84) (X) 959290.02 (Y) 634690.64 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1454.HSX • Ping Number: 20664 • Range to target: 197.37 US ft • Fish Height: 46.07 US ft • Heading: 337.290 Degrees • Event Number: 67 • Line Name: 010_1454 • Water Depth: 141.08 US ft	Dimensions and attributes • Target Width: 3.25 US ft • Target Height: 1.29 US ft • Target Length: 4.58 US ft • Target Shadow: 5.84 US ft • Classification1: Rock • Classification2: • Description: Irregular target in channel. Likely rock.

- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0007 • Sonar Time at Target: 5/4/2017 4:01:17 PM • Click Position 41.2193617831 -72.9069686845 (WGS84) (X) 956815.46 (Y) 640692.46 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 48018 • Range to target: 149.31 US ft • Fish Height: 45.82 US ft • Heading: 343.540 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 127.30 US ft	Dimensions and attributes • Target Width: 3.82 US ft • Target Height: 0.88 US ft • Target Length: 2.42 US ft • Target Shadow: 3.06 US ft • Classification1: Rock • Classification2: • Description: Irregular target in channel. Likely rock.
- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0008 • Sonar Time at Target: 5/4/2017 4:01:56 PM • Click Position 41.2204387364 -72.9077461311 (WGS84) (X) 956602.29 (Y) 641085.25 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 48298 • Range to target: 176.86 US ft • Fish Height: 44.55 US ft • Heading: 350.740 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 123.03 US ft	Dimensions and attributes • Target Width: 1.54 US ft • Target Height: 1.10 US ft • Target Length: 4.60 US ft • Classification1: Rock • Classification2: • Description: Irregular target in channel. Likely rock.
50 100 150 250 300	NHH0009 • Sonar Time at Target: 5/4/2017 3:10:03 PM • Click Position 41.2205909209 -72.9092472369 (WGS84) (X) 956189.42 (Y) 641141.46 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1454.HSX • Ping Number: 26100 • Range to target: 127.99 US ft • Fish Height: 41.58 US ft • Heading: 346.930 Degrees • Event Number: 67 • Line Name: 010_1454 • Water Depth: 126.97 US ft	Dimensions and attributes • Target Width: 2.69 US ft • Target Height: 0.00 US ft • Target Length: 2.77 US ft • Target Shadow: 0.00 US ft • Classification1: Rock • Classification2: • Description: Square target on edge of channel. Likely rock.

- 50 - 100 - 150 - 250 - 300 - 50 100 150 250 300	NHH0010 • Sonar Time at Target: 5/4/2017 3:10:05 PM • Click Position 41.2206472258 -72.9092610645 (WGS84) (X) 956185.65 (Y) 641161.98 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1454.HSX • Ping Number: 26116 • Range to target: 123.37 US ft • Fish Height: 41.26 US ft • Heading: 344.420 Degrees • Event Number: 67 • Line Name: 010_1454 • Water Depth: 125.66 US ft	Dimensions and attributes • Target Width: 2.77 US ft • Target Height: 1.44 US ft • Target Length: 1.50 US ft • Target Shadow: 4.71 US ft • Classification1: Rock • Classification2: • Description: Small target on edge of channel. Likely rock.
- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0011 • Sonar Time at Target: 5/4/2017 3:10:42 PM • Click Position 41.2214513322 -72.9099144296 (WGS84) (X) 956006.45 (Y) 641455.30 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1454.HSX • Ping Number: 26380 • Range to target: 146.75 US ft • Fish Height: 41.25 US ft • Heading: 347.730 Degrees • Event Number: 67 • Line Name: 010_1454 • Water Depth: 124.02 US ft	Dimensions and attributes • Target Width: 4.51 US ft • Target Height: 0.89 US ft • Target Length: 9.33 US ft • Target Shadow: 3.36 US ft • Classification1: Mooring • Classification2: • Description: Mooring for G1
- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0012 • Sonar Time at Target: 5/4/2017 3:11:13 PM • Click Position 41.2221384992 -72.9105962612 (WGS84) (X) 955819.34 (Y) 641706.02 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File:	Dimensions and attributes • Target Width: 20.18 US ft • Target Height: 0.00 US ft • Target Length: 19.99 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: Rock • Description: 20x20 target above channel with significant scour. Possible rock outcrop. Numerous small targets at base of channel slope.

- 50 - 100 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 100 - 100 - 200 - 250 - 300 - 300	NHH0013 • Sonar Time at Target: 5/4/2017 4:03:00 PM • Click Position 41.2222420868 -72.9084532102 (WGS84) (X) 956408.97 (Y) 641742.68 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 48751 • Range to target: 101.25 US ft • Fish Height: 43.92 US ft • Heading: 343.830 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 123.36 US ft	Dimensions and attributes • Target Width: 4.79 US ft • Target Height: 3.60 US ft • Target Length: 6.45 US ft • Target Shadow: 9.85 US ft • Classification1: Mooring • Classification2: • Description: Mooring for R2. Line visible.
- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0014 • Sonar Time at Target: 5/4/2017 4:03:12 PM • Click Position 41.2224595876 -72.9090311441 (WGS84) (X) 956250.12 (Y) 641822.22 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 48338 • Range to target: 215.68 US ft • Fish Height: 42.33 US ft • Heading: 333.430 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 118.44 US ft	Dimensions and attributes • Target Width: 6.13 US ft • Target Height: 0.44 US ft • Target Length: 12.15 US ft • Target Shadow: 2.28 US ft • Classification1: Mooring • Classification2: • Description: Rectangular target in vicinity of R2. Possible derelict mooring. No line.
50 100 150 250 300	NHH0015 • Sonar Time at Target: 5/4/2017 4:03:07 PM • Click Position 41.2225450135 -72.9082708394 (WGS84) (X) 956459.34 (Y) 641852.96 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 48804 • Range to target: 10.89 US ft • Fish Height: 43.29 US ft • Heading: 328.850 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 119.42 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Rock • Classification2: • Description: Irregular target at nadir. Likely rock or derelict mooring.

- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0016 • Sonar Time at Target: 5/4/2017 3:46:10 PM • Click Position 41.2230395763 -72.9100126321 (WGS84) (X) 955980.50 (Y) 642034.04 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1531.HSX • Ping Number: 41549 • Range to target: 78.82 US ft • Fish Height: 46.79 US ft • Heading: 146.250 Degrees • Event Number: 73 • Line Name: 012_1531 • Water Depth: 132.87 US ft	Dimensions and attributes • Target Width: 2.70 US ft • Target Height: 3.50 US ft • Target Length: 4.73 US ft • Target Shadow: 7.42 US ft • Classification1: Rock • Classification2: • Description: Irregular target in channel. Likely rock.
- 50 - 100 - 130 - 200 - 250 - 300 - 300	NHH0017 • Sonar Time at Target: 5/4/2017 3:12:40 PM • Click Position 41.2243383973 -72.9115989108 (WGS84) (X) 955545.00 (Y) 642508.09 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1454.HSX • Ping Number: 27222 • Range to target: 85.13 US ft • Fish Height: 40.30 US ft • Heading: 350.260 Degrees • Event Number: 67 • Line Name: 010_1454 • Water Depth: 123.03 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Rock • Classification2: • Description: Irregular target in channel. Likely rock
- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0018 • Sonar Time at Target: 5/4/2017 3:12:43 PM • Click Position 41.2243960985 -72.9116721274 (WGS84) (X) 955524.90 (Y) 642529.16 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1454.HSX • Ping Number: 27243 • Range to target: 94.84 US ft • Fish Height: 40.62 US ft • Heading: 342.450 Degrees • Event Number: 67 • Line Name: 010_1454 • Water Depth: 122.05 US ft	Dimensions and attributes • Target Width: 2.10 US ft • Target Height: 1.99 US ft • Target Length: 4.69 US ft • Target Shadow: 5.31 US ft • Classification1: Rock • Classification2: • Description: Irregular target on edge of channel. Likely rock.

	NHH0019	Dimensions and attributes
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 250 300	<ul> <li>Sonar Time at Target: 5/4/2017 2:30:46 PM</li> <li>Click Position 41.2253661478 -72.9132188301 (WGS84) (X) 955100.08 (Y) 642883.41 (Projected Coordinates)</li> <li>Map Projection: CT83F</li> <li>Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1415.HSX</li> <li>Ping Number: 9298</li> <li>Range to target: 119.92 US ft</li> <li>Fish Height: 30.26 US ft</li> <li>Heading: 151.460 Degrees</li> <li>Event Number: 65</li> <li>Line Name: 008_1415</li> <li>Water Depth: 76.77 US ft</li> </ul>	<ul> <li>Target Width: 12.13 US ft</li> <li>Target Height: 0.00 US ft</li> <li>Target Length: 84.83 US ft</li> <li>Target Shadow: 0.00 US ft</li> <li>Classification1: Linear furrow with gravel and shell on channel side</li> <li>Classification2:</li> <li>Description: Linear furrow with gravel and shell on channel side. Investigated with ROV.</li> </ul>
	NHH0020	Dimensions and attributes
- 50 - 100 - 150 - 200 - 250 - 300 - 300	<ul> <li>Sonar Time at Target: 5/4/2017 2:29:09 PM</li> <li>Click Position <ul> <li>41.2273714519 -72.9137371155 (WGS84)</li> <li>(X) 954958.89 (Y) 643614.33 (Projected</li> </ul> </li> <li>Coordinates) <ul> <li>Map Projectoin: CT83F</li> <li>Acoustic Source File:</li> <li>D:\Projects\NewHaven2017\Raw\008_1415.HSX</li> </ul> </li> <li>Ping Number: 8617 <ul> <li>Range to target: 65.14 US ft</li> <li>Fish Height: 30.90 US ft</li> <li>Heading: 145.790 Degrees</li> <li>Event Number: 65</li> <li>Line Name: 008_1415</li> <li>Water Depth: 79.72 US ft</li> </ul> </li> </ul>	<ul> <li>Target Width: 10.03 US ft</li> <li>Target Height: 0.00 US ft</li> <li>Target Shadow: 0.00 US ft</li> <li>Classification1: Mooring</li> <li>Classification2:</li> <li>Description: Mooring for G3. Line Visible.</li> </ul>
- 50 - 100 - 150 - 200 - 250 - 300	NHH0021 • Sonar Time at Target: 5/4/2017 2:29:01 PM • Click Position 41.2273777163 -72.9143250631 (WGS84) (X) 954797.16 (Y) 643616.92 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1415.HSX • Ping Number: 8548 • Range to target: 76.90 US ft • Fish Height: 29.98 US ft • Heading: 147.230 Degrees • Event Number: 65	Dimensions and attributes • Target Width: 5.52 US ft • Target Height: 1.54 US ft • Target Length: 5.93 US ft • Target Shadow: 4.47 US ft • Classification1: Mooring • Classification2: • Description: Square target. Possible mooring for G3. Out of position, no line.
50 100 150 200 250 300 US ft	<ul><li>Line Name: 008_1415</li><li>Water Depth: 77.10 US ft</li></ul>	

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50 100 150 250 300	NHH0022 • Sonar Time at Target: 5/4/2017 4:06:35 PM • Click Position 41.2280540486 -72.9121021161 (WGS84) (X) 955409.11 (Y) 643862.20 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 50283 • Range to target: 26.27 US ft • Fish Height: 37.25 US ft • Heading: 333.520 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 101.71 US ft	Dimensions and attributes • Target Width: 4.54 US ft • Target Height: 5.44 US ft • Target Length: 6.39 US ft • Target Shadow: 7.79 US ft • Classification1: Mooring • Classification2: • Description: Mooring for R4. Line visible.
- 50 - 100 - 150 - 200 - 250 - 300	NHH0023 • Sonar Time at Target: 5/4/2017 3:19:43 PM • Click Position 41.2284092261 -72.9141756178 (WGS84) (X) 954838.98 (Y) 643992.69 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:Projects\NewHaven2017\Raw\010_1517.HSX • Ping Number: 30235 • Range to target: 60.88 US ft • Fish Height: 41.89 US ft • Heading: 338.870 Degrees • Event Number: 71 • Line Name: 010_1517 • Water Depth: 123.69 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Rock • Classification2: • Description: Irregular target in channel. Likely rock.
- 50 - 100 - 150 - 200 - 250 - 300	NHH0024 • Sonar Time at Target: 5/4/2017 3:19:45 PM • Click Position 41.2284742107 -72.9141691572 (WGS84) (X) 954840.81 (Y) 644016.36 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1517.HSX • Ping Number: 30250 • Range to target: 48.06 US ft • Fish Height: 41.57 US ft • Heading: 342.420 Degrees • Event Number: 71 • Line Name: 010_1517 • Water Depth: 125.00 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Rock • Classification2: • Description: Irregular target in channel. Likely rock.

- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 200 - 250 - 300	NHH0025 • Sonar Time at Target: 5/4/2017 3:40:57 PM • Click Position 41.2284843169 -72.9139189971 (WGS84) (X) 954909.63 (Y) 644019.91 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1531.HSX • Ping Number: 39323 • Range to target: 173.05 US ft • Fish Height: 47.40 US ft • Heading: 145.240 Degrees • Event Number: 73 • Line Name: 012_1531 • Water Depth: 136.15 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 509.93 US ft • Target Shadow: 0.00 US ft • Classification1: Rock Area • Classification2: • Description: Numerous irregular targets along edge of channel corresponding to rock.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 200 - 300	NHH0026 • Sonar Time at Target: 5/4/2017 3:19:52 PM • Click Position 41.2286780349 -72.9141879448 (WGS84) (X) 954835.78 (Y) 644090.64 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1517.HSX • Ping Number: 30301 • Range to target: 17.77 US ft • Fish Height: 41.88 US ft • Heading: 341.980 Degrees • Event Number: 71 • Line Name: 010_1517 • Water Depth: 129.59 US ft	Dimensions and attributes • Target Width: 3.32 US ft • Target Height: 0.00 US ft • Target Length: 3.31 US ft • Classification1: Mooring • Classification2: • Description: Square target on edge of channel. Line visible. Likely derelict mooring.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 200 - 250 - 300	NHH0027 • Sonar Time at Target: 5/4/2017 3:40:15 PM • Click Position 41.2292511942 -72.9143647428 (WGS84) (X) 954787.54 (Y) 644299.57 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1531.HSX • Ping Number: 39024 • Range to target: 168.97 US ft • Fish Height: 47.72 US ft • Heading: 149.730 Degrees • Event Number: 73 • Line Name: 012_1531 • Water Depth: 129.92 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 513.28 US ft • Target Shadow: 0.00 US ft • Classification1: Rock Area • Classification2: • Description: Numerous irregular targets along edge of channel corresponding to rock.

	NHH0028 • Sonar Time at Target: 5/4/2017 4:09:27 PM • Click Position 41.2327708087 -72.9148081811 (WGS84) (X) 954668.01 (Y) 645582.21 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 51510 • Range to target: 66.64 US ft • Fish Height: 34.67 US ft • Heading: 341.800 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 93.18 US ft	Dimensions and attributes • Target Width: 1.73 US ft • Target Height: 0.00 US ft • Target Length: 3.28 US ft • Target Shadow: 0.00 US ft • Classification1: Rock • Classification2: • Description: Irregular target outside channel. Likely rock.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 us t 200 250 300	NHH0029 • Sonar Time at Target: 5/4/2017 2:24:07 PM • Click Position 41.2329816292 -72.9179515853 (WGS84) (X) 953803.54 (Y) 645660.69 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1415.HSX • Ping Number: 6450 • Range to target: 104.61 US ft • Fish Height: 40.41 US ft • Heading: 156.990 Degrees • Event Number: 65 • Line Name: 008_1415 • Water Depth: 119.09 US ft	Dimensions and attributes • Target Width: 2.22 US ft • Target Height: 0.92 US ft • Target Length: 1.48 US ft • Target Shadow: 2.62 US ft • Classification1: Rock • Classification2: • Description: Irregular small target outside channel. Likely rock.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 US ft <sup>2</sup> 00 250 300	NHH0030 • Sonar Time at Target: 5/4/2017 4:09:55 PM • Click Position 41.2334377122 -72.9155567328 (WGS84) (X) 954462.58 (Y) 645825.60 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 51713 • Range to target: 20.51 US ft • Fish Height: 35.94 US ft • Heading: 357.230 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 96.46 US ft	Dimensions and attributes • Target Width: 5.45 US ft • Target Height: 2.98 US ft • Target Length: 5.44 US ft • Target Shadow: 3.74 US ft • Classification1: Mooring • Classification2: • Description: Mooring for R6. Line visible

50 100 150 US R 200 250 300	NHH0031 • Sonar Time at Target: 5/4/2017 3:35:15 PM • Click Position 41.2336064030 -72.9166018128 (WGS84) (X) 954175.24 (Y) 645887.62 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1531.HSX • Ping Number: 36882 • Range to target: 76.23 US ft • Fish Height: 46.08 US ft • Heading: 162.500 Degrees • Event Number: 73 • Line Name: 012_1531 • Water Depth: 127.95 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 440.15 US ft • Target Shadow: 0.00 US ft • Classification1: Rock Area • Classification2: • Description: Numerous irregular targets along edge of channel corresponding to rock.
50 100 - 150 - 200 - 250 - 300 - 300	NHH0032 • Sonar Time at Target: 5/4/2017 4:09:59 PM • Click Position 41.2336301840 -72.9153360957 (WGS84) (X) 954523.40 (Y) 645895.62 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 51744 • Range to target: 60.24 US ft • Fish Height: 37.20 US ft • Heading: 358.480 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 100.07 US ft	Dimensions and attributes • Target Width: 4.71 US ft • Target Height: 5.65 US ft • Target Length: 9.93 US ft • Target Shadow: 12.67 US ft • Classification1: Rock • Classification2: • Description: Irregular target in channel. Likely rock.
50 100 150 200 250 300	NHH0033 • Sonar Time at Target: 5/4/2017 4:10:08 PM • Click Position 41.2337360741 -72.9159436059 (WGS84) (X) 954356.38 (Y) 645934.52 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 51802 • Range to target: 87.77 US ft • Fish Height: 35.94 US ft • Heading: 354.160 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 93.83 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 226.03 US ft • Target Shadow: 0.00 US ft • Classification1: Rock Area • Classification2: • Description: Numerous irregular targets along edge of channel corresponding to rock.

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50 100 150 US h <sup>2</sup> 00 250 300	NHH0034 • Sonar Time at Target: 5/4/2017 4:10:06 PM • Click Position 41.2337809682 -72.9154830954 (WGS84) (X) 954483.07 (Y) 645950.63 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 51789 • Range to target: 38.45 US ft • Fish Height: 37.84 US ft • Heading: 357.320 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 96.78 US ft	Dimensions and attributes • Target Width: 2.23 US ft • Target Height: 1.97 US ft • Target Length: 4.50 US ft • Target Shadow: 2.97 US ft • Classification1: Rock • Classification2: • Description: Irregular target in channel. Likely rock.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 250 - 300	NHH0035 • Sonar Time at Target: 5/4/2017 2:23:10 PM • Click Position 41.2341238481 -72.9181425275 (WGS84) (X) 953751.83 (Y) 646076.98 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1415.HSX • Ping Number: 6052 • Range to target: 84.83 US ft • Fish Height: 43.51 US ft • Heading: 166.370 Degrees • Event Number: 65 • Line Name: 008_1415 • Water Depth: 116.80 US ft	Dimensions and attributes • Target Width: 4.22 US ft • Target Height: 2.48 US ft • Target Length: 5.25 US ft • Classification1: Mooring • Classification2: • Description: Mooring for G7. Line visible
- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0036 • Sonar Time at Target: 5/4/2017 4:10:26 PM • Click Position 41.2342735695 -72.9161268962 (WGS84) (X) 954306.34 (Y) 646130.46 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File:	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 356.01 US ft • Target Shadow: 0.00 US ft • Classification1: Rock Area • Classification2: • Description: Numerous irregular targets along edge of channel corresponding to rock.

- 50 - 100 - 150 - 220 - 250 - 300 - 50 100 150 250 300	NHH0037 • Sonar Time at Target: 5/4/2017 4:10:38 PM • Click Position 41.2346129699 -72.9162515569 (WGS84) (X) 954272.29 (Y) 646254.19 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 52017 • Range to target: 112.14 US ft • Fish Height: 35.01 US ft • Heading: 356.810 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 92.52 US ft	Dimensions and attributes • Target Width: 2.30 US ft • Target Height: 1.46 US ft • Target Length: 10.75 US ft • Target Shadow: 5.10 US ft • Classification1: Unknown • Classification2: Rock • Description: Irregular target in channel. Likely rock.
50 100 150 200 250 300	NHH0038 • Sonar Time at Target: 5/4/2017 4:11:30 PM • Click Position 41.2360826243 -72.9163711770 (WGS84) (X) 954240.42 (Y) 646789.74 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 52392 • Range to target: 89.78 US ft • Fish Height: 32.51 US ft • Heading: 353.780 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 86.29 US ft	Dimensions and attributes • Target Width: 4.33 US ft • Target Height: 3.08 US ft • Target Length: 4.28 US ft • Classification1: Mooring • Classification2: • Description: Square target in vicinity of R8. Line visible.
50 100 150 200 250 300	NHH0039 • Sonar Time at Target: 5/4/2017 4:11:30 PM • Click Position 41.2360903439 -72.9163088794 (WGS84) (X) 954257.56 (Y) 646792.52 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 52392 • Range to target: 72.41 US ft • Fish Height: 32.51 US ft • Heading: 353.780 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 86.29 US ft	Dimensions and attributes • Target Width: 4.34 US ft • Target Height: 2.43 US ft • Target Length: 4.33 US ft • Target Shadow: 6.42 US ft • Classification1: Mooring • Classification2: • Description: Square target in vicinity of R8. No line.

- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 250 300	NHH0040 • Sonar Time at Target: 5/4/2017 4:11:35 PM • Click Position 41.2361611009 -72.9166185623 (WGS84) (X) 954172.43 (Y) 646818.46 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 52422 • Range to target: 151.87 US ft • Fish Height: 32.19 US ft • Heading: 354.620 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 84.32 US ft	Dimensions and attributes • Target Width: 2.26 US ft • Target Height: 0.00 US ft • Target Length: 6.41 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: Rock • Description: Irregular target in channel. Likely rock or debris.
- 50 - 100 - 150 - 200 - 250 - 300 - 300 - 50 - 100 - 150 - 250 - 300 - 300 300 - 300 -	NHH0041 • Sonar Time at Target: 5/4/2017 4:11:37 PM • Click Position 41.2362197843 -72.9166216495 (WGS84) (X) 954171.62 (Y) 646839.85 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File:	Dimensions and attributes • Target Width: 2.94 US ft • Target Height: 0.60 US ft • Target Length: 2.85 US ft • Target Shadow: 2.85 US ft • Classification1: Rock • Classification2: • Description: Small irregular target in channel. Likely rock.
50 100 150 200 250 300	NHH0042 • Sonar Time at Target: 5/4/2017 4:11:39 PM • Click Position 41.2362904338 -72.9165549821 (WGS84) (X) 954190.01 (Y) 646865.55 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 52454 • Range to target: 125.60 US ft • Fish Height: 33.14 US ft • Heading: 354.100 Degrees • Event Number: 75 • Line Name: 014_1600 • Water Depth: 87.27 US ft	Dimensions and attributes • Target Width: 2.86 US ft • Target Height: 0.00 US ft • Target Length: 2.85 US ft • Target Shadow: 0.00 US ft • Classification1: Rock • Classification2: • Description: Small irregular target in channel. Likely rock.

- 50 - 100 - 150 - 200 - 250	NHH0043 • Sonar Time at Target: 5/4/2017 4:11:43 PM • Click Position 41.2364121599 -72.9165462200 (WGS84) (X) 954192.51 (Y) 646909.90 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1600.HSX • Ping Number: 52485 • Range to target: 114.06 US ft	Dimensions and attributes • Target Width: 1.43 US ft • Target Height: 0.00 US ft • Target Length: 1.42 US ft • Target Shadow: 0.00 US ft • Classification1: Rock • Classification2: • Description: Small irregular target in channel. Likely rock.
- 300 50 100 150 200 250 300 US ft	<ul> <li>Fish Height: 34.41 US ft</li> <li>Heading: 349.560 Degrees</li> <li>Event Number: 75</li> <li>Line Name: 014_1600</li> <li>Water Depth: 90.55 US ft</li> <li>NHH0044</li> </ul>	Dimensions and attributes
	<ul> <li>Sonar Time at Target: 5/2/2017 12:34:44 PM</li> <li>Click Position 41.2368538059 -72.9164988898 (WGS84) (X) 954205.83 (Y) 647070.80 (Projected Coordinates)</li> <li>Map Projection: CT83F</li> <li>Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1209.HSX</li> <li>Ping Number: 49198</li> <li>Range to target: 140.34 US ft</li> <li>Fish Height: 28.07 US ft</li> <li>Heading: 188.090 Degrees</li> <li>Event Number: 78</li> <li>Line Name: 014_1209</li> <li>Water Depth: 81.04 US ft</li> </ul>	<ul> <li>Target Width: 2.47 US ft</li> <li>Target Height: 0.36 US ft</li> <li>Target Length: 2.46 US ft</li> <li>Target Shadow: 1.85 US ft</li> <li>Classification1: Fishing gear</li> <li>Classification2:</li> <li>Description: String of targets in channel. Line</li> </ul>
	NHH0045 • Sonar Time at Target: 5/2/2017 12:34:36 PM • Click Position 41.2369557478 -72.9160022676 (WGS84) (X) 954342.50 (Y) 647107.68 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1209.HSX • Ping Number: 49146 • Range to target: 14.74 US ft • Fish Height: 28.72 US ft • Heading: 189.050 Degrees • Event Number: 78 • Line Name: 014_1209 • Water Depth: 81.69 US ft	Dimensions and attributes • Target Width: 3.06 US ft • Target Height: 4.19 US ft • Target Length: 4.10 US ft • Target Shadow: 5.51 US ft • Classification1: Rock • Classification2: • Description: Irregular target in channel. Likely rock. Possibly derelict fishing gear.

	NHH0046 • Sonar Time at Target: 5/2/2017 12:34:33 PM • Click Position 41.2371105408 -72.9164299829 (WGS84) (X) 954224.97 (Y) 647164.30 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1209.HSX • Ping Number: 49121 • Range to target: 141.62 US ft • Fish Height: 29.04 US ft • Heading: 189.050 Degrees • Event Number: 78 • Line Name: 014_1209 • Water Depth: 81.04 US ft	Dimensions and attributes • Target Width: 2.51 US ft • Target Height: 0.48 US ft • Target Length: 4.91 US ft • Target Shadow: 2.44 US ft • Classification1: Fishing gear • Classification2: • Description: String of rectangular targets in channel. Line visible. Likely derelict fishing gear.
- 50 - 100 - 150 - 250 - 300 - 300	NHH0047 • Sonar Time at Target: 5/2/2017 11:44:02 AM • Click Position 41.2372672006 -72.9169041667 (WGS84) (X) 954094.66 (Y) 647221.64 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:Projects!NewHaven2017\Raw\012_1141.HSX • Ping Number: 27516 • Range to target: 83.95 US ft • Fish Height: 36.50 US ft • Heading: 12.820 Degrees • Event Number: 76 • Line Name: 012_1141 • Water Depth: 119.75 US ft	Dimensions and attributes • Target Width: 1.36 US ft • Target Height: 0.00 US ft • Target Length: 8.86 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: Rock • Description: Small irregular target in channel. Likely rock or debris.
	NHH0048 • Sonar Time at Target: 5/2/2017 12:34:23 PM • Click Position 41.2372752940 -72.9159750504 (WGS84) (X) 954350.21 (Y) 647224.09 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File:	Dimensions and attributes • Target Width: 2.47 US ft • Target Height: 2.24 US ft • Target Length: 3.05 US ft • Target Shadow: 3.59 US ft • Classification1: Rock • Classification2: • Description: Small irregular target in channel. Likely rock. Possibly derelict fishing gear.

	NHH0049 • Sonar Time at Target: 5/2/2017 12:34:23 PM • Click Position 41.2373433348 -72.9164784472 (WGS84) (X) 954211.80 (Y) 647249.15 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1209.HSX • Ping Number: 49049 • Range to target: 170.77 US ft • Fish Height: 27.81 US ft • Heading: 191.850 Degrees • Event Number: 78 Line Name: 014_1209 • Water Depth: 74.80 US ft	
	NHH0050 • Sonar Time at Target: 5/2/2017 12:34:17 PM • Click Position 41.2374155719 -72.9159573900 (WGS84) (X) 954355.16 (Y) 647275.20 (Projected Coordinates) • Map Projecton: CT83F • Acoustic Source File: D:\Projects\\NewHaven2017\Raw\014_1209.HSX • Ping Number: 49006 • Range to target: 33.32 US ft • Fish Height: 26.21 US ft • Heading: 191.400 Degrees • Event Number: 78 • Line Name: 014_1209 • Water Depth: 75.13 US ft	Dimensions and attributes • Target Width: 2.65 US ft • Target Height: 4.78 US ft • Target Length: 2.65 US ft • Target Shadow: 9.46 US ft • Classification1: Rock • Classification2: • Description: Irregular target in channel. Likely rock. Possibly derelict fishing gear.
50 100 150 250 300	NHH0051 • Sonar Time at Target: 5/2/2017 12:34:11 PM • Click Position 41.2375949841 -72.9165113479 (WGS84) (X) 954202.93 (Y) 647340.86 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1209.HSX • Ping Number: 48967 • Range to target: 193.22 US ft • Fish Height: 24.80 US ft • Heading: 191.470 Degrees • Event Number: 78 • Line Name: 014_1209 • Water Depth: 69.88 US ft	Dimensions and attributes • Target Width: 2.42 US ft • Target Height: 0.22 US ft • Target Length: 2.42 US ft • Target Shadow: 1.76 US ft • Classification1: Fishing gear • Classification2: • Description: String of targets in channel. Line visible. Likely derelict fishing gear or debris.

50 100 150 US 1 250 300	NHH0052 • Sonar Time at Target: 5/2/2017 11:44:18 AM • Click Position 41.2376950214 -72.9169631430 (WGS84) (X) 954078.74 (Y) 647377.55 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1141.HSX • Ping Number: 27627 • Range to target: 116.63 US ft • Fish Height: 36.20 US ft • Heading: 4.270 Degrees • Event Number: 76 • Line Name: 012_1141 • Water Depth: 119.75 US ft	
50 100 150 US # <sup>200</sup> 250 300	NHH0053 • Sonar Time at Target: 5/2/2017 12:33:58 PM • Click Position 41.2378905175 -72.9164908731 (WGS84) (X) 954208.77 (Y) 647448.53 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1209.HSX • Ping Number: 48871 • Range to target: 200.33 US ft • Fish Height: 24.81 US ft • Heading: 186.280 Degrees • Event Number: 78 • Line Name: 014_1209 • Water Depth: 71.19 US ft	Dimensions and attributes • Target Width: 2.35 US ft • Target Height: 0.77 US ft • Target Length: 2.34 US ft • Target Shadow: 6.46 US ft • Classification1: Fishing gear • Classification2: • Description: String of targets in channel. Line visible. Likely derelict fishing gear or debris.
50 100 150 US h <sup>2</sup> 00 260 300	NHH0054 • Sonar Time at Target: 5/2/2017 12:33:56 PM • Click Position 41.2379183771 -72.9163662690 (WGS84) (X) 954243.06 (Y) 647458.62 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1209.HSX • Ping Number: 48859 • Range to target: 167.39 US ft • Fish Height: 24.50 US ft • Heading: 188.060 Degrees • Event Number: 78 • Line Name: 014_1209 • Water Depth: 68.57 US ft	Dimensions and attributes • Target Width: 2.42 US ft • Target Height: 0.25 US ft • Target Length: 2.34 US ft • Target Shadow: 1.76 US ft • Classification1: Fishing gear • Classification2: • Description: String of targets in channel. Line visible. Likely derelict fishing gear or debris.

- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0055 • Sonar Time at Target: 5/1/2017 5:34:37 PM • Click Position 41.2379625811 -72.9180785939 (WGS84) (X) 953772.13 (Y) 647475.63 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1732.HSX • Ping Number: 104723 • Range to target: 29.48 US ft • Fish Height: 30.48 US ft • Heading: 18.590 Degrees • Event Number: 59 • Line Name: 008_1732 • Water Depth: 89.24 US ft	Dimensions and attributes • Target Width: 7.04 US ft • Target Height: 2.74 US ft • Target Length: 6.66 US ft • Target Shadow: 4.19 US ft • Classification1: Unknown • Classification2: Rock • Description: Large square target outside channel with scour on western side. Likely rock.
50 100 150 US # 200 250 300	NHH0056 • Sonar Time at Target: 5/2/2017 11:44:32 AM • Click Position 41.2380817843 -72.9170194995 (WGS84) (X) 954063.51 (Y) 647518.50 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1141.HSX • Ping Number: 27725 • Range to target: 151.87 US ft • Fish Height: 36.82 US ft • Heading: 9.120 Degrees • Event Number: 76 • Line Name: 012_1141 • Water Depth: 120.73 US ft	Dimensions and attributes • Target Width: 3.66 US ft • Target Height: 0.63 US ft • Target Length: 5.47 US ft • Classification1: Unknown • Classification2: Rock • Description: Small irregular target in channel. Likely rock or debris.
- 50 - 100 - 150 - 220 - 250 - 300	NHH0057 • Sonar Time at Target: 5/2/2017 11:44:34 AM • Click Position 41.2381441949 -72.9169821726 (WGS84) (X) 954073.82 (Y) 647541.22 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1141.HSX • Ping Number: 27742 • Range to target: 145.46 US ft • Fish Height: 36.83 US ft • Heading: 17.810 Degrees • Event Number: 76 • Line Name: 012_1141 • Water Depth: 121.06 US ft	Dimensions and attributes • Target Width: 1.36 US ft • Target Height: 0.82 US ft • Target Length: 2.72 US ft • Target Shadow: 3.40 US ft • Classification1: Unknown • Classification2: Rock • Description: Small irregular target in channel. Likely rock or debris.

	NHH0058 • Sonar Time at Target: 5/2/2017 12:33:45 PM • Click Position 41.2381807771 -72.9164989850 (WGS84) (X) 954206.74 (Y) 647554.29 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1209.HSX • Ping Number: 48783 • Range to target: 214.52 US ft • Fish Height: 24.81 US ft • Heading: 187.040 Degrees • Event Number: 78 • Line Name: 014_1209 • Water Depth: 67.59 US ft	Dimensions and attributes • Target Width: 2.45 US ft • Target Height: 0.34 US ft • Target Length: 2.97 US ft • Target Shadow: 2.97 US ft • Classification1: Fishing gear • Classification2: • Description: String of targets in channel. Line visible. Likely derelict fishing gear or debris.
50 100 150 200 250 300	NHH0059 • Sonar Time at Target: 5/2/2017 11:44:38 AM • Click Position 41.2382570528 -72.9169108881 (WGS84) (X) 954093.50 (Y) 647582.31 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1141.HSX • Ping Number: 27773 • Range to target: 133.29 US ft • Fish Height: 36.21 US ft • Heading: 18.880 Degrees • Event Number: 76 • Line Name: 012_1141 • Water Depth: 120.08 US ft	Dimensions and attributes • Target Width: 3.41 US ft • Target Height: 0.00 US ft • Target Length: 2.16 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: Rock • Description: Small irregular target in channel. Likely rock or debris.
	NHH0060 • Sonar Time at Target: 5/2/2017 12:33:39 PM • Click Position 41.2383270428 -72.9165250257 (WGS84) (X) 954199.68 (Y) 647607.60 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1209.HSX • Ping Number: 48741 • Range to target: 228.23 US ft • Fish Height: 23.23 US ft • Heading: 193.070 Degrees • Event Number: 78 • Line Name: 014_1209 • Water Depth: 65.94 US ft	Dimensions and attributes • Target Width: 1.79 US ft • Target Height: 0.93 US ft • Target Length: 4.19 US ft • Target Shadow: 9.57 US ft • Classification1: Fishing gear • Classification2: • Description: String of targets in channel. Line visible. Likely derelict fishing gear or debris.

50 100 150 US th 250 300	NHH0061 • Sonar Time at Target: 5/2/2017 11:44:43 AM • Click Position 41.2383796967 -72.9169444650 (WGS84) (X) 954084.36 (Y) 647627.01 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1141.HSX • Ping Number: 27803 • Range to target: 150.59 US ft • Fish Height: 35.58 US ft • Heading: 7.520 Degrees • Event Number: 76 • Line Name: 012_1141 • Water Depth: 117.13 US ft	Dimensions and attributes • Target Width: 1.53 US ft • Target Height: 0.92 US ft • Target Length: 2.05 US ft • Target Shadow: 4.12 US ft • Classification1: Unknown • Classification2: Rock • Description: Small irregular target in channel. Likely rock or debris.
50 50 50 50 50 50 50 50 50 50	NHH0062 • Sonar Time at Target: 5/2/2017 11:44:44 AM • Click Position 41.2384097278 -72.9169890103 (WGS84) (X) 954072.13 (Y) 647637.98 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:Projects\NewHaven2017\Raw\012_1141.HSX • Ping Number: 27809 • Range to target: 164.69 US ft • Fish Height: 35.90 US ft • Heading: 8.360 Degrees • Event Number: 76 • Line Name: 012_1141 • Water Depth: 117.45 US ft	Dimensions and attributes • Target Width: 1.37 US ft • Target Height: 0.99 US ft • Target Length: 4.16 US ft • Target Shadow: 4.80 US ft • Classification1: Unknown • Classification2: Rock • Description: Small irregular target in channel. Likely rock or debris.
50 100 50 100 150 US R <sup>200</sup> 250 300	NHH0063 • Sonar Time at Target: 5/2/2017 11:44:48 AM • Click Position 41.2384546300 -72.9165048811 (WGS84) (X) 954205.31 (Y) 647654.08 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File:	Dimensions and attributes • Target Width: 2.75 US ft • Target Height: 0.00 US ft • Target Length: 4.85 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: Small irregular target in channel. Possible line. Likely derelict fishing gear.

- 50 - 100 - 150 - 220 - 250 - 300 - 50 - 100 - 150 _ US R 200 - 250 - 300	NHH0064 • Sonar Time at Target: 5/2/2017 11:44:54 AM • Click Position 41.2386384787 -72.9165227240 (WGS84) (X) 954200.53 (Y) 647721.08 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1141.HSX • Ping Number: 27886 • Range to target: 55.11 US ft • Fish Height: 36.34 US ft • Heading: 12.280 Degrees • Event Number: 76 • Line Name: 012_1141 • Water Depth: 115.49 US ft	
50 100 100 100 100 100 100 100 1	NHH0065 • Sonar Time at Target: 5/2/2017 11:45:18 AM • Click Position 41.2391884408 -72.9157673631 (WGS84) (X) 954408.67 (Y) 647921.06 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1141.HSX • Ping Number: 28053 • Range to target: 114.06 US ft • Fish Height: 36.52 US ft • Heading: 10.680 Degrees • Event Number: 76 • Line Name: 012_1141 • Water Depth: 114.17 US ft	Dimensions and attributes • Target Width: 4.91 US ft • Target Height: 0.00 US ft • Target Length: 20.20 US ft • Target Shadow: 0.00 US ft • Classification1: Rock • Classification2: • Description: Area of high backscatter along edge of channel. No shadow. Likely partially buried rock or disturbed sediment.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 200 250 300	NHH0066 • Sonar Time at Target: 5/2/2017 1:47:22 PM • Click Position 41.2402087675 -72.9156712882 (WGS84) (X) 954435.80 (Y) 648292.78 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 80272 • Range to target: 11.86 US ft • Fish Height: 42.60 US ft • Heading: 10.300 Degrees • Event Number: 93 • Line Name: 013_1346 • Water Depth: 126.64 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Shellfish lease marker

50 100 200 200 50 100 150 200 250 300	NHH0067 • Sonar Time at Target: 5/2/2017 1:48:39 PM • Click Position 41.2417460849 -72.9152064803 (WGS84) (X) 954564.71 (Y) 648852.68 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 80824 • Range to target: 33.31 US ft • Fish Height: 43.90 US ft • Heading: 0.350 Degrees • Event Number: 93 • Line Name: 013_1346	Dimensions and attributes • Target Width: 27.54 US ft • Target Height: 0.00 US ft • Target Length: 12.88 US ft • Target Shadow: 0.00 US ft • Classification1: Disturbed sediment • Classification2: • Description: Area of disturbed sediment adjacent to mooring for R10. Likely previous mooring location.
50 100 150 US ft <sup>2</sup> 50 100 250 250 300	<ul> <li>Water Depth: 125.66 US ft</li> <li>NHH0068</li> <li>Sonar Time at Target: 5/2/2017 1:48:49 PM</li> <li>Click Position <ul> <li>41.2419509721 -72.9152852438 (WGS84)</li> <li>(X) 954543.19 (Y) 648927.37 (Projected</li> </ul> </li> <li>Coordinates) <ul> <li>Map Projection: CT83F</li> <li>Acoustic Source File:</li> <li>D:\Projects\NewHaven2017\Raw\013_1346.HSX</li> <li>Ping Number: 80889</li> <li>Range to target: 0.00 US ft</li> <li>Fish Height: 43.65 US ft</li> <li>Heading: 2.500 Degrees</li> <li>Event Number: 93</li> <li>Line Name: 013_1346</li> <li>Water Depth: 146.00 US ft</li> </ul> </li> </ul>	Dimensions and attributes • Target Width: 5.77 US ft • Target Height: 4.35 US ft • Target Length: 5.07 US ft • Target Shadow: 4.82 US ft • Classification1: Mooring • Classification2: • Description: Shellfish lease marker
50 100 150 200 250 300	NHH0069 • Sonar Time at Target: 5/2/2017 11:26:22 AM • Click Position 41.2420333849 -72.9167739268 (WGS84) (X) 954133.83 (Y) 648958.19 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 19958 • Range to target: 66.64 US ft • Fish Height: 40.44 US ft • Heading: 187.600 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 119.09 US ft	Dimensions and attributes • Target Width: 5.33 US ft • Target Height: 0.00 US ft • Target Length: 5.06 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Mooring for G9. Line visible.

- 50 - 100 - 150 - 200 - 250	NHH0070 • Sonar Time at Target: 5/1/2017 5:21:31 PM • Click Position 41.2451903797 -72.9172361217 (WGS84) (X) 954008.94 (Y) 650108.72 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 99117 • Range to target: 71.22 US ft • Fish Height: 21.28 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 944.38 US ft • Target Shadow: 0.00 US ft • Classification1: Drag scars • Classification2: • Description: Area with numerous drag scars. Well defined.
- 300 50 100 150 <u>US 1</u> 200 250 300	<ul> <li>Heading: 189.940 Degrees</li> <li>Event Number: 53</li> <li>Line Name: 007_1642</li> <li>Water Depth: 61.68 US ft</li> <li>NHH0071</li> <li>Sonar Time at Target: 5/2/2017 1:51:11 PM</li> </ul>	Dimensions and attributes
- 50 - 100 - 150 - 200 - 250 - 300 - 300 - 50 - 100 - 150 - 250 - 300	<ul> <li>Sonar Time at Target: 5/2/2017 1:51:11 PM</li> <li>Click Position 41.2452865035 -72.9147346453 (WGS84) (X) 954696.93 (Y) 650142.43 (Projected Coordinates)</li> <li>Map Projection: CT83F</li> <li>Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX</li> <li>Ping Number: 81902</li> <li>Range to target: 0.00 US ft</li> <li>Fish Height: 44.84 US ft</li> <li>Heading: 7.450 Degrees</li> <li>Event Number: 93</li> <li>Line Name: 013_1346</li> <li>Water Depth: 127.30 US ft</li> </ul>	<ul> <li>Target Width: 0.00 US ft</li> <li>Target Height: 0.00 US ft</li> <li>Target Length: 0.00 US ft</li> <li>Target Shadow: 0.00 US ft</li> <li>Classification1: Mooring</li> <li>Classification2:</li> <li>Description: Shellfish lease marker</li> </ul>
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 200 - 300	NHH0072 • Sonar Time at Target: 5/1/2017 5:20:40 PM • Click Position 41.2462617708 -72.9168065613 (WGS84) (X) 954127.83 (Y) 650498.87 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 98760 • Range to target: 11.33 US ft • Fish Height: 22.99 US ft • Heading: 180.370 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 61.02 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 861.81 US ft • Target Shadow: 0.00 US ft • Classification1: Drag scars • Classification2: • Description: Area with drag scars. Well defined.

50 100 150 250 300	NHH0073 • Sonar Time at Target: 5/1/2017 5:41:51 PM • Click Position 41.2468657754 -72.9159642931 (WGS84) (X) 954359.88 (Y) 650718.50 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1732.HSX • Ping Number: 107815 • Range to target: 92.70 US ft • Fish Height: 25.42 US ft • Heading: 6.290 Degrees • Event Number: 59 • Line Name: 008_1732 • Water Depth: 63.98 US ft	Dimensions and attributes • Target Width: 3.29 US ft • Target Height: 0.60 US ft • Target Length: 8.24 US ft • Target Shadow: 2.33 US ft • Classification1: Unknown • Classification2: • Description: Irregular contact in area of drag scars
50 100 150 US ft 200 250 300	NHH0074 • Sonar Time at Target: 5/1/2017 5:42:09 PM • Click Position 41.2471144797 -72.9158754323 (WGS84) (X) 954384.49 (Y) 650809.07 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1732.HSX • Ping Number: 107946 • Range to target: 100.07 US ft • Fish Height: 25.10 US ft • Heading: 16.910 Degrees • Event Number: 59 • Line Name: 008_1732 • Water Depth: 66.27 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Classification1: Disturbed sediment • Classification2: • Description: Irregular are of high backscatter at tow of channel slope. Likely Disturbed sediment.
50 100 150 250 300	NHH0075 • Sonar Time at Target: 5/1/2017 5:19:51 PM • Click Position 41.2472997769 -72.9163043240 (WGS84) (X) 954266.67 (Y) 650876.81 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 98409 • Range to target: 78.36 US ft • Fish Height: 21.97 US ft • Heading: 190.450 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 62.34 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 1001.91 US ft • Target Shadow: 0.00 US ft • Classification1: Drag scars • Classification2: • Description: Area with numerous drag scars. Well defined.

50 100 150 US 1 250 300	NHH0076 • Sonar Time at Target: 5/1/2017 5:42:28 PM • Click Position 41.2473402823 -72.9157734176 (WGS84) (X) 954412.70 (Y) 650891.29 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1732.HSX • Ping Number: 108079 • Range to target: 113.96 US ft • Fish Height: 24.78 US ft • Heading: 10.030 Degrees • Event Number: 59 • Line Name: 008_1732 • Water Depth: 65.29 US ft	
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 250 - 300	NHH0077 • Sonar Time at Target: 5/2/2017 1:52:36 PM • Click Position 41.2474561607 -72.9142972940 (WGS84) (X) 954818.71 (Y) 650932.74 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 82509 • Range to target: 0.00 US ft • Fish Height: 41.87 US ft • Heading: 4.620 Degrees • Event Number: 93 • Line Name: 013_1346 • Water Depth: 127.62 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Shellfish lease marker
- 50 - 50 - 100 - 150 - 200 - 250 - 300 - 300 - 300	NHH0078 • Sonar Time at Target: 5/1/2017 5:48:03 PM • Click Position 41.2476216381 -72.9159623254 (WGS84) (X) 954360.95 (Y) 650993.91 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 110471 • Range to target: 49.98 US ft • Fish Height: 23.21 US ft • Heading: 16.480 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 64.30 US ft	Dimensions and attributes • Target Width: 3.74 US ft • Target Height: 0.00 US ft • Target Length: 4.98 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: • Description: Irregular target in area of drag scars. Likely disturbed sediment or debris.

- 50 - 100 - 150 - 200 - 250 - 300	NHH0079 • Sonar Time at Target: 5/1/2017 5:48:06 PM • Click Position 41.2476869743 -72.9159913814 (WGS84) (X) 954353.00 (Y) 651017.73 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 110492 • Range to target: 38.45 US ft • Fish Height: 23.46 US ft • Heading: 16.680 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 63.98 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Disturbed sediment • Classification2: • Description: Irregular are of high backscatter at tow of channel slope. Likely Disturbed sediment.
50 100 150 200 250 300	NHH0080 Sonar Time at Target: 5/1/2017 5:48:08 PM Click Position 41.2477621004 -72.9163320406 (WGS84) (X) 954259.37 (Y) 651045.28 (Projected Coordinates) Map Projection: CT83F Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX Ping Number: 110504 Range to target: 58.31 US ft Fish Height: 23.60 US ft Heading: 18.500 Degrees Event Number: 61 Line Name: 008_1747 Water Depth: 63.98 US ft	Dimensions and attributes • Target Width: 5.28 US ft • Target Height: 0.00 US ft • Target Length: 11.42 US ft • Target Shadow: 0.00 US ft • Classification1: Disturbed sediment • Classification2: • Description: Irregular are of high backscatter at tow of channel slope. Likely Disturbed sediment.
50 100 150 250 300	NHH0081 • Sonar Time at Target: 5/2/2017 1:53:14 PM • Click Position 41.2484208309 -72.9138874042 (WGS84) (X) 954932.09 (Y) 651284.01 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 82781 • Range to target: 71.83 US ft • Fish Height: 42.19 US ft • Heading: 12.020 Degrees • Event Number: 93 • Line Name: 013_1346 • Water Depth: 125.00 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Target in vicinity of R10A. Poorly defined, possibly buried mooring. Line visible in other files.

- 50 - 100 - 150 - 200 - 250 - 300	NHH0082 • Sonar Time at Target: 5/2/2017 11:50:56 AM • Click Position 41.2484411573 -72.9148342809 (WGS84) (X) 954671.72 (Y) 651291.92 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1141.HSX • Ping Number: 30466 Range to target: 91.41 US ft • Fish Height: 37.18 US ft • Heading: 15.210 Degrees	Dimensions and attributes • Target Width: 2.84 US ft • Target Height: 0.51 US ft • Target Length: 2.75 US ft • Target Shadow: 1.38 US ft • Classification1: Rock • Classification2: • Description: Unknown square target in channel. Likely rock.
	<ul> <li>Event Number: 76</li> <li>Line Name: 012_1141</li> <li>Water Depth: 119.09 US ft</li> <li>NHH0083</li> <li>Sonar Time at Target: 5/2/2017 11:20:40 AM</li> <li>Click Position     <ul> <li>41.2485189949 -72.9156256444 (WGS84)</li> <li>(X) 954454.16 (Y) 651320.69 (Projected</li> </ul> </li> <li>Coordinates) <ul> <li>Map Projection: CT83F</li> <li>Acoustic Source File:</li> <li>D:Projects\NewHaven2017\Raw\010_1049.HSX</li> <li>Ping Number: 17521</li> <li>Range to target: 92.42 US ft</li> <li>Fish Height: 38.17 US ft</li> <li>Heading: 181.980 Degrees</li> <li>Event Number: 66</li> </ul> </li> </ul>	Dimensions and attributes • Target Width: 5.87 US ft • Target Height: 1.78 US ft • Target Length: 5.36 US ft • Target Shadow: 4.88 US ft • Classification1: Mooring • Classification2: • Description: Mooring for G9A. Scour on channel side.
US ft - 50 - 100 - 150 - 200 - 250 - 300 - 300 - 300 - 50 - 100 - 150 - 250 - 300 - 300 300 - 300 -	<ul> <li>Line Name: 010_1049</li> <li>Water Depth: 113.85 US ft</li> <li>NHH0084</li> <li>Sonar Time at Target: 5/1/2017 5:18:47 PM</li> <li>Click Position     <ul> <li>41.2487711856 -72.9160434581 (WGS84)</li> <li>(X) 954339.44 (Y) 651412.80 (Projected</li> </ul> </li> <li>Coordinates)</li> <li>Map Projection: CT83F</li> <li>Acoustic Source File:     <ul> <li>D:\Projects\NewHaven2017\Raw\007_1642.HSX</li> <li>Ping Number: 97954</li> <li>Range to target: 74.67 US ft</li> <li>Fish Height: 23.16 US ft</li> <li>Heading: 178.690 Degrees</li> <li>Event Number: 53</li> <li>Line Name: 007_1642</li> <li>Water Depth: 63.65 US ft</li> </ul></li></ul>	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 453.83 US ft • Target Shadow: 0.00 US ft • Classification1: Drag scars • Classification2: • Description: Area with drag scars. Well defined.

50 100 150 US R 200 250 300	NHH0085 • Sonar Time at Target: 5/1/2017 5:18:17 PM • Click Position 41.2494491424 -72.9158767592 (WGS84) (X) 954385.75 (Y) 651659.74 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 97735 • Range to target: 108.99 US ft • Fish Height: 23.54 US ft • Heading: 176.020 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 66.27 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 613.07 US ft • Target Shadow: 0.00 US ft • Classification1: Drag scars • Classification2: • Description: Area with drag scars. Well defined.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 250 300	NHH0086 • Sonar Time at Target: 5/1/2017 5:17:18 PM • Click Position 41.2508379447 -72.9163645401 (WGS84) (X) 954252.59 (Y) 652166.02 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 97313 • Range to target: 110.86 US ft • Fish Height: 24.37 US ft • Heading: 190.350 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 67.26 US ft	Dimensions and attributes • Target Width: 9.27 US ft • Target Height: 0.00 US ft • Target Length: 25.74 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: • Description: Large rectangular target in area of drag scars.
-50 -100 -150 -200 -250 -300 -50 100 150 250 300	NHH0087 • Sonar Time at Target: 5/2/2017 1:55:16 PM • Click Position 41.2516996115 -72.9134389756 (WGS84) (X) 955057.67 (Y) 652478.45 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 83651 • Range to target: 16.86 US ft • Fish Height: 39.49 US ft • Heading: 4.860 Degrees • Event Number: 93 • Line Name: 013_1346 • Water Depth: 119.09 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Shellfish lease marker

50 100 150 US R 200 250 300	NHH0088 • Sonar Time at Target: 5/1/2017 5:16:27 PM • Click Position 41.2518745769 -72.9156698149 (WGS84) (X) 954444.36 (Y) 652543.37 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 96956 • Range to target: 0.00 US ft • Fish Height: 25.11 US ft • Heading: 187.890 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 69.88 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 2720.10 US ft • Target Shadow: 0.00 US ft • Classification1: Drag Scars • Classification2: • Description: Area with numerous drag scars. Well defined.
- 50 - 100 - 150 - 200 - 250 - 300	NHH0089 • Sonar Time at Target: 5/1/2017 5:51:43 PM • Click Position 41.2521047393 -72.9150447774 (WGS84) (X) 954616.39 (Y) 652626.90 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 112036 • Range to target: 85.15 US ft • Fish Height: 26.14 US ft • Heading: 10.340 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 75.13 US ft	Dimensions and attributes • Target Width: 7.46 US ft • Target Height: 0.00 US ft • Target Length: 9.10 US ft • Classification1: Disturbed sediment • Classification2: • Description: Area of high backscatter along channel slope and drag marks. Likely disturbed sediment.
50 100 150 250 300	NHH0090 Sonar Time at Target: 5/1/2017 5:16:14 PM Click Position 41.2522101827 -72.9159267635 (WGS84) (X) 954373.94 (Y) 652665.78 (Projected Coordinates) Map Projection: CT83F Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX Ping Number: 96861 Range to target: 95.48 US ft Fish Height: 25.42 US ft Heading: 193.720 Degrees Event Number: 53 Line Name: 007_1642 Water Depth: 72.51 US ft	Dimensions and attributes • Target Width: 24.08 US ft • Target Height: 0.00 US ft • Target Length: 26.61 US ft • Target Shadow: 0.00 US ft • Classification1: Drag Scars • Classification2: • Description: Area of drag scars and disturbed sediment.

- 50 - 100 - 150 - 200	NHH0091 • Sonar Time at Target: 5/2/2017 1:56:16 PM • Click Position 41.2532994251 -72.9131435807 (WGS84) (X) 955140.00 (Y) 653061.21 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 84077	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Shellfish lease marker
- 250 - 300 50 100 150 US m <sup>200</sup> 250 300	<ul> <li>Range to target: 15.57 US ft</li> <li>Fish Height: 40.01 US ft</li> <li>Heading: 14.000 Degrees</li> <li>Event Number: 93</li> <li>Line Name: 013_1346</li> <li>Water Depth: 124.34 US ft</li> <li>NHH0092</li> </ul>	Dimensions and attributes
- 50 - 50	<ul> <li>Sonar Time at Target: 5/2/2017 12:49:10 PM</li> <li>Click Position <ul> <li>41.2542063428 -72.9125399424 (WGS84)</li> <li>(X) 955306.60 (Y) 653391.34 (Projected</li> </ul> </li> <li>Coordinates) <ul> <li>Map Projection: CT83F</li> <li>Acoustic Source File:</li> <li>D:\Projects\NewHaven2017\Raw\015_1236.HSX</li> <li>Ping Number: 55374</li> <li>Range to target: 41.66 US ft</li> <li>Fish Height: 16.64 US ft</li> <li>Heading: 8.310 Degrees</li> <li>Event Number: 80</li> <li>Line Name: 015_1236</li> <li>Water Depth: 41.99 US ft</li> </ul> </li> </ul>	<ul> <li>Target Width: 1.99 US ft</li> <li>Target Height: 0.24 US ft</li> <li>Target Length: 3.31 US ft</li> <li>Target Shadow: 0.66 US ft</li> <li>Classification1: Fishing gear</li> <li>Classification2:</li> <li>Description: Unknown rectangular target on edge of channel. Possible line. Likely derelict fishing gear.</li> </ul>
50 100 150 1250 300	NHH0093 Sonar Time at Target: 5/1/2017 5:53:33 PM Click Position 41.2544017958 -72.9151731728 (WGS84) (X) 954582.68 (Y) 653463.93 (Projected Coordinates) Map Projection: CT83F Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX Ping Number: 112826 Range to target: 80.92 US ft Fish Height: 26.75 US ft Heading: 7.070 Degrees Event Number: 61 Line Name: 008_1747 Water Depth: 76.77 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: Line of rectangular targets outside channel. Likely derelict fishing gear.

- 50 - 100 - 150 - 200 - 250	NHH0094 • Sonar Time at Target: 5/2/2017 12:22:07 PM • Click Position 41.2544102534 -72.9130364801 (WGS84) (X) 955170.21 (Y) 653465.90 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1209.HSX • Ping Number: 43807 • Range to target: 97.40 US ft • Fish Height: 19.64 US ft	Dimensions and attributes • Target Width: 5.96 US ft • Target Height: 0.00 US ft • Target Length: 5.35 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Mooring for R12. Line visible.
- 300 50 100 150 <sub>US 1</sub> 200 250 300	Heading: 196.240 Degrees     Event Number: 78     Line Name: 014_1209     Water Depth: 46.59 US ft      NHH0095	Dimensions and attributes
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 250 - 300	<ul> <li>Sonar Time at Target: 5/1/2017 5:53:39 PM</li> <li>Click Position 41.2545077397 -72.9151549128 (WGS84) (X) 954587.78 (Y) 653502.52 (Projected Coordinates)</li> <li>Map Projection: CT83F</li> <li>Acoustic Source File:</li> </ul>	<ul> <li>Target Width: 2.19 US ft</li> <li>Target Height: 0.67 US ft</li> <li>Target Shadow: 2.13 US ft</li> <li>Classification1: Fishing gear</li> <li>Classification2:</li> <li>Description: Line of rectangular targets outside channel. Likely derelict fishing gear.</li> </ul>
50 100 150 250 300	NHH0096 Sonar Time at Target: 5/2/2017 1:57:02 PM Click Position 41.2545666440 -72.9129651125 (WGS84) (X) 955189.94 (Y) 653522.84 (Projected Coordinates) Map Projection: CT83F Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX Ping Number: 84411 Range to target: 7.73 US ft Fish Height: 47.44 US ft Heading: 358.110 Degrees Event Number: 93 Line Name: 013_1346 Water Depth: 132.87 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Shellfish lease marker

- 50 - 50	NHH0097 • Sonar Time at Target: 5/2/2017 12:49:26 PM • Click Position 41.2546227951 -72.9124837080 (WGS84) (X) 955322.35 (Y) 653543.05 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_1236.HSX • Ping Number: 55489 • Range to target: 50.41 US ft • Fish Height: 16.95 US ft • Heading: 2.290 Degrees • Event Number: 80 • Line Name: 015_1236 • Water Depth: 41.67 US ft	
50 50 50 50 50 50 50 50 50 50	NHH0098 • Sonar Time at Target: 5/2/2017 11:15:10 AM • Click Position 41.2546841252 -72.9144314702 (WGS84) (X) 954786.82 (Y) 653566.41 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 15166 • Range to target: 87.79 US ft • Fish Height: 41.15 US ft • Heading: 188.990 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 116.80 US ft	Dimensions and attributes • Target Width: 3.18 US ft • Target Height: 0.00 US ft • Target Length: 3.00 US ft • Classification1: Mooring • Classification2: • Description: Square target adjacent to GC13. Line visible. Likely derelict mooring.
50 100 150 150 250 300	NHH0099 • Sonar Time at Target: 5/1/2017 5:53:53 PM • Click Position 41.2547963946 -72.9145255990 (WGS84) (X) 954761.02 (Y) 653607.37 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File:	Dimensions and attributes • Target Width: 5.87 US ft • Target Height: 0.00 US ft • Target Length: 5.84 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Mooring for G11. Line visible. Small targets and scour adjacent.

50 100 150 US R 250 300	NHH0100 • Sonar Time at Target: 5/2/2017 12:49:34 PM • Click Position 41.2548275864 -72.9124594760 (WGS84) (X) 955329.15 (Y) 653617.66 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_1236.HSX • Ping Number: 55546 • Range to target: 55.22 US ft • Fish Height: 16.63 US ft • Heading: 7.690 Degrees • Event Number: 80 • Line Name: 015_1236 • Water Depth: 41.67 US ft	Dimensions and attributes • Target Width: 1.98 US ft • Target Height: 0.00 US ft • Target Length: 2.08 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: Line of square targets outside channel. Likely derelict fishing gear.
	NHH0101 Sonar Time at Target: 5/2/2017 12:49:43 PM Click Position 41.2550663727 -72.9124383059 (WGS84) (X) 955335.14 (Y) 653704.65 (Projected Coordinates) Map Projection: CT83F Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_1236.HSX Ping Number: 55613 Range to target: 61.88 US ft Fish Height: 16.64 US ft Heading: 8.500 Degrees Event Number: 80 Line Name: 015_1236 Water Depth: 41.34 US ft	Dimensions and attributes • Target Width: 2.07 US ft • Target Height: 0.00 US ft • Target Length: 1.96 US ft • Target Shadow: 0.00 US ft • Classification 1: Fishing gear • Classification2: • Description: Line of square targets outside channel. Possible derelict fishing gear.
	NHH0102 • Sonar Time at Target: 5/2/2017 1:57:22 PM • Click Position 41.2550802345 -72.9129166134 (WGS84) (X) 955203.63 (Y) 653709.95 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 84551 • Range to target: 4.00 US ft • Fish Height: 37.60 US ft • Heading: 12.270 Degrees • Event Number: 93 • Line Name: 013_1346 • Water Depth: 117.13 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Shellfish lease marker

- 50 - 100 - 190 - 200 - 250 - 300 - 50 100 150 US ft 200 250 300	NHH0103 • Sonar Time at Target: 5/2/2017 12:49:52 PM • Click Position 41.2552753486 -72.9124258305 (WGS84) (X) 955338.71 (Y) 653780.79 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_1236.HSX • Ping Number: 55672 • Range to target: 68.42 US ft • Fish Height: 16.96 US ft • Heading: 10.620 Degrees • Event Number: 80 • Line Name: 015_1236 • Water Depth: 41.01 US ft	
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 250 - 300 - 300	NHH0104 • Sonar Time at Target: 5/2/2017 1:58:06 PM • Click Position 41.2560782605 -72.9124642865 (WGS84) (X) 955328.69 (Y) 654073.36 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 84862 • Range to target: 77.20 US ft • Fish Height: 36.10 US ft • Heading: 352.760 Degrees • Event Number: 93 • Line Name: 013_1346 • Water Depth: 114.17 US ft	<ul> <li>Dimensions and attributes</li> <li>Target Width: 8.61 US ft</li> <li>Target Height: 0.00 US ft</li> <li>Target Length: 15.55 US ft</li> <li>Target Shadow: 0.00 US ft</li> <li>Classification1: Rock</li> <li>Classification2:</li> <li>Description: One of three large irregular targets outside of channel. Possible boulders.</li> </ul>
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 200 - 250 - 300	NHH0105 • Sonar Time at Target: 5/2/2017 1:58:22 PM • Click Position 41.2564166744 -72.9123430524 (WGS84) (X) 955362.25 (Y) 654196.60 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 84978 • Range to target: 100.12 US ft • Fish Height: 39.57 US ft • Heading: 357.870 Degrees • Event Number: 93 • Line Name: 013_1346 • Water Depth: 118.77 US ft	Dimensions and attributes • Target Width: 8.76 US ft • Target Height: 0.00 US ft • Target Length: 14.78 US ft • Target Shadow: 0.00 US ft • Classification1: Rock • Classification2: • Description: One of three large irregular targets outside of channel. Possible boulder.

	NHH0106 • Sonar Time at Target: 5/2/2017 1:58:37 PM • Click Position 41.2567074895 -72.9122810245 (WGS84) (X) 955379.51 (Y) 654302.53 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 85082 • Range to target: 108.26 US ft • Fish Height: 37.90 US ft • Heading: 5.780 Degrees • Event Number: 93 • Line Name: 013_1346 • Water Depth: 119.75 US ft	Dimensions and attributes • Target Width: 13.19 US ft • Target Height: 0.00 US ft • Target Length: 13.00 US ft • Target Shadow: 0.00 US ft • Classification1: Rock • Classification2: • Description: One of three large irregular targets outside of channel. Possible boulders.
50 50 50 50 50 50 50 50 50 50	NHH0107 • Sonar Time at Target: 5/1/2017 5:55:53 PM • Click Position 41.2572766369 -72.9141699196 (WGS84) (X) 954860.53 (Y) 654510.89 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 113822 • Range to target: 96.90 US ft • Fish Height: 24.59 US ft • Heading: 4.900 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 70.87 US ft	Dimensions and attributes • Target Width: 5.36 US ft • Target Height: 0.00 US ft • Target Length: 5.41 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: Unknown square target on edge of channel. Possible line. Likely derelict fishing gear.
50 100 150 200 250 300	NHH0108 • Sonar Time at Target: 5/1/2017 5:56:01 PM • Click Position 41.2574484725 -72.9142210412 (WGS84) (X) 954846.60 (Y) 654573.53 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File:	Dimensions and attributes • Target Width: 4.85 US ft • Target Height: 0.00 US ft • Target Length: 4.47 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: Unknown square target on edge of channel. Possible line. Likely derelict fishing gear.

- 50 - 100 - 150 - 250 - 300 - 50 - 100 - 150 - 250 - 300	NHH0109 • Sonar Time at Target: 5/1/2017 5:56:22 PM • Click Position 41.2578533611 -72.9141429123 (WGS84) (X) 954868.36 (Y) 654721.01 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 114025 • Range to target: 92.45 US ft • Fish Height: 23.87 US ft • Heading: 7.680 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 67.26 US ft	
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 <u>us fi</u> 200 250 300	NHH0110 • Sonar Time at Target: 5/1/2017 5:10:41 PM • Click Position 41.2595526467 -72.9149241580 (WGS84) (X) 954654.74 (Y) 655340.58 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 94484 • Range to target: 87.64 US ft • Fish Height: 21.99 US ft • Heading: 174.690 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 60.04 US ft	<ul> <li>Dimensions and attributes</li> <li>Target Width: 2.93 US ft</li> <li>Target Height: 0.00 US ft</li> <li>Target Length: 2.93 US ft</li> <li>Target Shadow: 0.00 US ft</li> <li>Classification1: Fishing gear</li> <li>Classification2:</li> <li>Description: String of square targets outside channel. Line visible. Likely derelict fishing gear.</li> </ul>
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 200 - 250 - 300	NHH0111 • Sonar Time at Target: 5/1/2017 5:10:30 PM • Click Position 41.2597908999 -72.9149010209 (WGS84) (X) 954661.26 (Y) 655427.38 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 94408 • Range to target: 90.36 US ft • Fish Height: 21.67 US ft • Heading: 178.330 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 59.06 US ft	Dimensions and attributes • Target Width: 2.37 US ft • Target Height: 0.00 US ft • Target Length: 2.30 US ft • Classification1: Fishing gear • Classification2: • Description: String of square targets outside channel. Line visible. Likely derelict fishing gear.

50 100 150 US # 200 260 300	NHH0112 • Sonar Time at Target: 5/1/2017 5:10:15 PM • Click Position 41.2601122176 -72.9147854580 (WGS84) (X) 954693.26 (Y) 655544.39 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 94302 • Range to target: 69.05 US ft • Fish Height: 21.81 US ft • Heading: 182.640 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 59.38 US ft	Dimensions and attributes • Target Width: 2.29 US ft • Target Height: 0.34 US ft • Target Length: 2.36 US ft • Target Shadow: 1.15 US ft • Classification1: Fishing gear • Classification2: • Description: String of square targets outside channel. Line visible. Likely derelict fishing gear.
50 100 150 200 250 300	NHH0113 • Sonar Time at Target: 5/2/2017 12:53:21 PM • Click Position 41.2606495392 -72.9115013081 (WGS84) (X) 955596.58 (Y) 655738.47 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_1236.HSX • Ping Number: 57163 • Range to target: 1.47 US ft • Fish Height: 19.17 US ft • Heading: 356.670 Degrees • Event Number: 80 • Line Name: 015_1236 • Water Depth: 49.54 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 3414.30 US ft • Target Shadow: 0.00 US ft • Classification1: Drag scars • Classification2: • Description: Area with numerous drag scars. Fainter than those on west side of channel.
50 50 50 50 100 150 200 50 100 150 200 250 300 50 100 150 250 300	NHH0114 • Sonar Time at Target: 5/1/2017 5:08:43 PM • Click Position 41.2621507267 -72.9144064227 (WGS84) (X) 954798.89 (Y) 656286.95 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 93644 • Range to target: 19.12 US ft • Fish Height: 20.72 US ft • Heading: 179.350 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 54.46 US ft	Dimensions and attributes • Target Width: 2.33 US ft • Target Height: 0.00 US ft • Target Length: 2.26 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: Square target outside channel. Line visible. Likely derelict fishing gear.

- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 200 - 300	NHH0115 • Sonar Time at Target: 5/1/2017 5:08:35 PM • Click Position 41.2623404316 -72.9145357482 (WGS84) (X) 954763.46 (Y) 656356.14 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 93585 • Range to target: 59.32 US ft • Fish Height: 20.62 US ft • Heading: 184.320 Degrees • Event Number: 53 • Line Name: 007_1642	Dimensions and attributes • Target Width: 2.33 US ft • Target Height: 0.00 US ft • Target Length: 2.33 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: Square target outside channel. Line visible. Likely derelict fishing gear.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 250 - 300	<ul> <li>Water Depth: 53.15 US ft</li> <li>NHH0116</li> <li>Sonar Time at Target: 5/1/2017 5:08:27 PM</li> <li>Click Position <ul> <li>41.2625186427 -72.9146368826 (WGS84)</li> <li>(X) 954735.78 (Y) 656421.13 (Projected</li> </ul> </li> <li>Coordinates)</li> <li>Map Projection: CT83F</li> <li>Acoustic Source File: <ul> <li>D:\Projects\NewHaven2017\Raw\007_1642.HSX</li> <li>Ping Number: 93529</li> <li>Range to target: 91.30 US ft</li> <li>Fish Height: 20.43 US ft</li> <li>Heading: 179.570 Degrees</li> <li>Event Number: 53</li> <li>Line Name: 007_1642</li> <li>Water Depth: 52.82 US ft</li> </ul> </li> </ul>	Dimensions and attributes • Target Width: 2.39 US ft • Target Height: 0.00 US ft • Target Length: 2.39 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: Square target outside channel. Line visible. Likely derelict fishing gear.
50 50 100 50 100 150 200 250 300 50 100 150 250 300	NHH0117 • Sonar Time at Target: 5/1/2017 5:08:11 PM • Click Position 41.2628501003 -72.9145289765 (WGS84) (X) 954765.68 (Y) 656541.84 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 93420 • Range to target: 69.57 US ft • Fish Height: 20.07 US ft • Heading: 174.670 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 50.52 US ft	Dimensions and attributes • Target Width: 1.77 US ft • Target Height: 0.00 US ft • Target Length: 1.77 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: Square target outside channel. Line visible. Likely derelict fishing gear.

- 50 - 100 - 150 - 200 - 250 - 300	NHH0118 • Sonar Time at Target: 5/1/2017 5:08:05 PM • Click Position 41.2629647694 -72.9141367330 (WGS84) (X) 954873.60 (Y) 656583.42 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 93376 • Range to target: 35.11 US ft • Fish Height: 19.92 US ft • Heading: 177.930 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 51.51 US ft	
-50 -100 -150 -200 -250 -300 -50 100 150 250 300	NHH0119 • Sonar Time at Target: 5/2/2017 12:00:19 PM • Click Position 41.2630358101 -72.9124946567 (WGS84) (X) 955325.10 (Y) 656608.45 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1141.HSX • Ping Number: 34477 • Range to target: 67.74 US ft • Fish Height: 40.29 US ft • Heading: 7.230 Degrees • Event Number: 76 • Line Name: 012_1141 • Water Depth: 126.31 US ft	Dimensions and attributes • Target Width: 4.15 US ft • Target Height: 0.00 US ft • Target Length: 4.72 US ft • Target Shadow: 0.00 US ft • Classification 1: Unknown • Classification2: • Description: Irregular target on edge of channel. Possible derelict mooring.
50 100 50 100 150 200 50 100 150 200 50 100 150 200 50 100 150 200 50 100 100 100 100 100 100 10	NHH0120 • Sonar Time at Target: 5/2/2017 12:00:23 PM • Click Position 41.2630917855 -72.9120274177 (WGS84) (X) 955453.60 (Y) 656628.60 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1141.HSX • Ping Number: 34507 • Range to target: 56.39 US ft • Fish Height: 40.36 US ft • Heading: 6.190 Degrees • Event Number: 76 • Line Name: 012_1141 • Water Depth: 124.02 US ft	Dimensions and attributes • Target Width: 5.24 US ft • Target Height: 1.81 US ft • Target Length: 5.19 US ft • Target Shadow: 3.25 US ft • Classification1: Mooring • Classification2: • Description: Mooring for R14. Line visible.

	NHH0121 • Sonar Time at Target: 5/2/2017 11:08:02 AM • Click Position 41.2631065074 -72.9134046422 (WGS84) (X) 955074.97 (Y) 656634.68 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 12112 • Range to target: 99.97 US ft • Fish Height: 41.31 US ft • Heading: 177.510 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 119.42 US ft	Dimensions and attributes • Target Width: 4.82 US ft • Target Height: 0.80 US ft • Target Length: 4.78 US ft • Target Shadow: 2.13 US ft • Classification1: Mooring • Classification2: • Description: Unknown square target on edge of channel. Likely derelict mooring.
50 100 150 250 300	NHH0122 • Sonar Time at Target: 5/1/2017 6:01:06 PM • Click Position 41.2631704778 -72.9134795081 (WGS84) (X) 955054.43 (Y) 656658.03 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 116050 • Range to target: 88.07 US ft • Fish Height: 20.18 US ft • Heading: 7.770 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 54.13 US ft	Dimensions and attributes • Target Width: 6.87 US ft • Target Height: 0.00 US ft • Target Length: 5.72 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Mooring for G13
50 100 150 250 300	NHH0123 • Sonar Time at Target: 5/2/2017 2:03:43 PM • Click Position 41.2631715607 -72.9124779312 (WGS84) (X) 955329.79 (Y) 656657.90 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 87267 • Range to target: 135.18 US ft • Fish Height: 48.28 US ft • Heading: 5.960 Degrees • Event Number: 93 • Line Name: 013_1346 • Water Depth: 136.81 US ft	Dimensions and attributes • Target Width: 5.96 US ft • Target Height: 0.00 US ft • Target Length: 5.35 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: • Description: Irregular target on edge of channel. Possible derelict mooring.

- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 250 - 300	<ul> <li>Ping Number: 93312</li> <li>Range to target: 48.68 US ft</li> <li>Fish Height: 19.77 US ft</li> <li>Heading: 179.310 Degrees</li> <li>Event Number: 53</li> <li>Line Name: 007_1642</li> <li>Water Depth: 49.54 US ft</li> </ul>	Dimensions and attributes • Target Width: 2.02 US ft • Target Height: 0.61 US ft • Target Length: 2.02 US ft • Target Shadow: 1.68 US ft • Classification1: Fishing gear • Classification2: • Description: Square target outside channel. Line visible. Likely derelict fishing gear.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 250 - 300	NHH0125 • Sonar Time at Target: 5/1/2017 5:07:53 PM • Click Position 41.2632082648 -72.9137851342 (WGS84) (X) 954970.43 (Y) 656671.96 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 93289 • Range to target: 124.63 US ft • Fish Height: 20.09 US ft • Heading: 178.690 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 50.20 US ft	<ul> <li>Dimensions and attributes</li> <li>Target Width: 2.32 US ft</li> <li>Target Height: 0.00 US ft</li> <li>Target Length: 2.31 US ft</li> <li>Target Shadow: 0.00 US ft</li> <li>Classification1: Fishing gear</li> <li>Classification2:</li> <li>Description: String of square targets outside channel. Line visible. Likely derelict fishing gear.</li> </ul>
- 50 - 100 - 150 - 200 - 250 - 300	NHH0126 • Sonar Time at Target: 5/2/2017 11:07:52 AM • Click Position 41.2633009709 -72.9132790997 (WGS84) (X) 955109.62 (Y) 656705.47 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 12043 • Range to target: 71.77 US ft • Fish Height: 41.31 US ft • Heading: 183.480 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 119.09 US ft	Dimensions and attributes • Target Width: 2.21 US ft • Target Height: 0.53 US ft • Target Length: 59.61 US ft • Target Shadow: 1.07 US ft • Classification1: Unknown • Classification2: Debris • Description: Linear target in channel. Likely debris.

- 50 50 100 100 100 100 150 100 250 300 50 100 150 250 300	NHH0127 • Sonar Time at Target: 5/1/2017 5:07:46 PM • Click Position 41.2633657067 -72.9138378763 (WGS84) (X) 954956.04 (Y) 656729.35 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 93238 • Range to target: 105.05 US ft • Fish Height: 20.41 US ft • Heading: 184.160 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 50.52 US ft	Dimensions and attributes • Target Width: 2.32 US ft • Target Height: 0.00 US ft • Target Length: 2.25 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: String of square targets outside channel. Line visible. Likely derelict fishing gear.
50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 250 - 300 - 50 - 50	NHH0128 • Sonar Time at Target: 5/1/2017 5:07:36 PM • Click Position 41.2635715402 -72.9138295658 (WGS84) (X) 954958.46 (Y) 656804.34 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 93170 • Range to target: 99.56 US ft • Fish Height: 21.68 US ft • Heading: 182.250 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 49.54 US ft	Dimensions and attributes • Target Width: 2.28 US ft • Target Height: 0.70 US ft • Target Length: 2.27 US ft • Classification1: Fishing gear • Classification2: • Description: String of square targets outside channel. Line visible. Likely derelict fishing gear.
50 100 150 200 250 300	NHH0129 • Sonar Time at Target: 5/2/2017 12:00:43 PM • Click Position 41.2636366800 -72.9123742903 (WGS84) (X) 955358.61 (Y) 656827.32 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1141.HSX • Ping Number: 34650 • Range to target: 62.53 US ft • Fish Height: 37.78 US ft • Heading: 5.070 Degrees • Event Number: 76 • Line Name: 012_1141 • Water Depth: 121.39 US ft	Dimensions and attributes • Target Width: 6.24 US ft • Target Height: 0.00 US ft • Target Length: 6.20 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: Mooring • Description: Large square target on edge of channel. Possible derelict mooring.

- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0130 • Sonar Time at Target: 5/1/2017 6:01:36 PM • Click Position 41.2638592174 -72.9138461440 (WGS84) (X) 954954.11 (Y) 656909.17 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 116268 • Range to target: 23.68 US ft • Fish Height: 19.63 US ft • Heading: 2.890 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 52.82 US ft	Dimensions and attributes • Target Width: 2.14 US ft • Target Height: 0.00 US ft • Target Length: 2.20 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: String of square targets outside channel. Line visible. Likely derelict fishing gear.
- 50 - 100 - 150 - 200 - 200 - 250 - 300 - 300	NHH0131 • Sonar Time at Target: 5/1/2017 6:01:48 PM • Click Position 41.2640803968 -72.9135108466 (WGS84) (X) 955046.44 (Y) 656989.59 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 116350 • Range to target: 64.36 US ft • Fish Height: 19.63 US ft • Heading: 4.990 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 51.51 US ft	Dimensions and attributes • Target Width: 2.21 US ft • Target Height: 0.00 US ft • Target Length: 4.20 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: Unknown rectangular target adjacent to derelict fishing gear. Possible derelict fishing gear or rock.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 200 250 300	NHH0132 • Sonar Time at Target: 5/1/2017 6:01:55 PM • Click Position 41.2642236336 -72.9135334153 (WGS84) (X) 955040.33 (Y) 657041.79 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 116402 • Range to target: 53.55 US ft • Fish Height: 19.63 US ft • Heading: 10.620 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 51.51 US ft	Dimensions and attributes • Target Width: 2.13 US ft • Target Height: 0.00 US ft • Target Length: 2.06 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: String of square targets outside channel. Line visible. Likely derelict fishing gear.

- 50 - 100 - 150 - 250 - 300 - 300	<ul> <li>Ping Number: 87661</li> <li>Range to target: 133.79 US ft</li> <li>Fish Height: 42.38 US ft</li> <li>Heading: 359.960 Degrees</li> <li>Event Number: 93</li> <li>Line Name: 013_1346</li> <li>Water Depth: 123.36 US ft</li> </ul>	Dimensions and attributes • Target Width: 5.49 US ft • Target Height: 0.00 US ft • Target Length: 14.74 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: • Description: Large irregular area of high backscatter. No shaddow. Likely disturbed sediment or area of coarse material.
- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0134 • Sonar Time at Target: 5/2/2017 2:04:43 PM • Click Position 41.2643582994 -72.9120930311 (WGS84) (X) 955436.43 (Y) 657090.11 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 87694 • Range to target: 103.70 US ft • Fish Height: 42.70 US ft • Heading: 3.030 Degrees • Event Number: 93 • Line Name: 013_1346 • Water Depth: 120.08 US ft	Dimensions and attributes • Target Width: 3.87 US ft • Target Height: 0.00 US ft • Target Length: 8.75 US ft • Target Shadow: 0.00 US ft • Classification1: Disturbed sediment • Classification2: • Description: Large irregular area of high backscatter. No shaddow. Likely disturbed sediment or area of coarse material.
50 100 150 200 250 300	NHH0135 • Sonar Time at Target: 5/1/2017 6:02:05 PM • Click Position 41.2644176529 -72.9134225352 (WGS84) (X) 955070.95 (Y) 657112.42 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 116477 • Range to target: 75.01 US ft • Fish Height: 19.63 US ft • Heading: 7.820 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 49.21 US ft	Dimensions and attributes • Target Width: 2.11 US ft • Target Height: 0.00 US ft • Target Length: 2.05 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: String of square targets outside channel. Line visible. Likely derelict fishing gear.

- 50 - 100 - 190 - 190 - 190 - 200 - 250 - 300 - 300 - 300	41.2646388309 -72.9133678532 (WGS84) (X) 955086.14 (Y) 657192.98 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 116559 • Range to target: 77.66 US ft • Fish Height: 19.63 US ft • Heading: 11.000 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 51.18 US ft	Dimensions and attributes • Target Width: 2.13 US ft • Target Height: 0.00 US ft • Target Length: 2.13 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: String of square targets outside channel. Line visible. Likely derelict fishing gear.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 250 - 300 - 300 - 50 - 100 - 250 - 300 - 50 - 100 - 250 - 300 - 300 - - - - - - - - - - - - - - - - -	(X) 954833.09 (Y) 657215.38 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX	Dimensions and attributes • Target Width: 1.31 US ft • Target Height: 0.27 US ft • Target Length: 3.42 US ft • Target Shadow: 1.17 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: String of rectangular targets outside channel. Possible line. Likely derelict fishing gear.
- 50 - 100 - 150 - 200 - 250 - 300 - 300	(X) 955424.04 (Y) 657220.86 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX	Dimensions and attributes • Target Width: 9.07 US ft • Target Height: 0.00 US ft • Target Length: 14.70 US ft • Target Shadow: 0.00 US ft • Classification1: Disturbed sediment • Classification2: • Description: Large irregular area of high backscatter. No shaddow. Likely disturbed sediment or area of coarse material.

50 100 150 150 250 300	-	Dimensions and attributes • Target Width: 1.76 US ft • Target Height: 0.93 US ft • Target Length: 2.93 US ft • Target Shadow: 3.52 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: String of rectangular targets outside channel. Possible line. Likely derelict fishing gear.
50 100 150 US ft <sup>200</sup> 250 500	<ul> <li>Water Depth: 47.24 US ft</li> <li>NHH0140</li> <li>Sonar Time at Target: 5/1/2017 5:06:38 PM</li> <li>Click Position <ul> <li>41.2649281416 -72.9141195031 (WGS84)</li> <li>(X) 954879.69 (Y) 657298.79 (Projected Coordinates)</li> </ul> </li> <li>Map Projection: CT83F</li> <li>Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX </li> </ul>	Dimensions and attributes • Target Width: 1.75 US ft • Target Height: 0.74 US ft • Target Length: 2.92 US ft • Target Shadow: 1.75 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: String of rectangular targets outside channel. Possible line. Likely derelict fishing gear.
50 100 150 250 300	NHH0141 • Sonar Time at Target: 5/1/2017 5:06:36 PM • Click Position 41.2649689770 -72.9141714972 (WGS84) (X) 954865.43 (Y) 657313.70 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX	Dimensions and attributes • Target Width: 2.41 US ft • Target Height: 0.00 US ft • Target Length: 4.09 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: String of rectangular targets outside channel. Possible line. Likely derelict fishing gear.

- 50 - 50	<ul> <li>Ping Number: 116698</li> <li>Range to target: 94.10 US ft</li> <li>Fish Height: 19.63 US ft</li> <li>Heading: 8.390 Degrees</li> <li>Event Number: 61</li> <li>Line Name: 008_1747</li> <li>Water Depth: 51.84 US ft</li> </ul>	Dimensions and attributes • Target Width: 2.12 US ft • Target Height: 0.22 US ft • Target Length: 2.20 US ft • Target Shadow: 1.07 US ft • Classification1: Fishing gear • Classification2: • Description: String of square targets outside channel. Possible line. Likely derelict fishing gear.
50 100 150 250 300	NHH0143 • Sonar Time at Target: 5/2/2017 2:05:25 PM • Click Position 41.2653109269 -72.9120554479 (WGS84) (X) 955447.41 (Y) 657437.19 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 87996 • Range to target: 120.25 US ft • Fish Height: 40.48 US ft • Heading: 6.510 Degrees • Event Number: 93 • Line Name: 013_1346 • Water Depth: 121.39 US ft	Dimensions and attributes • Target Width: 9.04 US ft • Target Height: 0.00 US ft • Target Length: 7.90 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: • Description: Large irregular target in channel.
50 100 150 250 300	NHH0144 • Sonar Time at Target: 5/1/2017 6:02:57 PM • Click Position 41.2655301908 -72.9139183355 (WGS84) (X) 954935.41 (Y) 657518.05 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 116845 • Range to target: 116.87 US ft • Fish Height: 19.87 US ft • Heading: 7.110 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 51.51 US ft	Dimensions and attributes • Target Width: 1.95 US ft • Target Height: 0.00 US ft • Target Length: 3.63 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: Likely derelict fishing gear.

- 50 - 100 - 150 - 220 - 220 - 220 - 300 - 50 100 150 250 300	NHH0145 • Sonar Time at Target: 5/2/2017 12:03:13 PM • Click Position 41.2674632825 -72.9120901193 (WGS84) (X) 955439.35 (Y) 658221.45 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1141.HSX • Ping Number: 35718 • Range to target: 89.80 US ft • Fish Height: 37.72 US ft • Heading: 5.730 Degrees • Event Number: 76 • Line Name: 012_1141 • Water Depth: 119.75 US ft	Dimensions and attributes • Target Width: 2.87 US ft • Target Height: 2.55 US ft • Target Length: 6.31 US ft • Target Shadow: 7.06 US ft • Classification1: Rock • Classification2: • Description: Irregular target in channel. Likely rock.
-50 -100 -150 -200 -250 -300 -300	NHH0146 • Sonar Time at Target: 5/2/2017 2:07:53 PM • Click Position 41.2685920270 -72.9115175357 (WGS84) (X) 955597.53 (Y) 658632.43 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 89048 • Range to target: 86.63 US ft • Fish Height: 40.15 US ft • Heading: 354.210 Degrees • Event Number: 93 • Line Name: 013_1346 • Water Depth: 114.83 US ft	Dimensions and attributes • Target Width: 8.09 US ft • Target Height: 0.00 US ft • Target Length: 7.44 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: • Description: Unknown target on edge of channel. Flush with bottom. Possible disturbed sediment or area of coarse material.
- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0147 • Sonar Time at Target: 5/2/2017 2:08:04 PM • Click Position 41.2688259897 -72.9114405087 (WGS84) (X) 955618.86 (Y) 658717.64 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 89125 • Range to target: 73.19 US ft • Fish Height: 43.67 US ft • Heading: 358.820 Degrees • Event Number: 93 • Line Name: 013_1346 • Water Depth: 122.70 US ft	Dimensions and attributes • Target Width: 2.30 US ft • Target Height: 1.70 US ft • Target Length: 1.72 US ft • Target Shadow: 3.45 US ft • Classification1: Unknown • Classification2: • Description: Unknown target on edge of channel. Possible derelict fishing gear or debris.

50 100 150 250 300	NHH0148 • Sonar Time at Target: 5/2/2017 2:08:13 PM • Click Position 41.2690351087 -72.9114381093 (WGS84) (X) 955619.66 (Y) 658793.83 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\013_1346.HSX • Ping Number: 89193 • Range to target: 77.64 US ft • Fish Height: 44.95 US ft • Heading: 5.670 Degrees • Event Number: 93 • Line Name: 013_1346 • Water Depth: 123.36 US ft	Dimensions and attributes • Target Width: 2.84 US ft • Target Height: 0.00 US ft • Target Length: 2.84 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: • Description: Unknown target on edget of channel. Flush with bottom. Possible derelict fishing gear or debris.
50 100 150 US ft 20 250 300	NHH0149 • Sonar Time at Target: 5/1/2017 5:03:27 PM • Click Position 41.2692853934 -72.9135544057 (WGS84) (X) 955038.05 (Y) 658886.12 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 91395 • Range to target: 28.20 US ft • Fish Height: 24.88 US ft • Heading: 186.670 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 57.74 US ft	Dimensions and attributes • Target Width: 2.43 US ft • Target Height: 3.08 US ft • Target Length: 2.63 US ft • Target Shadow: 5.30 US ft • Classification1: Pipeline debris • Classification2: • Description: Target adjacent to nav obstruction outside channel. Likely derelict mooring or debris.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 200 250 300	NHH0150 • Sonar Time at Target: 5/1/2017 6:05:59 PM • Click Position 41.2692915052 -72.9127143725 (WGS84) (X) 955268.99 (Y) 658887.91 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 118141 • Range to target: 69.79 US ft • Fish Height: 27.41 US ft • Heading: 11.080 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 81.69 US ft	Dimensions and attributes • Target Width: 2.80 US ft • Target Height: 0.00 US ft • Target Length: 2.26 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: String of traps with line between. No surface buoy.

- 50 - 100 - 150 - 200 - 250 - 300	NHH0151 • Sonar Time at Target: 5/1/2017 6:05:59 PM • Click Position 41.2692941173 -72.9127089566 (WGS84) (X) 955270.48 (Y) 658888.86 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 118142 • Range to target: 71.13 US ft • Fish Height: 27.42 US ft • Heading: 10.740 Degrees	Dimensions and attributes • Target Width: 2.75 US ft • Target Height: 0.00 US ft • Target Length: 1.74 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: String of traps. No surface buoy.
50 100 150 200 250 300 50 100 150 250 250 300 50 100 150 150 250 300	<ul> <li>Event Number: 61</li> <li>Line Name: 008_1747</li> <li>Water Depth: 79.72 US ft</li> <li>NHH0152</li> <li>Sonar Time at Target: 5/1/2017 5:03:22 PM</li> <li>Click Position     <ul> <li>41.2694319791 -72.9138080860 (WGS84)</li> <li>(X) 954968.42 (Y) 658939.66 (Projected</li> </ul> </li> <li>Coordinates) <ul> <li>Map Projection: CT83F</li> <li>Acoustic Source File:</li> <li>D:\Projects\NewHaven2017\Raw\007_1642.HSX</li> <li>Ping Number: 91359</li> <li>Range to target: 105.09 US ft</li> <li>Fish Height: 25.52 US ft</li> <li>Heading: 187.950 Degrees</li> <li>Event Number: 53</li> <li>Line Name: 007_1642</li> </ul> </li> </ul>	Dimensions and attributes • Target Width: 1.86 US ft • Target Height: 0.00 US ft • Target Length: 30.71 US ft • Target Shadow: 0.00 US ft • Classification1: Pipeline debris • Classification2: • Description: Linear target extending west of channel. Aappears to be sections of a large pipeline. Vicinity of nav chart obstruction. Investigated with ROV.
50 100 150 250 300	<ul> <li>Water Depth: 67.59 US ft</li> <li>NHH0153</li> <li>Sonar Time at Target: 5/1/2017 5:03:19 PM</li> <li>Click Position     <ul> <li>41.2694420143 -72.9131724286 (WGS84)</li> <li>(X) 955143.17 (Y) 658942.99 (Projected</li> </ul> </li> <li>Coordinates) <ul> <li>Map Projection: CT83F</li> <li>Acoustic Source File:</li> <li>D:\Projects\NewHaven2017\Raw\007_1642.HSX</li> <li>Ping Number: 91334</li> <li>Range to target: 67.20 US ft</li> <li>Fish Height: 25.20 US ft</li> <li>Heading: 187.130 Degrees</li> <li>Event Number: 53</li> <li>Line Name: 007_1642</li> <li>Water Depth: 65.94 US ft</li> </ul> </li> </ul>	Dimensions and attributes • Target Width: 4.84 US ft • Target Height: 0.00 US ft • Target Length: 5.31 US ft • Target Shadow: 0.00 US ft • Classification1: Pipeline • Classification2: • Description: Head of exposed pipeline extending west of channel. Investigated with ROV.

- 50 - 100 - 150 - 250 - 300	NHH0154 • Sonar Time at Target: 5/1/2017 6:06:06 PM • Click Position 41.2694834296 -72.9133772792 (WGS84) (X) 955086.88 (Y) 658958.18 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 118185 • Range to target: 119.57 US ft • Fish Height: 27.73 US ft • Heading: 3.020 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 81.69 US ft	
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 250 - 300	NHH0155 • Sonar Time at Target: 5/1/2017 6:06:15 PM • Click Position 41.2696506300 -72.9127985631 (WGS84) (X) 955246.09 (Y) 659018.81 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 118253 • Range to target: 33.96 US ft • Fish Height: 28.16 US ft • Heading: 1.300 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 83.99 US ft	Dimensions and attributes • Target Width: 2.24 US ft • Target Height: 0.00 US ft • Target Length: 3.36 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: String of traps with line between. No surface buoy.
50 100 150 200 250 300	NHH0156 • Sonar Time at Target: 5/1/2017 6:06:29 PM • Click Position 41.2699707574 -72.9127505796 (WGS84) (X) 955259.50 (Y) 659135.42 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 118356 • Range to target: 41.01 US ft • Fish Height: 28.46 US ft • Heading: 2.650 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 81.69 US ft	Dimensions and attributes • Target Width: 2.27 US ft • Target Height: 0.00 US ft • Target Length: 3.59 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: String of traps with line between. No surface buoy.

50 100 150 250 300	NHH0157 • Sonar Time at Target: 5/1/2017 6:06:42 PM • Click Position 41.2702637061 -72.9126357920 (WGS84) (X) 955291.26 (Y) 659242.10 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 118452 • Range to target: 66.64 US ft • Fish Height: 27.82 US ft • Heading: 5.460 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 81.36 US ft	Dimensions and attributes • Target Width: 3.43 US ft • Target Height: 0.00 US ft • Target Length: 2.29 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: String of traps with line between. No surface buoy.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 <u>US ff</u> 200 250 300	NHH0158 • Sonar Time at Target: 5/1/2017 6:07:39 PM • Click Position 41.2715449030 -72.9125792580 (WGS84) (X) 955307.68 (Y) 659708.90 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 118858 • Range to target: 33.28 US ft • Fish Height: 31.95 US ft • Heading: 3.420 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 89.24 US ft	Dimensions and attributes • Target Width: 2.90 US ft • Target Height: 0.00 US ft • Target Length: 2.90 US ft • Classification1: Mooring • Classification2: • Description: Unknown target adjacent to channel. Possible derelict mooring.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 250 300	NHH0159 • Sonar Time at Target: 5/1/2017 6:07:50 PM • Click Position 41.2717737076 -72.9123793709 (WGS84) (X) 955362.78 (Y) 659792.16 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 118932 • Range to target: 81.92 US ft • Fish Height: 29.73 US ft • Heading: 1.280 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 85.96 US ft	Dimensions and attributes • Target Width: 4.81 US ft • Target Height: 1.86 US ft • Target Length: 5.36 US ft • Target Shadow: 5.83 US ft • Classification1: Mooring • Classification2: • Description: Mooring for G15. Line visible in other files.

- 50 - 100 - 150 - 220 - 250 - 300 - 50 - 100 - 150 - 250 - 300	NHH0160 • Sonar Time at Target: 5/1/2017 6:08:05 PM • Click Position 41.2721296362 -72.9124188792 (WGS84) (X) 955352.16 (Y) 659921.87 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 119041 • Range to target: 64.66 US ft • Fish Height: 32.59 US ft • Heading: 2.580 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 95.14 US ft	
-50 -100 -150 -200 -250 -300 -50 100 150 250 300	NHH0161 • Sonar Time at Target: 5/1/2017 6:08:18 PM • Click Position 41.2724212846 -72.9124728509 (WGS84) (X) 955337.53 (Y) 660028.16 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 119131 • Range to target: 47.59 US ft • Fish Height: 32.58 US ft • Heading: 2.580 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 97.44 US ft	<ul> <li>Dimensions and attributes</li> <li>Target Width: 2.39 US ft</li> <li>Target Height: 0.00 US ft</li> <li>Target Length: 2.32 US ft</li> <li>Target Shadow: 0.00 US ft</li> <li>Classification1: Fishing gear</li> <li>Classification2:</li> <li>Description: String of square targets adjacent to channel. Line visible. Likely fishing gear.</li> </ul>
- 50 - 100 - 150 - 200 - 250 - 300 - 250 - 300	NHH0162 • Sonar Time at Target: 5/1/2017 6:08:29 PM • Click Position 41.2726787697 -72.9124829742 (WGS84) (X) 955334.92 (Y) 660121.99 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 119211 • Range to target: 45.32 US ft • Fish Height: 34.63 US ft • Heading: 358.110 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 104.33 US ft	Dimensions and attributes • Target Width: 2.32 US ft • Target Height: 1.03 US ft • Target Length: 2.32 US ft • Target Shadow: 1.74 US ft • Classification1: Fishing gear • Classification2: • Description: String of square targets adjacent to channel. Line visible. Likely fishing gear.

- 50 - 100 - 150 - 220 - 250 - 300 - 50 100 150 250 300	NHH0163 • Sonar Time at Target: 5/2/2017 3:01:12 PM • Click Position 41.2727712689 -72.9106755616 (WGS84) (X) 955831.82 (Y) 660154.76 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1440.HSX • Ping Number: 111855 • Range to target: 59.17 US ft • Fish Height: 27.77 US ft • Heading: 179.840 Degrees • Event Number: 97 • Line Name: 014_1440 • Water Depth: 80.38 US ft	Dimensions and attributes • Target Width: 9.30 US ft • Target Height: 0.00 US ft • Target Length: 10.52 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Mooring for R16. Line visible.
50 100 150 200 250 300	NHH0164 • Sonar Time at Target: 5/1/2017 6:08:43 PM • Click Position 41.2729945526 -72.9124840305 (WGS84) (X) 955334.85 (Y) 660237.05 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 119309 • Range to target: 49.16 US ft • Fish Height: 34.81 US ft • Heading: 355.560 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 102.36 US ft	Dimensions and attributes • Target Width: 2.46 US ft • Target Height: 0.00 US ft • Target Length: 2.46 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: String of square targets adjacent to channel. Line visible. Likely fishing gear.
50 100 150 200 250 300	NHH0165 • Sonar Time at Target: 5/1/2017 6:08:43 PM • Click Position 41.2730012592 -72.9124780333 (WGS84) (X) 955336.50 (Y) 660239.49 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 119311 • Range to target: 50.94 US ft • Fish Height: 34.49 US ft • Heading: 355.660 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 103.35 US ft	Dimensions and attributes • Target Width: 1.83 US ft • Target Height: 0.64 US ft • Target Length: 1.83 US ft • Target Shadow: 1.16 US ft • Classification1: Fishing gear • Classification2: • Description: String of square targets adjacent to channel. Line visible. Likely fishing gear.

50 100 150 US h <sup>2</sup> 00 260 300	NHH0166 • Sonar Time at Target: 5/1/2017 6:08:44 PM • Click Position 41.2730086391 -72.9129026642 (WGS84) (X) 955219.78 (Y) 660242.40 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 119319 • Range to target: 65.46 US ft • Fish Height: 33.86 US ft • Heading: 355.980 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 103.02 US ft	Dimensions and attributes • Target Width: 2.32 US ft • Target Height: 0.00 US ft • Target Length: 2.32 US ft • Target Shadow: 0.00 US ft • Classification 1: Fishing gear • Classification2: • Description: String of square targets adjacent to channel. Line visible. Likely fishing gear.
50 100 150 US ft 200 250 300	NHH0167 • Sonar Time at Target: 5/1/2017 6:09:02 PM • Click Position 41.2734014992 -72.9130609345 (WGS84) (X) 955176.54 (Y) 660385.62 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 119448 • Range to target: 97.35 US ft • Fish Height: 34.18 US ft • Heading: 350.090 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 103.67 US ft	Dimensions and attributes • Target Width: 2.32 US ft • Target Height: 0.00 US ft • Target Length: 2.32 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: String of square targets adjacent to channel. Line visible. Likely fishing gear.
50 100 150 200 250 300	NHH0168 • Sonar Time at Target: 5/1/2017 6:09:11 PM • Click Position 41.2736083166 -72.9130200752 (WGS84) (X) 955187.92 (Y) 660460.96 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 119512 • Range to target: 78.49 US ft • Fish Height: 33.22 US ft • Heading: 352.220 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 99.74 US ft	Dimensions and attributes • Target Width: 2.40 US ft • Target Height: 0.67 US ft • Target Length: 2.33 US ft • Target Shadow: 1.75 US ft • Classification1: Fishing gear • Classification2: • Description: String of square targets adjacent to channel. Line visible. Likely fishing gear.

- 50 - 100 - 150 - 220 - 250 - 300 - 50 100 150 US II 200 250 300	<ul> <li>(X) 955813.45 (Y) 660494.84 (Projected Coordinates)</li> <li>Map Projection: CT83F</li> <li>Acoustic Source File:</li> <li>D:\Projects\NewHaven2017\Raw\014_1440.HSX</li> <li>Ping Number: 111454</li> <li>Range to target: 52.36 US ft</li> <li>Fish Height: 32.30 US ft</li> <li>Heading: 177.270 Degrees</li> <li>Event Number: 97</li> <li>Line Name: 014_1440</li> <li>Water Depth: 95.80 US ft</li> </ul>	Likely debris or rock.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 250 - 300	NHH0170 • Sonar Time at Target: 5/1/2017 6:09:19 PM • Click Position 41.2737875006 -72.9129970421 (WGS84) (X) 955194.37 (Y) 660526.23 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 119567 • Range to target: 65.42 US ft • Fish Height: 32.50 US ft • Heading: 355.840 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 97.11 US ft	<ul> <li>Dimensions and attributes</li> <li>Target Width: 1.76 US ft</li> <li>Target Height: 0.51 US ft</li> <li>Target Length: 2.34 US ft</li> <li>Target Shadow: 1.17 US ft</li> <li>Classification1: Fishing gear</li> <li>Classification2:</li> <li>Description: String of square targets adjacent to channel. Line visible. Likely fishing gear.</li> </ul>
- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0171 • Sonar Time at Target: 5/2/2017 10:58:13 AM • Click Position 41.2759144986 -72.9118780819 (WGS84) (X) 955503.41 (Y) 661300.66 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 7914 • Range to target: 99.33 US ft • Fish Height: 39.40 US ft • Heading: 179.280 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 119.09 US ft	Dimensions and attributes • Target Width: 3.17 US ft • Target Height: 1.11 US ft • Target Length: 3.10 US ft • Target Shadow: 3.11 US ft • Classification1: Debris • Classification2: • Description: Unknown square target in channel with two smaller targets to the south. Likely debris or derelict fishing gear.

- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0172 • Sonar Time at Target: 5/1/2017 6:11:47 PM • Click Position 41.2771864676 -72.9132956619 (WGS84) (X) 955114.63 (Y) 661764.85 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 120621 • Range to target: 47.95 US ft • Fish Height: 28.44 US ft • Heading: 0.780 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 83.33 US ft	Dimensions and attributes • Target Width: 2.35 US ft • Target Height: 0.00 US ft • Target Length: 3.52 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: String of rectangular targets adjacent to channel. Line visible. Likely fishing gear.
50 100 150 250 300	NHH0173 • Sonar Time at Target: 5/1/2017 4:57:21 PM • Click Position 41.2773719917 -72.9137365347 (WGS84) (X) 954993.57 (Y) 661832.68 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 88782 • Range to target: 56.39 US ft • Fish Height: 25.53 US ft • Heading: 172.520 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 68.24 US ft	Dimensions and attributes • Target Width: 10.03 US ft • Target Height: 0.00 US ft • Target Length: 47.50 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: Wreckage • Description: Large irregular target adjacent to channel. Partially buried. Likely wreckage or debris. Visible on other survey lines
50 100 150 200 250 300	NHH0174 • Sonar Time at Target: 5/1/2017 6:11:57 PM • Click Position 41.2774043440 -72.9137428303 (WGS84) (X) 954991.86 (Y) 661844.47 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File:	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: String of unknown square targets adjacent to both fishing gear and debris. Possibly fishing gear.

- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0175 • Sonar Time at Target: 5/1/2017 6:11:57 PM • Click Position 41.2774072022 -72.9136432140 (WGS84) (X) 955019.25 (Y) 661845.46 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 120693 • Range to target: 140.50 US ft • Fish Height: 29.37 US ft • Heading: 356.050 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 86.94 US ft	Dimensions and attributes • Target Width: 1.85 US ft • Target Height: 0.00 US ft • Target Length: 2.34 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: String of unknown square targets adjacent to both fishing gear and debris. Possibly fishing gear.
50 100 150 250 300	NHH0176 • Sonar Time at Target: 5/1/2017 6:11:57 PM • Click Position 41.2774119468 -72.9138070721 (WGS84) (X) 954974.21 (Y) 661847.27 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 120696 • Range to target: 185.45 US ft • Fish Height: 29.37 US ft • Heading: 356.400 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 87.27 US ft	Dimensions and attributes • Target Width: 19.86 US ft • Target Height: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: Possible Wreckage • Description: Large irregular target adjacent to channel. Partially buried. Likely wreckage or debris. Visible on other survey lines.
-50 -100 -150 -200 -250 -300 -300	NHH0177 • Sonar Time at Target: 5/1/2017 6:11:57 PM • Click Position 41.2774136666 -72.9135284456 (WGS84) (X) 955050.80 (Y) 661847.75 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 120694 • Range to target: 108.89 US ft • Fish Height: 29.37 US ft • Heading: 356.400 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 84.65 US ft	Dimensions and attributes • Target Width: 1.75 US ft • Target Height: 0.00 US ft • Target Length: 2.34 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: String of unknown square targets adjacent to both fishing gear and debris. Possibly fishing gear.

50 100 150 250 300	NHH0178 • Sonar Time at Target: 5/1/2017 6:12:00 PM • Click Position 41.2774857221 -72.9133457683 (WGS84) (X) 955101.06 (Y) 661873.91 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 120715 • Range to target: 57.69 US ft • Fish Height: 29.35 US ft • Heading: 355.950 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 86.29 US ft	Dimensions and attributes • Target Width: 2.92 US ft • Target Height: 0.00 US ft • Target Length: 3.55 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: String of rectangular targets adjacent to channel. Line visible. Likely fishing gear.
50 100 150 200 200 250 300	NHH0179 • Sonar Time at Target: 5/1/2017 4:57:13 PM • Click Position 41.2775215373 -72.9138916417 (WGS84) (X) 954951.04 (Y) 661887.25 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_1642.HSX • Ping Number: 88728 • Range to target: 90.68 US ft • Fish Height: 25.52 US ft • Heading: 174.350 Degrees • Event Number: 53 • Line Name: 007_1642 • Water Depth: 68.57 US ft	Dimensions and attributes • Target Width: 1.12 US ft • Target Height: 0.45 US ft • Target Length: 9.77 US ft • Target Shadow: 1.68 US ft • Classification1: Unknown • Classification2: Debris • Description: Linear target adjacent to several large targets. Likely debris.
50 100 150 250 300	NHH0180 • Sonar Time at Target: 5/1/2017 6:12:13 PM • Click Position 41.2777817332 -72.9133090022 (WGS84) (X) 955111.37 (Y) 661981.75 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File:	Dimensions and attributes • Target Width: 2.41 US ft • Target Height: 0.00 US ft • Target Length: 3.55 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: String of rectangular targets adjacent to channel. Line visible. Likely fishing gear.

- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 <u>us t</u> 200 250 300	NHH0181 • Sonar Time at Target: 5/2/2017 10:56:47 AM • Click Position 41.2779254425 -72.9121267350 (WGS84) (X) 955436.44 (Y) 662033.50 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 7303 • Range to target: 111.35 US ft • Fish Height: 40.69 US ft • Heading: 189.610 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 114.50 US ft	Dimensions and attributes • Target Width: 1.80 US ft • Target Height: 1.01 US ft • Target Length: 1.90 US ft • Target Shadow: 3.01 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: Unknown string of square targets in channel. Proud of bottom. Likely derelict fishing gear or debris.
- 50 - 100 - 150 - 200 - 250 - 300 - 300	NHH0182 • Sonar Time at Target: 5/2/2017 10:56:47 AM • Click Position 41.2779346689 -72.9121118816 (WGS84) (X) 955440.52 (Y) 662036.85 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 7300 • Range to target: 115.43 US ft • Fish Height: 40.69 US ft • Heading: 188.930 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 114.83 US ft	Dimensions and attributes • Target Width: 1.90 US ft • Target Height: 0.00 US ft • Target Length: 1.80 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: Unknown string of square targets in channel. Proud of bottom. Likely derelict fishing gear or debris.
50 100 - 150 - 200 - 250 - 300 - 300 - 300	NHH0183 • Sonar Time at Target: 5/2/2017 10:56:18 AM • Click Position 41.2786076026 -72.9121072926 (WGS84) (X) 955442.25 (Y) 662282.04 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 7097 • Range to target: 111.35 US ft • Fish Height: 38.78 US ft • Heading: 173.600 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 116.47 US ft	Dimensions and attributes • Target Width: 2.40 US ft • Target Height: 0.77 US ft • Target Length: 2.39 US ft • Target Shadow: 2.40 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: Unknown string of square targets in channel. Proud of bottom. Likely derelict fishing gear or debris.

- 50 - 100 - 150 - 200 - 250 - 300	NHH0184 • Sonar Time at Target: 5/2/2017 10:56:13 AM • Click Position 41.2787465594 -72.9119925944 (WGS84) (X) 955473.87 (Y) 662332.62 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 7059 • Range to target: 144.13 US ft • Fish Height: 38.98 US ft • Heading: 178.210 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 116.14 US ft	Dimensions and attributes • Target Width: 1.80 US ft • Target Height: 1.21 US ft • Target Length: 1.79 US ft • Target Shadow: 4.79 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: Unknown string of square targets in channel. Proud of bottom. Likely derelict fishing gear or debris.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 250 300	NHH0185 • Sonar Time at Target: 5/2/2017 10:56:09 AM • Click Position 41.2788446163 -72.9119728955 (WGS84) (X) 955479.35 (Y) 662368.33 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 7032 • Range to target: 151.47 US ft • Fish Height: 38.80 US ft • Heading: 177.000 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 116.14 US ft	Dimensions and attributes • Target Width: 1.79 US ft • Target Height: 0.58 US ft • Target Length: 1.88 US ft • Target Shadow: 2.39 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: Unknown string of square targets in channel. Proud of bottom. Likely derelict fishing gear or debris.
50 100 150 250 300	NHH0186 • Sonar Time at Target: 5/1/2017 6:13:13 PM • Click Position 41.2791701454 -72.9131350107 (WGS84) (X) 955160.15 (Y) 662487.55 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 121236 • Range to target: 55.75 US ft • Fish Height: 26.75 US ft • Heading: 358.510 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 79.72 US ft	Dimensions and attributes • Target Width: 10.36 US ft • Target Height: 0.00 US ft • Target Length: 10.47 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Mooring for G17. Line visible.

- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 <u>US R</u> 200 250 300	NHH0187 • Sonar Time at Target: 5/1/2017 6:13:20 PM • Click Position 41.2793252498 -72.9131861864 (WGS84) (X) 955146.19 (Y) 662544.09 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHave2017\Raw\008_1747.HSX • Ping Number: 121286 • Range to target: 43.99 US ft • Fish Height: 26.33 US ft • Heading: 358.180 Degrees • Event Number: 61 Line Name: 008_1747 • Water Depth: 75.13 US ft	Dimensions and attributes • Target Width: 9.43 US ft • Target Height: 0.00 US ft • Target Length: 9.43 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Rectangular target in the vicinity of G17. Possible derelict mooring.
- 50 - 100 - 150 - 220 - 250 - 300 - 300 - 50 - 100 - 150 - 250 - 300	NHH0188 • Sonar Time at Target: 5/2/2017 2:54:35 PM • Click Position 41.2795287035 -72.9113491532 (WGS84) (X) 955651.26 (Y) 662617.27 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\014_1440.HSX • Ping Number: 109028 • Range to target: 60.59 US ft • Fish Height: 30.71 US ft • Heading: 178.630 Degrees • Event Number: 97 • Line Name: 014_1440 • Water Depth: 95.14 US ft	Dimensions and attributes • Target Width: 5.30 US ft • Target Height: 0.00 US ft • Target Length: 5.24 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Mooring for R18. Line visible.
50 100 150 200 250 300	NHH0189 • Sonar Time at Target: 5/2/2017 10:55:31 AM • Click Position 41.2796972154 -72.9119449504 (WGS84) (X) 955487.61 (Y) 662678.98 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 6760 • Range to target: 182.40 US ft • Fish Height: 38.78 US ft • Heading: 181.880 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 117.13 US ft	Dimensions and attributes • Target Width: 1.78 US ft • Target Height: 0.85 US ft • Target Length: 2.45 US ft • Target Shadow: 4.16 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: Unknown string of rectangular targets in channel. Proud of bottom. Likely derelict fishing gear or debris.

- 50 - 100 - 150 - 200 - 250 - 300 - 250 - 300	<ul> <li>Ping Number: 6760</li> <li>Range to target: 178.38 US ft</li> <li>Fish Height: 38.78 US ft</li> <li>Heading: 181.880 Degrees</li> <li>Event Number: 66</li> <li>Line Name: 010_1049</li> <li>Water Depth: 117.13 US ft</li> </ul>	Dimensions and attributes • Target Width: 2.45 US ft • Target Height: 0.98 US ft • Target Length: 2.45 US ft • Target Shadow: 4.75 US ft • Classification1: Fishing gear • Classification2: • Description: Unknown string of rectangular targets in channel. Proud of bottom. Likely derelict fishing gear or debris.
50 100 150 250 50 100 150 0 150 0 150 0 150 0 100 250 300	NHH0191 • Sonar Time at Target: 5/2/2017 10:55:13 AM • Click Position 41.2800718732 -72.9118500316 (WGS84) (X) 955513.96 (Y) 662815.44 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 6627 • Range to target: 199.40 US ft • Fish Height: 38.76 US ft • Heading: 185.190 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 116.80 US ft	Dimensions and attributes • Target Width: 2.93 US ft • Target Height: 1.30 US ft • Target Length: 3.56 US ft • Target Shadow: 7.03 US ft • Classification1: Unknown • Classification2: Fishing gear • Description: Unknown string of rectangular targets in channel. Proud of bottom. Likely derelict fishing gear or debris.
50 100 150 200 250 300 50 100 150 US ft <sup>20</sup> 250 300	NHH0192 • Sonar Time at Target: 5/2/2017 10:55:12 AM • Click Position 41.2800752170 -72.9118543127 (WGS84) (X) 955512.78 (Y) 662816.66 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 6626 • Range to target: 198.10 US ft • Fish Height: 38.76 US ft • Heading: 185.190 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 116.80 US ft	Dimensions and attributes • Target Width: 2.93 US ft • Target Height: 1.30 US ft • Target Length: 4.14 US ft • Target Shadow: 7.03 US ft • Classification1: Fishing gear • Classification2: • Description: Unknown string of rectangular targets in channel. Proud of bottom. Likely derelict fishing gear or debris.

- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 250 300	41.2801182090 -72.9122129906 (WGS84) (X) 955414.23 (Y) 662832.51 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File:	Dimensions and attributes • Target Width: 2.93 US ft • Target Height: 0.00 US ft • Target Length: 5.76 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: Unknown string of rectangular targets in channel. Proud of bottom. Likely derelict fishing gear or debris.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 200 250 300	<ul> <li>Water Depth: 116.14 US ft</li> <li>NHH0194</li> <li>Sonar Time at Target: 5/2/2017 10:55:01 AM</li> <li>Click Position <ul> <li>41.2803748345 -72.9124102011 (WGS84)</li> <li>(X) 955360.20 (Y) 662926.12 (Projected</li> </ul> </li> <li>Coordinates) <ul> <li>Map Projection: CT83F</li> <li>Acoustic Source File:</li> <li>D:Projects\NewHaven2017\Raw\010_1049.HSX</li> <li>Ping Number: 6547</li> <li>Range to target: 32.56 US ft</li> <li>Fish Height: 38.76 US ft</li> <li>Heading: 191.490 Degrees</li> <li>Event Number: 66</li> <li>Line Name: 010_1049</li> <li>Water Depth: 116.14 US ft</li> </ul> </li> </ul>	Dimensions and attributes • Target Width: 5.69 US ft • Target Height: 0.00 US ft • Target Length: 2.90 US ft • Classification1: Fishing gear • Classification2: • Description: Unknown string of rectangular targets in channel. Proud of bottom. Likely derelict fishing gear or debris.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 200 250 300	NHH0195 • Sonar Time at Target: 5/2/2017 10:54:57 AM • Click Position 41.2803950179 -72.9117859472 (WGS84) (X) 955531.79 (Y) 662933.15 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX	Dimensions and attributes • Target Width: 2.82 US ft • Target Height: 1.04 US ft • Target Length: 2.25 US ft • Target Shadow: 5.63 US ft • Classification1: Fishing gear • Classification2: • Description: Unknown string of rectangular targets in channel. Proud of bottom. Likely derelict fishing gear or debris.

- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 US fr <sup>2</sup> 00 250 300	<ul> <li>Ping Number: 6500</li> <li>Range to target: 38.26 US ft</li> <li>Fish Height: 38.76 US ft</li> <li>Heading: 189.350 Degrees</li> <li>Event Number: 66</li> <li>Line Name: 010_1049</li> <li>Water Depth: 117.13 US ft</li> </ul>	Dimensions and attributes • Target Width: 3.39 US ft • Target Height: 1.15 US ft • Target Length: 6.15 US ft • Target Shadow: 1.67 US ft • Classification1: Fishing gear • Classification2: • Description: Unknown string of rectangular targets in channel. Proud of bottom. Likely derelict fishing gear or debris.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 <u>us it</u> 200 <u>250</u> <u>300</u>	NHH0197 • Sonar Time at Target: 5/2/2017 10:54:48 AM • Click Position 41.2805425210 -72.9117374718 (WGS84) (X) 955545.22 (Y) 662986.87 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 6470 • Range to target: 206.83 US ft • Fish Height: 39.08 US ft • Heading: 190.610 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 118.44 US ft	<ul> <li>Dimensions and attributes</li> <li>Target Width: 2.72 US ft</li> <li>Target Height: 0.20 US ft</li> <li>Target Length: 2.72 US ft</li> <li>Target Shadow: 1.09 US ft</li> <li>Classification1: Fishing gear</li> <li>Classification2:</li> <li>Description: Unknown string of rectangular targets in channel. Proud of bottom. Likely derelict fishing gear or debris.</li> </ul>
- 50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 150 - 200 - 300	· -	Dimensions and attributes • Target Width: 3.20 US ft • Target Height: 0.00 US ft • Target Length: 3.16 US ft • Target Shadow: 0.00 US ft • Classification1: Fishing gear • Classification2: • Description: Unknown string of rectangular targets in channel. Proud of bottom. Likely derelict fishing gear or debris.

- 50 - 100 - 150 - 250 - 300 - 50 100 150 US M <sup>2</sup> 250 250 300	NHH0199 • Sonar Time at Target: 5/2/2017 10:54:37 AM • Click Position 41.2808315716 -72.9116903141 (WGS84) (X) 955558.37 (Y) 663092.16 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 6372 • Range to target: 205.22 US ft • Fish Height: 39.04 US ft • Heading: 188.980 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 117.78 US ft	Dimensions and attributes • Target Width: 2.16 US ft • Target Height: 0.86 US ft • Target Length: 2.82 US ft • Target Shadow: 4.72 US ft • Classification1: Fishing gear • Classification2: • Description: Unknown string of rectangular targets in channel. Proud of bottom. Likely derelict fishing gear or debris.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 200 250 300	NHH0200 • Sonar Time at Target: 5/2/2017 10:54:11 AM • Click Position 41.2813368231 -72.9117241852 (WGS84) (X) 955549.41 (Y) 663276.28 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File:	Dimensions and attributes • Target Width: 3.03 US ft • Target Height: 0.88 US ft • Target Length: 2.02 US ft • Target Shadow: 4.04 US ft • Classification1: Fishing gear • Classification2: • Description: Unknown rectangular target in channel. Line visible. Likely derelict fishing gear.
50 100 150 250 300	NHH0201 • Sonar Time at Target: 5/2/2017 3:09:47 PM • Click Position 41.2813544982 -72.9102193871 (WGS84) (X) 955963.02 (Y) 663281.95 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_1503.HSX • Ping Number: 115525 • Range to target: 68.58 US ft • Fish Height: 18.86 US ft • Heading: 6.410 Degrees • Event Number: 99 • Line Name: 015_1503 • Water Depth: 44.29 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 737.56 US ft • Target Shadow: 0.00 US ft • Classification1: Sewer Outfall • Classification2: • Description: Sewer outfall

- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 250 300	NHH0202 • Sonar Time at Target: 5/2/2017 10:54:07 AM • Click Position 41.2814176325 -72.9117489051 (WGS84) (X) 955542.67 (Y) 663305.73 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 6161 • Range to target: 159.40 US ft • Fish Height: 38.75 US ft • Heading: 189.940 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 116.47 US ft	Dimensions and attributes • Target Width: 2.02 US ft • Target Height: 0.82 US ft • Target Length: 4.07 US ft • Target Shadow: 3.54 US ft • Classification1: Fishing gear • Classification2: • Description: Unknown rectangular target in channel. Line visible. Likely derelict fishing gear.
- 50 - 100 - 150 - 200 - 250 - 300	NHH0203 • Sonar Time at Target: 5/2/2017 3:10:12 PM • Click Position 41.2819709821 -72.9105504236 (WGS84) (X) 955872.45 (Y) 663506.74 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_1503.HSX • Ping Number: 115706 • Range to target: 51.56 US ft • Fish Height: 13.06 US ft • Heading: 7.100 Degrees • Event Number: 99 • Line Name: 015_1503 • Water Depth: 22.31 US ft	Dimensions and attributes • Target Width: 15.32 US ft • Target Height: 4.66 US ft • Target Length: 53.18 US ft • Target Shadow: 29.48 US ft • Classification1: Area of coarse sediment • Classification2: • Description: Large gravel/shell reef adjacent to edge of channel.
50 100 150 200 250 300	NHH0204 • Sonar Time at Target: 5/2/2017 2:29:05 PM • Click Position 41.2821656227 -72.9108852415 (WGS84) (X) 955780.56 (Y) 663577.83 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1422.HSX • Ping Number: 98118 • Range to target: 140.12 US ft • Fish Height: 43.59 US ft • Heading: 7.580 Degrees • Event Number: 95 • Line Name: 012_1422 • Water Depth: 131.56 US ft	Dimensions and attributes • Target Width: 4.71 US ft • Target Height: 1.12 US ft • Target Length: 5.62 US ft • Target Shadow: 3.86 US ft • Classification1: Mooring • Classification2: • Description: Mooring for R20. No line visible.

50 100 150 250 300	<ul> <li>Ping Number: 116002</li> <li>Range to target: 51.14 US ft</li> <li>Fish Height: 45.67 US ft</li> <li>Heading: 3.520 Degrees</li> <li>Event Number: 99</li> <li>Line Name: 015_1503</li> <li>Water Depth: 132.22 US ft</li> </ul>	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Disturbed sediment • Classification2: • Description: Disturbed sediment at base of channel slope. Partially buried macroalgae at depth suggesting slumped material. Investigated with ROV.
50 100 150 250 300	NHH0206 • Sonar Time at Target: 5/2/2017 3:11:20 PM • Click Position 41.2833946789 -72.9091282858 (WGS84) (X) 956264.28 (Y) 664024.76 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_1503.HSX • Ping Number: 116191 • Range to target: 257.30 US ft • Fish Height: 46.39 US ft • Heading: 10.390 Degrees • Event Number: 99 • Line Name: 015_1503 • Water Depth: 134.84 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Dolphin foundation • Classification2: • Description: Dolphins adjacent to terminal facility.
50 100 50 100 150 200 - 250 - 300 -	NHH0207 • Sonar Time at Target: 5/2/2017 10:52:01 AM • Click Position 41.2840249576 -72.9123458129 (WGS84) (X) 955380.39 (Y) 664256.06 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\010_1049.HSX • Ping Number: 5261 • Range to target: 140.04 US ft • Fish Height: 39.36 US ft • Heading: 196.750 Degrees • Event Number: 66 • Line Name: 010_1049 • Water Depth: 115.16 US ft	Dimensions and attributes • Target Width: 4.24 US ft • Target Height: 0.88 US ft • Target Length: 12.18 US ft • Target Shadow: 3.32 US ft • Classification1: Rock • Classification2: • Description: Irregular target in channel. Likely rock.

50 100 150 200 250 300	NHH0208 • Sonar Time at Target: 5/2/2017 3:14:58 PM • Click Position 41.2854408465 -72.9092460673 (WGS84) (X) 956233.29 (Y) 664770.37 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\016_1514.HSX • Ping Number: 117749 • Range to target: 24.12 US ft • Fish Height: 40.83 US ft • Heading: 2.750 Degrees • Event Number: 101 • Line Name: 016_1514 • Water Depth: 122.70 US ft	Dimensions and attributes • Target Width: 5.15 US ft • Target Height: 0.00 US ft • Target Length: 5.24 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: • Description: Unknown square target on edge of channel. Possible derelict mooring.
50 50 50 50 50 50 50 50 50 50	NHH0209 Sonar Time at Target: 5/2/2017 3:15:03 PM Click Position 41.2855449941 -72.9092165920 (WGS84) (X) 956241.46 (Y) 664808.30 (Projected Coordinates) Map Projection: CT83F Acoustic Source File: D:\Projects\NewHaven2017\Raw\016_1514.HSX Ping Number: 117783 Range to target: 29.30 US ft Fish Height: 41.28 US ft Heading: 4.860 Degrees Event Number: 101 Line Name: 016_1514 Water Depth: 123.69 US ft	Dimensions and attributes • Target Width: 3.06 US ft • Target Height: 0.00 US ft • Target Length: 2.54 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: • Description: Unknown square target adjacent to channel. Possible derelict mooring. Two similar but larger targets to the south.
50 100 150 250 300	NHH0210 • Sonar Time at Target: 5/2/2017 2:31:43 PM • Click Position 41.2856540864 -72.9102938902 (WGS84) (X) 955945.45 (Y) 664848.60 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1422.HSX • Ping Number: 99241 • Range to target: 118.01 US ft • Fish Height: 42.99 US ft • Heading: 5.320 Degrees • Event Number: 95 • Line Name: 012_1422 • Water Depth: 129.59 US ft	Dimensions and attributes • Target Width: 5.01 US ft • Target Height: 0.00 US ft • Target Length: 4.47 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: • Description: Likely debris or derelict fishing gear. Similar targerts to the north and south.

50 100 150 250 300	NHH0211 • Sonar Time at Target: 5/2/2017 3:15:16 PM • Click Position 41.2858186221 -72.9092019447 (WGS84) (X) 956245.67 (Y) 664908.00 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\016_1514.HSX • Ping Number: 117871 • Range to target: 25.02 US ft • Fish Height: 41.78 US ft • Heading: 8.050 Degrees • Event Number: 101 • Line Name: 016_1514 • Water Depth: 124.34 US ft	Dimensions and attributes • Target Width: 3.33 US ft • Target Height: 0.00 US ft • Target Length: 3.23 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: • Description: Likely boulder or derelict mooring. Area of coarser sediment.
50 100 150 250 300	NHH0212 • Sonar Time at Target: 5/2/2017 3:15:19 PM • Click Position 41.2858825603 -72.9090881082 (WGS84) (X) 956277.00 (Y) 664931.23 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\016_1514.HSX • Ping Number: 117894 • Range to target: 54.04 US ft • Fish Height: 41.15 US ft • Heading: 5.160 Degrees • Event Number: 101 • Line Name: 016_1514 • Water Depth: 125.00 US ft	Dimensions and attributes • Target Width: 4.61 US ft • Target Height: 0.00 US ft • Target Length: 4.46 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: • Description: Likely boulder or derelict mooring. Area of coarser sediment.
50 100 150 250 300	NHH0213 • Sonar Time at Target: 5/2/2017 2:31:58 PM • Click Position 41.2859923286 -72.9099913083 (WGS84) (X) 956028.84 (Y) 664971.69 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1422.HSX • Ping Number: 99351 • Range to target: 184.77 US ft • Fish Height: 42.89 US ft • Heading: 4.500 Degrees • Event Number: 95 • Line Name: 012_1422 • Water Depth: 129.59 US ft	Dimensions and attributes • Target Width: 5.25 US ft • Target Height: 0.00 US ft • Target Length: 4.27 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: • Description: Likely debris or derelict fishing gear. Similar targerts to the north and south.

50 100 150 250 300	NHH0214 • Sonar Time at Target: 5/2/2017 2:32:09 PM • Click Position 41.2862391942 -72.9099191155 (WGS84) (X) 956048.85 (Y) 665061.60 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\012_1422.HSX • Ping Number: 99427 • Range to target: 194.64 US ft • Fish Height: 42.82 US ft • Heading: 0.430 Degrees • Event Number: 95 • Line Name: 012_1422 • Water Depth: 129.59 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification 1: Debris • Classification2: • Description: Likely debris or derelict fishing gear. Similar targerts to the north and south.
50 100 150 250 300	NHH0215 • Sonar Time at Target: 5/1/2017 6:19:57 PM • Click Position 41.2882266568 -72.9110636301 (WGS84) (X) 955735.65 (Y) 665786.35 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 124116 • Range to target: 189.48 US ft • Fish Height: 32.50 US ft • Heading: 12.910 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 100.07 US ft	Dimensions and attributes • Target Width: 13.26 US ft • Target Height: 0.97 US ft • Target Length: 20.95 US ft • Target Shadow: 5.93 US ft • Classification1: Crepidula reefs and macroalgae • Classification2: • Description: Cluster of 5 targets, all corresponding to crepidula reefs and macroalgae. Investigated with ROV.
50 100 150 250 300	NHH0216 • Sonar Time at Target: 5/2/2017 3:18:17 PM • Click Position 41.2898089178 -72.9082804076 (WGS84) (X) 956501.60 (Y) 666361.45 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\016_1514.HSX • Ping Number: 119167 • Range to target: 76.07 US ft • Fish Height: 43.83 US ft • Heading: 5.820 Degrees • Event Number: 101 • Line Name: 016_1514 • Water Depth: 133.53 US ft	Dimensions and attributes • Target Width: 3.33 US ft • Target Height: 0.00 US ft • Target Length: 9.38 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: • Description: Irregular target adjacent to terminal facility and line or cable like debris. Likely debris.

50 100 150 250 300	NHH0217 • Sonar Time at Target: 5/2/2017 3:18:20 PM • Click Position 41.2898736264 -72.9083482932 (WGS84) (X) 956482.99 (Y) 666385.06 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\016_1514.HSX • Ping Number: 119186 • Range to target: 55.38 US ft • Fish Height: 43.61 US ft • Heading: 8.700 Degrees • Event Number: 101 • Line Name: 016_1514 • Water Depth: 128.28 US ft	Dimensions and attributes • Target Width: 1.28 US ft • Target Height: 0.00 US ft • Target Length: 95.55 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: Cable • Description: Long but narrow linear target adjacent to terminal facility. Likely line or cable.
50 100 150 250 300	NHH0218 • Sonar Time at Target: 5/2/2017 3:18:38 PM • Click Position 41.2902632635 -72.9082485139 (WGS84) (X) 956510.67 (Y) 666526.98 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\016_1514.HSX • Ping Number: 119311 • Range to target: 69.37 US ft • Fish Height: 43.77 US ft • Heading: 8.260 Degrees • Event Number: 101 • Line Name: 016_1514 • Water Depth: 127.30 US ft	Dimensions and attributes • Target Width: 17.00 US ft • Target Height: 0.00 US ft • Target Length: 29.33 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: • Description: Large irregular target adjacent to terminal facility. Likely debris or rock pile.
50 100 150 250 300	NHH0219 • Sonar Time at Target: 5/1/2017 6:21:49 PM • Click Position 41.2908347094 -72.9104765222 (WGS84) (X) 955898.76 (Y) 666736.33 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 124916 • Range to target: 228.39 US ft • Fish Height: 40.61 US ft • Heading: 2.820 Degrees • Event Number: 61 • Line Name: 008_1747 • Water Depth: 122.70 US ft	Dimensions and attributes • Target Width: 2.36 US ft • Target Height: 2.24 US ft • Target Length: 15.89 US ft • Target Shadow: 13.55 US ft • Classification1: Unknown • Classification2: Boulder • Description: Rectangular target. Proud of bottom. Likely boulder. Coarse sediment to the south.

50 100 150 US 1 250 300	NHH0220 • Sonar Time at Target: 5/1/2017 2:58:09 PM • Click Position 41.2915047536 -72.9124959082 (WGS84) (X) 955344.27 (Y) 666981.50 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\005_1455.HSX • Ping Number: 37787 • Range to target: 55.11 US ft • Fish Height: 43.95 US ft • Heading: 193.350 Degrees • Event Number: 19 • Line Name: 005_1455 • Water Depth: 128.61 US ft	Dimensions and attributes • Target Width: 6.38 US ft • Target Height: 0.00 US ft • Target Length: 6.50 US ft • Target Shadow: 0.00 US ft • Classification1: Mooring • Classification2: • Description: Mooring for YA. Line visible.
- 50 - 100 - 150 - 200 - 250 - 300 - 50 100 150 250 300	NHH0221 • Sonar Time at Target: 5/1/2017 2:57:17 PM • Click Position 41.2927022965 -72.9125171839 (WGS84) (X) 955339.24 (Y) 667417.86 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\005_1455.HSX • Ping Number: 37419 • Range to target: 102.63 US ft • Fish Height: 19.44 US ft • Heading: 191.160 Degrees • Event Number: 19 • Line Name: 005_1455 • Water Depth: 50.85 US ft	Dimensions and attributes • Target Width: 2.49 US ft • Target Height: 0.00 US ft • Target Length: 11.63 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: • Description: Unknown target. Partially buried. Likely debris. Investigated with ROV.
50 100 150 250 300	NHH0222 • Sonar Time at Target: 5/1/2017 2:57:11 PM • Click Position 41.2928497091 -72.9126341220 (WGS84) (X) 955307.21 (Y) 667471.63 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\005_1455.HSX • Ping Number: 37379 • Range to target: 142.22 US ft • Fish Height: 19.44 US ft • Heading: 188.150 Degrees • Event Number: 19 • Line Name: 005_1455 • Water Depth: 49.87 US ft	Dimensions and attributes • Target Width: 2.12 US ft • Target Height: 0.00 US ft • Target Length: 3.72 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: • Description: Unknown target. Partially buried. Likely debris.

- 50 - 100 - 150 - 200 - 250	NHH0223 • Sonar Time at Target: 5/1/2017 6:23:59 PM • Click Position 41.2938776852 -72.9106560606 (WGS84) (X) 955851.48 (Y) 667845.17 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\008_1747.HSX • Ping Number: 125844 • Range to target: 36.36 US ft	Dimensions and attributes • Target Width: 44.75 US ft • Target Height: 0.00 US ft • Target Length: 38.29 US ft • Target Shadow: 0.00 US ft • Classification1: Disturbed sediment • Classification2: • Description: Irregular large target. Adjacent rises and furrows to the southwest. Likely disturbed sediment.
- 300 50 100 150 US f <sup>2</sup> 00 250 300	<ul> <li>Fish Height: 25.16 US ft</li> <li>Heading: 12.840 Degrees</li> <li>Event Number: 61</li> <li>Line Name: 008_1747</li> <li>Water Depth: 75.46 US ft</li> <li>NHH0224</li> </ul>	Dimensions and attributes
- 50 - 100 - 150 - 200 - 250 - 300	<ul> <li>Sonar Time at Target: 5/3/2017 9:07:10 AM</li> <li>Click Position 41.2944179060 -72.9071898918 (WGS84) (X) 956804.35 (Y) 668040.26 (Projected Coordinates)</li> <li>Map Projection: CT83F</li> <li>Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX</li> <li>Ping Number: 16269</li> <li>Range to target: 179.21 US ft</li> <li>Fish Height: 41.31 US ft</li> <li>Heading: 241.030 Degrees</li> <li>Event Number: 115</li> <li>Line Name: 015_0905</li> <li>Water Depth: 128.61 US ft</li> </ul>	<ul> <li>Target Width: 0.00 US ft</li> <li>Target Height: 0.00 US ft</li> <li>Target Length: 0.00 US ft</li> <li>Target Shadow: 0.00 US ft</li> <li>Classification1: Debris</li> <li>Classification2:</li> <li>Description: Unknown target associated with adjacent pier.</li> </ul>
50 100 150 250 300	NHH0225 • Sonar Time at Target: 5/3/2017 9:06:31 AM • Click Position 41.2953046829 -72.9067313551 (WGS84) (X) 956930.94 (Y) 668363.14 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX • Ping Number: 15986 • Range to target: 30.31 US ft • Fish Height: 41.34 US ft • Heading: 228.950 Degrees • Event Number: 115 • Line Name: 015_0905 • Water Depth: 127.30 US ft	Dimensions and attributes • Target Width: 2.71 US ft • Target Height: 0.00 US ft • Target Length: 2.75 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: Debris • Description: Unknown rectangular target. Likely debris.

- 50 - 100 - 150 - 250 - 300 - 250 - 300	NHH0226 • Sonar Time at Target: 5/3/2017 9:06:49 AM • Click Position 41.2953461075 -72.9074981985 (WGS84) (X) 956720.24 (Y) 668378.61 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX • Ping Number: 16117 • Range to target: 130.16 US ft • Fish Height: 41.09 US ft • Heading: 226.590 Degrees • Event Number: 115 • Line Name: 015_0905 • Water Depth: 127.95 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: • Description: Unknown string of targets with possible line visible. Likely debris.
- 50 - 100 - 150 - 220 - 250 - 300	NHH0227 • Sonar Time at Target: 5/3/2017 9:06:45 AM • Click Position 41.2953767490 -72.9073744692 (WGS84) (X) 956754.26 (Y) 668389.72 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX • Ping Number: 16085 • Range to target: 114.61 US ft • Fish Height: 41.09 US ft • Heading: 228.050 Degrees • Event Number: 115 • Line Name: 015_0905 • Water Depth: 126.64 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Classification1: Debris • Classification2: • Description: Unknown string of targets with possible line visible. Likely debris.
50 100 150 200 250 300	NHH0228 • Sonar Time at Target: 5/3/2017 9:06:43 AM • Click Position 41.2953809466 -72.9073333270 (WGS84) (X) 956765.57 (Y) 668391.22 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX • Ping Number: 16076 • Range to target: 107.78 US ft • Fish Height: 41.09 US ft • Heading: 227.720 Degrees • Event Number: 115 • Line Name: 015_0905 • Water Depth: 125.33 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: • Description: Unknown string of targets with possible line visible. Likely debris.

- 50 - 100 - 150 - 220 - 250 - 300 - 300	NHH0229 • Sonar Time at Target: 5/3/2017 9:06:42 AM • Click Position 41.2953846180 -72.9072963712 (WGS84) (X) 956775.73 (Y) 668392.54 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX • Ping Number: 16068 • Range to target: 101.58 US ft • Fish Height: 41.09 US ft • Heading: 227.330 Degrees • Event Number: 115 • Line Name: 015_0905 • Water Depth: 126.64 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: • Description: Unknown string of targets with possible line visible. Likely debris.
50 - 100 - 150 - 200 - 250 - 300 - 50 - 100 - 50 - 250 - 300 - 50 - 300 - 50 - 50	NHH0230 • Sonar Time at Target: 5/3/2017 9:06:41 AM • Click Position 41.2953902931 -72.9072564929 (WGS84) (X) 956786.69 (Y) 668394.59 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX • Ping Number: 16059 • Range to target: 95.30 US ft • Fish Height: 41.16 US ft • Heading: 227.790 Degrees • Event Number: 115 • Line Name: 015_0905 • Water Depth: 128.61 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 0.00 US ft • Classification1: Debris • Classification2: • Description: Unknown string of targets with possible line visible. Likely debris.
50 50 100 50 100 150 200 250 300 50 100 150 250 300 50 50 100 150 250 300 50 50 50 50 50 50 50 50 50	NHH0231 • Sonar Time at Target: 5/3/2017 9:06:37 AM • Click Position 41.2954610806 -72.9071811543 (WGS84) (X) 956807.44 (Y) 668420.35 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:Projects\NewHaven2017\Raw\015_0905.HSX • Ping Number: 16027 • Range to target: 98.59 US ft • Fish Height: 41.62 US ft • Heading: 228.140 Degrees • Event Number: 115 • Line Name: 015_0905 • Water Depth: 128.94 US ft	Dimensions and attributes • Target Width: 2.74 US ft • Target Height: 0.00 US ft • Target Length: 8.40 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: • Description: Likely debris or rock. Adjacent coarse sediment.

#### New Haven Harbor May 2017 Side Scan Sonar

50 100 150 100 150 100 150 150 1	NHH0232 • Sonar Time at Target: 5/3/2017 9:06:15 AM • Click Position 41.2955439719 -72.9064090932 (WGS84) (X) 957019.65 (Y) 668450.16 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX • Ping Number: 15873 • Range to target: 37.85 US ft • Fish Height: 39.17 US ft • Heading: 221.630 Degrees • Event Number: 115 • Line Name: 015_0905 • Water Depth: 121.39 US ft	Dimensions and attributes • Target Width: 2.23 US ft • Target Height: 0.00 US ft • Target Length: 2.23 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: Debris • Description: Unknown rectangular target. Likely debris.
50 100 150 US # 200 250 300	NHH0233 • Sonar Time at Target: 5/3/2017 9:06:05 AM • Click Position 41.2956936037 -72.9061914324 (WGS84) (X) 957079.56 (Y) 668504.58 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX • Ping Number: 15799 • Range to target: 47.37 US ft • Fish Height: 37.21 US ft • Heading: 225.630 Degrees • Event Number: 115 • Line Name: 015_0905 • Water Depth: 115.16 US ft	Dimensions and attributes • Target Width: 3.21 US ft • Target Height: 0.65 US ft • Target Length: 3.25 US ft • Classification1: Unknown • Classification2: Debris • Description: Unknown rectangular target adjacent to terminal facility. Likely debris.
50 100 50 100 150 100 150 150 200 250 300 250 300	NHH0234 • Sonar Time at Target: 5/3/2017 9:05:48 AM • Click Position 41.2958248651 -72.9057192612 (WGS84) (X) 957209.40 (Y) 668552.17 (Projected Coordinates) • Map Projection: CT83F • Accoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX • Ping Number: 15684 • Range to target: 114.32 US ft • Fish Height: 35.93 US ft • Heading: 219.090 Degrees • Event Number: 115 • Line Name: 015_0905 • Water Depth: 110.24 US ft	Dimensions and attributes • Target Width: 0.00 US ft • Target Height: 0.00 US ft • Target Length: 405.59 US ft • Target Shadow: 0.00 US ft • Classification1: Containment boom and curtain. • Classification2: • Description: Floating boom and curtain deployed around petroleum tanker.

50 100 150 US 1 200 250 300	NHH0235 • Sonar Time at Target: 5/3/2017 9:06:22 AM • Click Position 41.2958514892 -72.9071869447 (WGS84) (X) 956806.11 (Y) 668562.60 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX • Ping Number: 15927 • Range to target: 196.49 US ft • Fish Height: 40.25 US ft • Heading: 219.440 Degrees • Event Number: 115 • Line Name: 015_0905 • Water Depth: 125.98 US ft	Dimensions and attributes • Target Width: 4.63 US ft • Target Height: 0.00 US ft • Target Length: 4.33 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: • Description: Square target with line. Likely debris.
50 50 50 50 50 50 50 50 50 50	NHH0236 • Sonar Time at Target: 5/3/2017 9:05:33 AM • Click Position 41.2961084261 -72.9055305046 (WGS84) (X) 957261.46 (Y) 668655.40 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX • Ping Number: 15574 • Range to target: 85.25 US ft • Fish Height: 35.32 US ft • Heading: 224.370 Degrees • Event Number: 115 • Line Name: 015_0905 • Water Depth: 107.61 US ft	Dimensions and attributes • Target Width: 2.28 US ft • Target Height: 0.00 US ft • Target Length: 4.12 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: • Description: String of unknown target with possible line visible. Likely debris.
50 100 150 US ft 200 250 300	NHH0237 • Sonar Time at Target: 5/3/2017 9:05:32 AM • Click Position 41.2961497761 -72.9055539081 (WGS84) (X) 957255.05 (Y) 668670.47 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX • Ping Number: 15567 • Range to target: 70.46 US ft • Fish Height: 35.32 US ft • Heading: 224.300 Degrees • Event Number: 115 • Line Name: 015_0905 • Water Depth: 110.24 US ft	Dimensions and attributes • Target Width: 1.84 US ft • Target Height: 0.00 US ft • Target Length: 3.61 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: • Description: String of unknown target with possible line visible. Likely debris.

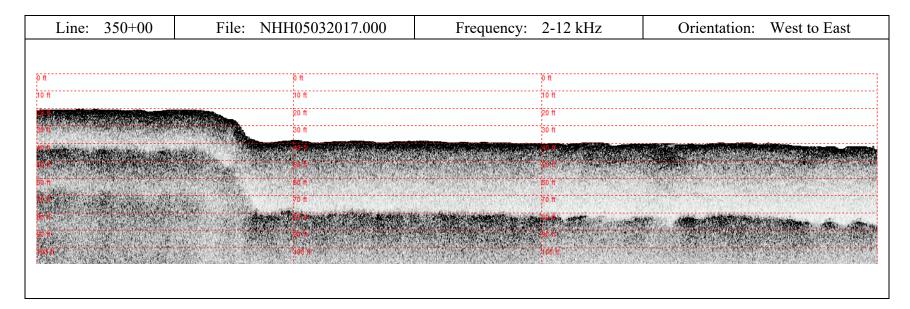
50 100 150 200 250 300 50 100 150 250 300	NHH0238 • Sonar Time at Target: 5/3/2017 9:05:31 AM • Click Position 41.2961958625 -72.9055899647 (WGS84) (X) 957245.17 (Y) 668687.28 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX • Ping Number: 15561 • Range to target: 51.92 US ft • Fish Height: 35.32 US ft • Heading: 224.240 Degrees • Event Number: 115 • Line Name: 015_0905 • Water Depth: 110.24 US ft	
50 100 150 200 250 300 50 100 150 250 300	NHH0239 • Sonar Time at Target: 5/3/2017 9:05:28 AM • Click Position 41.2963050177 -72.9056488007 (WGS84) (X) 957229.08 (Y) 668727.09 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX • Ping Number: 15542 • Range to target: 13.48 US ft • Fish Height: 35.32 US ft • Heading: 225.920 Degrees • Event Number: 115 • Line Name: 015_0905 • Water Depth: 104.33 US ft	Dimensions and attributes • Target Width: 1.14 US ft • Target Height: 0.00 US ft • Target Length: 4.60 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: • Description: String of unknown target with possible line visible. Likely debris.
50 100 150 US t 250 300	NHH0240 Sonar Time at Target: 5/3/2017 8:56:50 AM Click Position 41.2963742857 -72.9067159304 (WGS84) (X) 956935.89 (Y) 668752.85 (Projected Coordinates) Map Projection: CT83F Acoustic Source File: D:\Projects\NewHaven2017\Raw\011_0856.HSX Ping Number: 11843 Range to target: 147.00 US ft Fish Height: 40.62 US ft Heading: 225.560 Degrees Event Number: 111 Line Name: 011_0856 Water Depth: 122.70 US ft	Dimensions and attributes • Target Width: 1.32 US ft • Target Height: 0.00 US ft • Target Length: 24.53 US ft • Target Shadow: 0.00 US ft • Classification1: Unknown • Classification2: Area of disturbed sediment. • Description: Area of disturbed sediment.

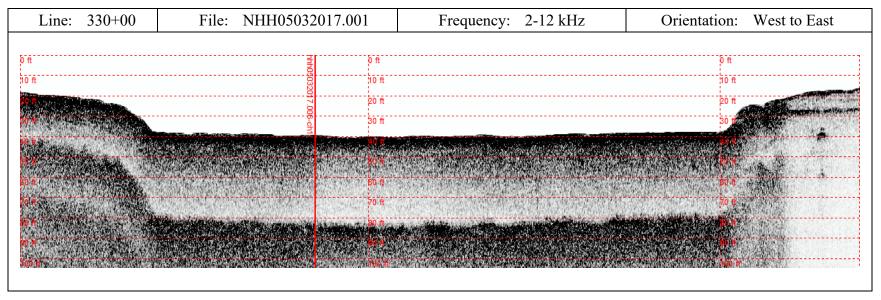
	NHH0241	Dimensions and attributes
50 100 150 200 50 100 150 200 250 300	<ul> <li>Sonar Time at Target: 5/3/2017 9:05:22 AM</li> <li>Click Position 41.2964883458 -72.9056755219 (WGS84) (X) 957221.85 (Y) 668793.90 (Projected Coordinates)</li> <li>Map Projection: CT83F</li> <li>Acoustic Source File: D:\Projects\NewHaven2017\Raw\015_0905.HSX</li> <li>Ping Number: 15497</li> <li>Range to target: 36.27 US ft</li> <li>Fish Height: 35.32 US ft</li> <li>Heading: 226.670 Degrees</li> <li>Event Number: 115</li> <li>Line Name: 015_0905</li> <li>Water Depth: 102.36 US ft</li> </ul>	<ul> <li>Target Width: 0.00 US ft</li> <li>Target Height: 0.00 US ft</li> <li>Target Length: 241.98 US ft</li> <li>Target Shadow: 0.00 US ft</li> <li>Classification1: Debris</li> <li>Classification2:</li> <li>Description: Numerous small targets adjacent to string of liner targets and terminal facility. Likely debris or rock pile.</li> </ul>
50 100 50 100 150 200 250 300 50 100 150 250 300	NHH0242 • Sonar Time at Target: 5/3/2017 8:39:40 AM • Click Position 41.2972250439 -72.9088924248 (WGS84) (X) 956338.38 (Y) 669063.93 (Projected Coordinates) • Map Projection: CT83F • Acoustic Source File: D:\Projects\NewHaven2017\Raw\007_0834.HSX • Ping Number: 4501 • Range to target: 112.03 US ft • Fish Height: 32.42 US ft • Heading: 49.320 Degrees • Event Number: 105 • Line Name: 007_0834 • Water Depth: 85.30 US ft	Dimensions and attributes • Target Width: 1.35 US ft • Target Height: 0.00 US ft • Target Length: 26.08 US ft • Target Shadow: 0.00 US ft • Classification1: Debris • Classification2: • Description: Linear target in vicinity of pier. Piling. Investigated with ROV.

## **APPENDIX B**

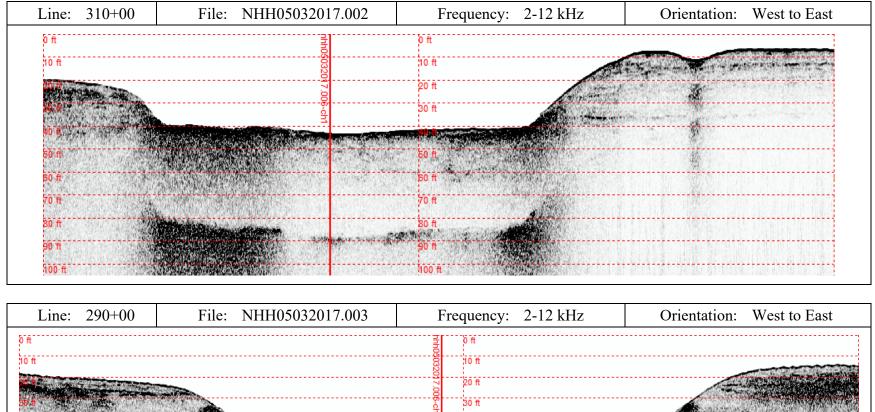
# **SUB-BOTTOM PROFILES**

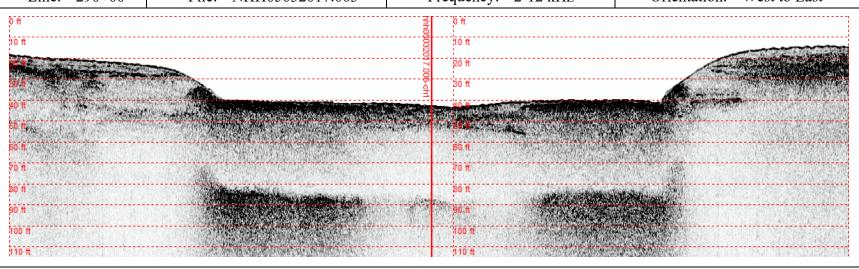
#### Appendix B: Sub-Bottom Profiles

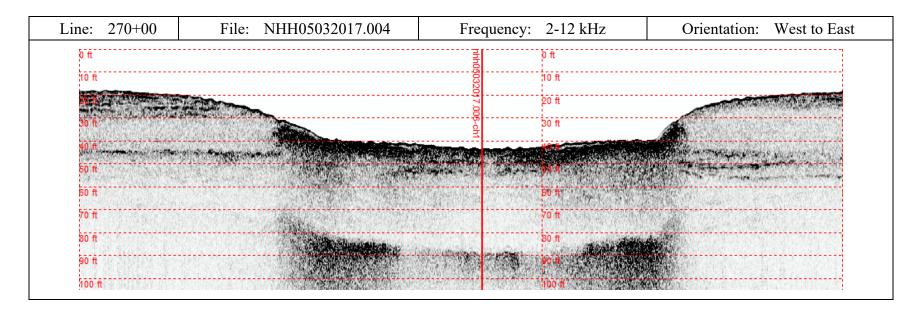


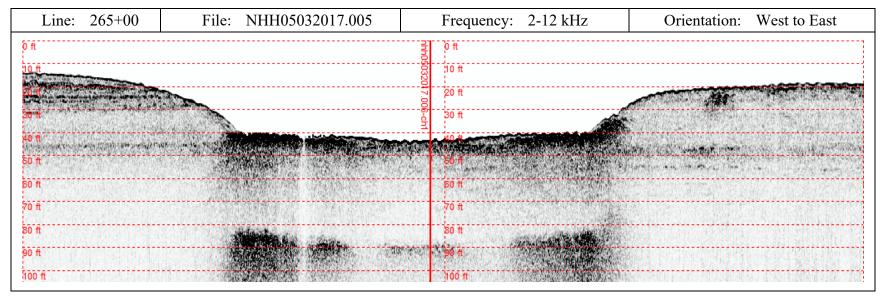


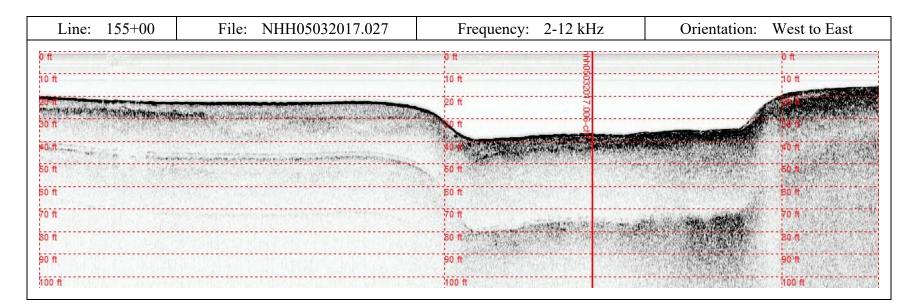
### Appendix B: Sub-Bottom Profiles

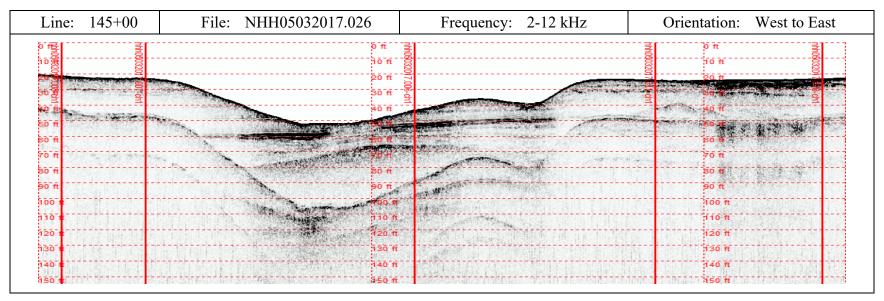


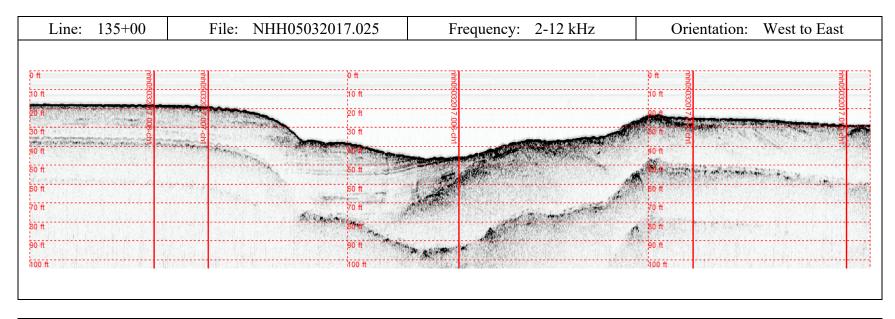


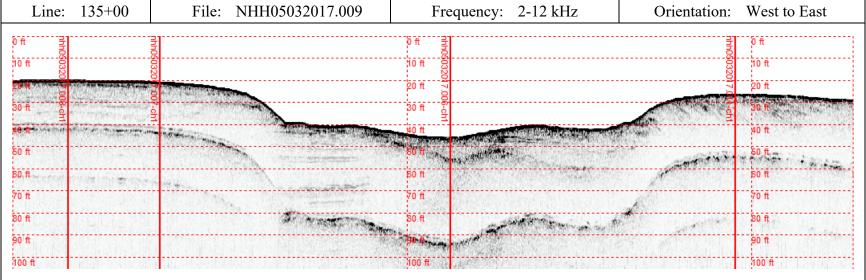




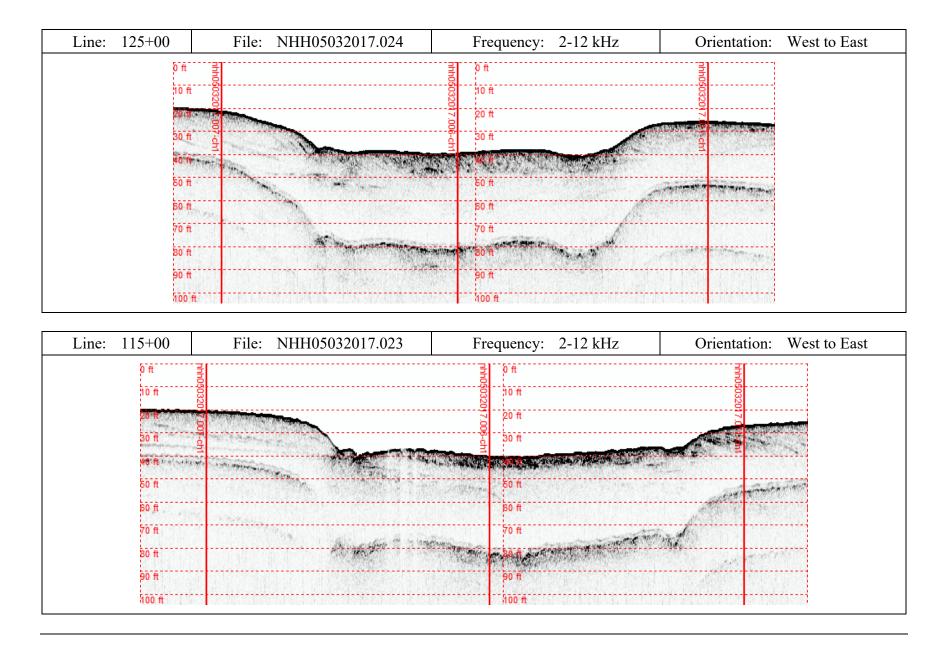


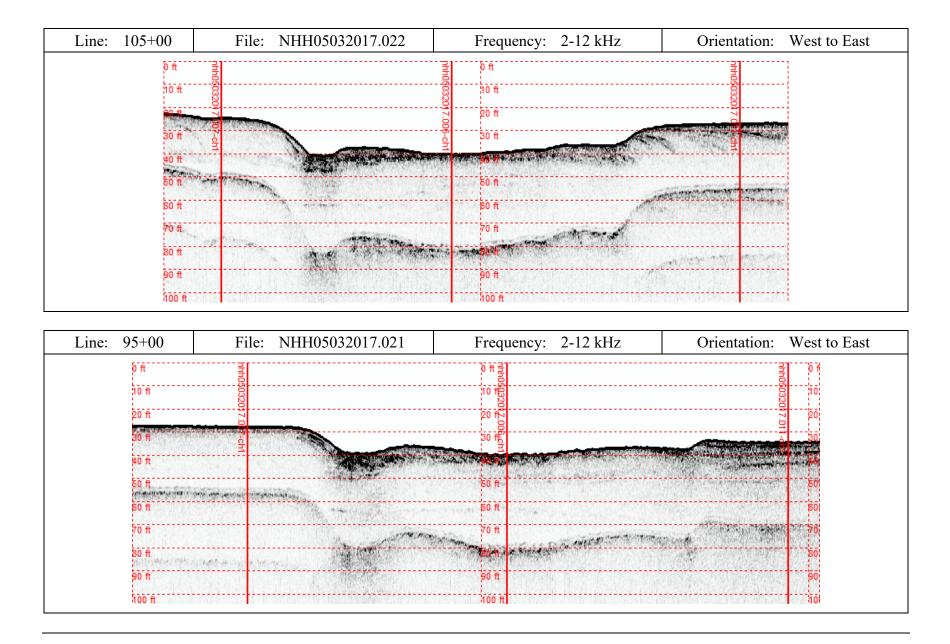


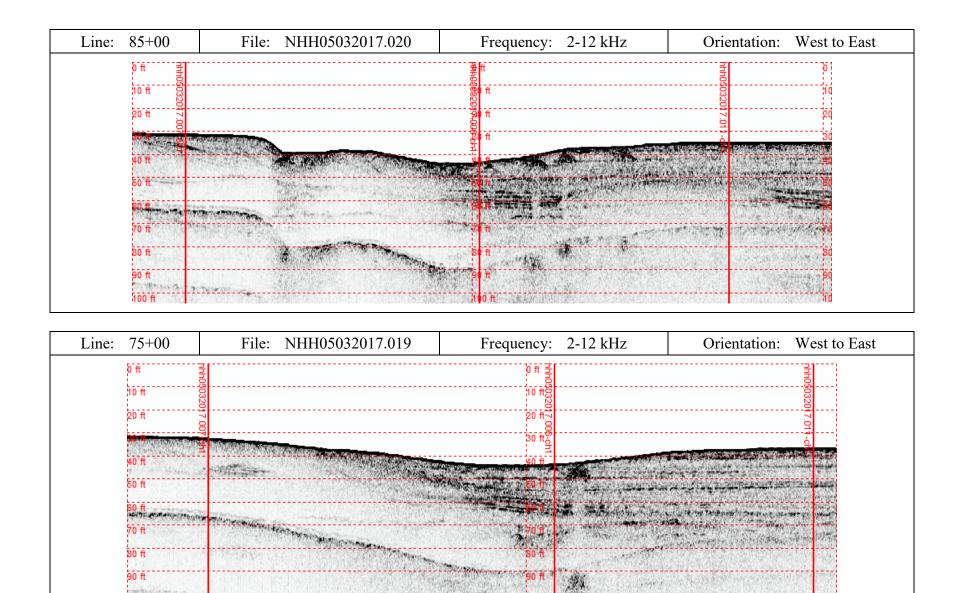


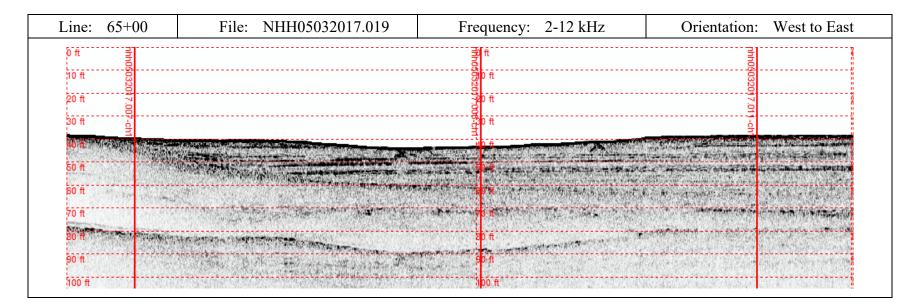


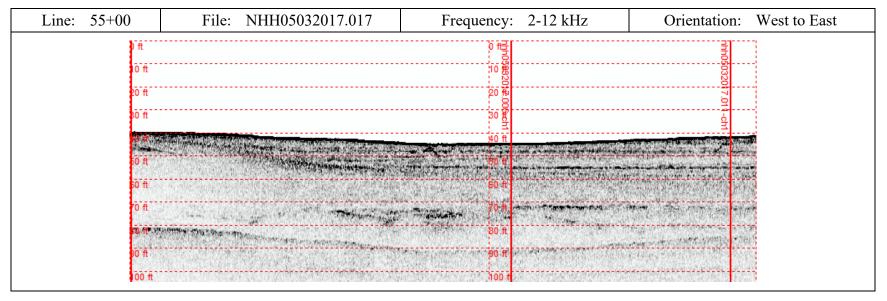
6

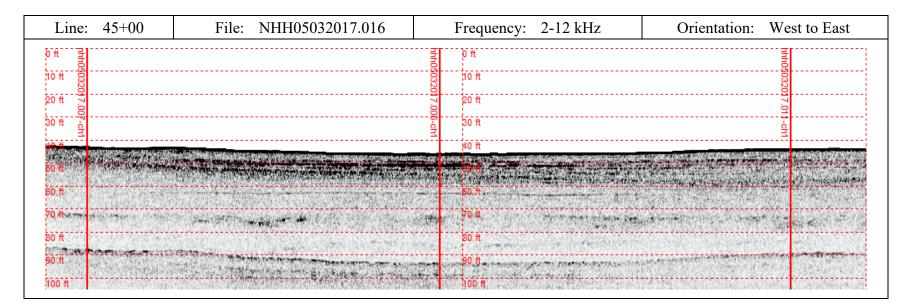












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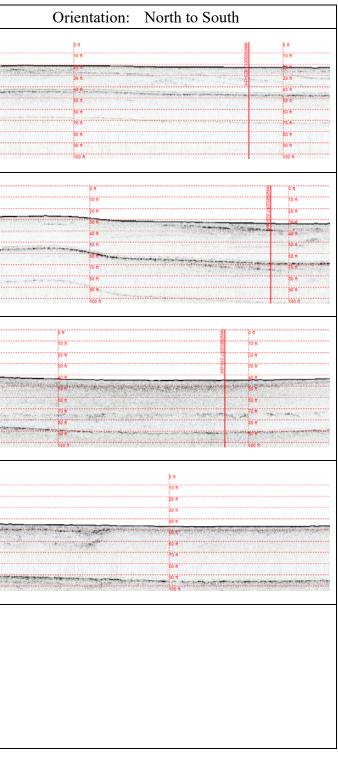
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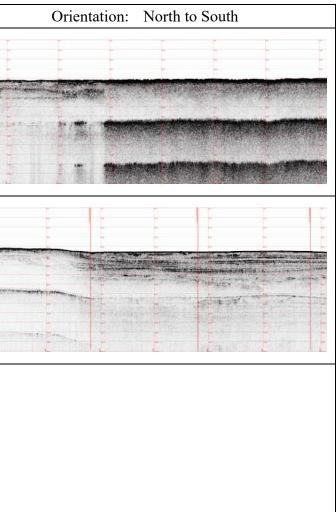
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# **APPENDIX C**

# VIDEO SURVEY TARGET DATABASE

SONAR TARGET:	NHH-01	19					
Target Legetier:	Latitud	e: (NAD83):	Longitu	Longitude (NAD83): Northing (CT		ng (CTSP83FT):	Easting (CTSP83FT):
Target Location:	41.	.225366	-72	913218	6	542883.41	955100.08
Source File: 008_	1415.HSX	Target Length:	85 feet	Target Width:	12 feet	Classification:	Shell Reef
Survey Notes: Vessel anchored direct reef with a linear fur created a high intenss area corresponding t structure that was pr survey footage the c shipwreck' to 'isolat	row running ity return in o the narrow oud of the s lassification	g along the edge to a the side scan sort v depression. Thi eafloor. Based or a for this target wa	age documer furthest from nar imagery s was initia n the ROV f as changed	m the channel. The followed by a data data the followed by a data and the followed as footage the target	ne shell are ata gap in t a linear classificat	sp. ea the	the Scan Sonar Image:

SONAR TARGET	: NHH-01	53						
Target Location:	Latitude	Latitude: (NAD83): 41.269442		de (NAD83):	Northin	g (CTSP83FT):	Easting (CTSP83FT):	
	41.			-72.913172		58942.99	955143.17	
Source File: 007_	_1642.HSX	Target Length:	31 feet	Target Width:	5 feet	Classification:	Pipeline	
		1000.0F			0:00.0F 4:190		Droot.of	
Survey Notes:						Side	e Scan Sonar Image:	
Vessel anchored direct steel/ concrete pipelin ROV footage docume growth and several fr adjacent seafloor.	ne extending we ented mouth an	vest of channel. No nd approximately 2	flow was a 0 feet of pi	pparent at the time peline. Areas of he	of inspection avy marine	n.	- 50 - 100 - 150 - 250 - 300 - 250 - 300	

SONAR TARGET: NHH-0176									
Torrat Logation.	Latitude	e: (NAD83):	Longitud	e (NAD83):	Northin	g (CTSP83FT):	Easting (CTSP83FT):		
Target Location:	41.277411		-72.913807		661847.27		954974.21		
Source File: 008_	1747.HSX	Target Length:	129 feet	Target Width:	20 feet	Classification:	Debris - Possible Wreck		
Survey Notes: Vessel anchored 20 large and irregularly partially buried in th it was not possible to documented a hollow	feet from sor shaped met be sediment a pobtain a with	nar target on cha allic object with and had no distin ide angle view of	nnel side. Ro heavy marin guishing ma f the entire ta	DV inspection de growth. The ta rkings. Due to li arget but close up	DOB OF H : 198	a hility tage	D:001. BF H:079 e Scan Sonar Image:		
the presence of rolle observation uncertai possible wreckage'	d metal edge n. Based on	es but the amoun the information a	t of marine g	growth present m	akes this	50	- 200 - 250 - 300 - 300		

SONAR TARGET: NHH-0178									
Target Legation:	Latitude	Latitude: (NAD83):		Longitude (NAD83): Nor		g (CTSP83FT):	Easting (CTSP83FT):		
Target Location:	41.	277485	-72.	913345	6	61873.91	955101.06		
Source File: 008	1747.HSX	Target Length:	3.5 feet	Target Width:	3 feet	Classification:	Fishing Gear		
Source The:     Good_TATATION     Target Deligat.     Store Target Wildh.     Store Classification.     Tishing Oca       D::003.9F H::107     D::003.9F H::107     H::107     D::003.9F H::107     D::003.9F       Survey Notes:     Side Scan Sonar Image:									
Vessel anchored 30 fd derelict lobster pot w estimated to be 1 inch	ith heavy mari	ine growth. Target	was proud of	f the seafloor. Mes			- 50 - 100 - 150 - 250 - 250 - 300 - 250 - 300		

SONAR TARGET: NHH-0203									
Target Location:		Latitude	e: (NAD83):	Longitude (NAD83):		Northing (CTSP83FT):		Easting (CTSP83FT):	
		41.	281970	-72.910550		663506.74		955872.45	
Source File:	015_	1503.HSX	Target Length:	53 feet	Target Width:	15 feet	Classification:	Shell Reef	
Survey Notes:       Side Scan Sonar Image:         Vessel anchored directly over target. ROV footage documented a large gravel and shell reef along the existing federal channel. Shell noted to be mostly <i>Crepidula</i> sp. Small dip in elevation was observed along western edge of reef. Ambient seafloor sediment was fine sand and silt. Target was classified as a shell reef.									
							50	- 150 - 200 - 250 - 300 - 300	

SONAR TARGET: NHH-0205									
Target Location:	Latitude: (NAD83):		Longitude (NAD83):		Northing (CTSP83FT):		Easting (CTSP83FT):		
	41.	282889	-72.910015		66	53841.24	956020.07		
Source File: 015_	1503.HSX	Target Length:	63 feet	Target Width:	21 feet	Classification:	Disturbed Sediment		
Survey Notes: Vessel anchored appropartially buried <i>lamina</i> Adjacent seafloor note suggested slumping of	eximately 25 taria sp. and n ted to be feature	nixed macroalgae a reless fine grained	long the toe sediment. An	Channel. Target woof the existing channount of depositio	nnel side sl n observed	of ope.			

SONAR TARGET: NHH-0215								
Target Legetion:	Latitude	e: (NAD83):	Longitud	le (NAD83):	Northing (CTSP83FT):		Easting (CTSP83FT):	
Target Location:	41.288226		-72.911063		665786.35		955735.65	
Source File: 008_	1747.HSX	Target Length:	21 feet	Target Width:	13 feet	Classification:	Coarse Substrate	
Survey Notes: Vessel anchored appro	oximately 30	feet north of targe	t. ROV foota	ge documented mu	altiple isola	ted	D: 007. 8F H: 257 Le Scan Sonar Image:	
areas of macroalgae a sediments were prec coarse substrate.	nd dense Cre	t reas of	- 50 - 100 - 150 - 200 - 250 - 300					

SONAR TARGET: NHH-0217									
Tangat I a sati	~ ~ ~ ~	Latitude: (NAD83):		Longitude (NAD83):		Northing (CTSP83FT):		Easting (CTSP83FT):	
Target Location:		41.	289873	-72.908348		66	6385.06	956482.99	
Source File:	008_	1747.HSX	Target Length:	95 feet	Target Width:	< 1 foot	Classification:	Debris - Cable	
Surray Nata						:D20.6F H:185		Second Second Interest	
Survey Notes:       Side Scan Sonar Image         Vessel anchored directly over target. Poor visibility due to high turbidity in water column. After       multiple sweeps the ROV picked up a section of discarded cable adjacent to the terminal facility on         the eastern shore. Ambient seafloor was featureless fine grained sediment. Target was classified as 'debris – cable'.       Image: Column 1 and the seafloor was featureless fine grained sediment. Target was classified as 'debris – cable'.								- 50 - 100 - 150 - 200 - 250 - 300	

SONAR TARGET: NHH-0221									
Tangat I a antian	Latitude	e: (NAD83):	Longitude (NAD83):		Northing (CTSP83FT):		Easting (CTSP83FT):		
Target Location:	41.	41.292702		-72.912517		67417.86	955339.24		
Source File: 005	_1455.HSX	Target Length:	11 feet	Target Width:	2.5 feet	Classification:	Debris - Unidentified		
Survey Notes: Vessel anchored appr target with heavy ma Ribbing or multiple I unidentified'.	rine growth in	existing anchorag	et. ROV footage area. Partia	Ily buried with att	ached line.	ble	e Scan Sonar Image:		

SONAR TARGE	ET: NHH-02	228					
Target Location:	Latitude	e: (NAD83):	Longitu	de (NAD83):	Northing (CTSP83FT):		Easting (CTSP83FT):
Target Location:	41.	295380	-72	.907333	6	68391.22	956765.57
Source File: 01	5_0905.HSX	Target Length:	- feet	Target Width:	- feet	Classification:	Debris - Unidentified
Survey Notes: Vessel anchored ap scan sonar data with caucus noted in sur and location in harb unidentified'.	h a possible line vey area. Ambie	feet south of target visible. No target ent seafloor was fe	356 et. Multiple so found with t catureless fine	he ROV after mult e grained sediment.	iple passes . High turbi	side . Fish idity	D: D18.9F H: 037 e Scan Sonar Image:

SONAR TARGET: NHH-0242									
Tangat Lagation.	Latitude	e: (NAD83):	Longitud	Longitude (NAD83):		g (CTSP83FT):	Easting (CTSP83FT):		
Target Location:	41.	297225	-72.908892		669063.93		956338.38		
Source File: 015	0905.HSX	Target Length:	27 feet	Target Width:	1.5 feet	Classification:	Debris - Piling		
Survey Notes: Vessel anchored 10 fe pier along western sid Ambient seafloor is p	le of channel.	Fine layer of mar	e documented ine growth an	d damage to the pi	iling were n	ity of oted. ng'.	E Scan Sonar Image:		