



UNITED STATES DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration
NOAA Marine and Aviation Operations
Marine Operations Center
439 W. York Street
Norfolk, VA 23510-1114

MEMORANDUM FOR: Commander Christiaan Van Westendorp, NOAA
Commanding Officer, NOAA Ship *Thomas Jefferson*

FROM: Captain Scott M. Sirois, NOAA
Commanding Officer, NOAA Marine Operations Center-Atlantic

A handwritten signature in blue ink, appearing to read "S. Sirois", is written over the name of the sender.

SUBJECT: Project Instruction for TJ-16-00
Hydrographic Systems Acceptance Test

Attached is the final Project Instruction for TJ-16-00, Hydrographic Systems Acceptance Test, which is scheduled aboard NOAA Ship *Thomas Jefferson* during the period of September 22, - September 29, 2016. Of the 8 DAS scheduled for this project, 8 days are funded by a OMAO Allocation. This project is estimated to exhibit a High Operational Tempo. Acknowledge receipt of these instructions via e-mail to OpsMgr.MOA@noaa.gov at Marine Operations Center-Atlantic.




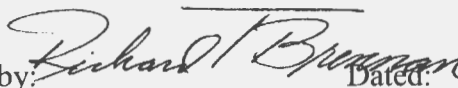


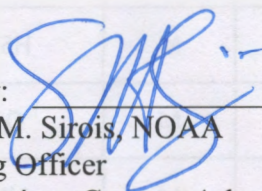
UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of Coast Survey
Silver Spring, Maryland 20910-3282

Project Instruction

Date Submitted: September 13, 2016
Platform: NOAA Ship *Thomas Jefferson*
Project Number: TJ-16-00 (OMAO)
Project Title: Hydrographic Systems Acceptance Test
Project Dates: September 22, 2016 – September 29, 2016

Prepared by:  Dated: 13 Sept 2016
LCDR Michael Gonsalves, NOAA
Chief, Operations Branch
Hydrographic Surveys Division

Approved by:  Dated: 13 Sept 2016
CAPT Richard T. Brennan, NOAA
Chief, Hydrographic Surveys Division
Office of Coast Survey

Approved by:  Dated: 16 Sept 2016
CAPT Scott M. Sirois, NOAA
Commanding Officer
Marine Operations Center - Atlantic





I. Overview

A. Brief Summary and Project Period

This survey is scheduled to begin in September 22, 2016 and end in September 29, 2016. This project is being conducted in support of NOAA's Office of Coast Survey to conduct testing and calibration of two sonar systems (EM710 and EM2040) recently installed on the NOAA Ship *Thomas Jefferson*.

B. Days at sea (DAS)

Of the 8 DAS scheduled for this project, 8 DAS are funded by an OMAO allocation, 0 DAS are funded by a Line Office Allocation, 0 DAS are Program Funded, and 0 DAS are Other Agency funded. This project is estimated to exhibit a High Operational Tempo.

C. Operating Area (include optional map/figure showing op area)

The project areas are: Lower Chesapeake Bay, Cape Charles, Hudson Canyon, Bow Mariner Wreck, Hudson Canyon, Block Canyon Flats. A layout of the project areas can be found with the detailed project instructions appended to these instructions.

D. Summary of Objectives

The objective is to conduct testing and calibration of the NOAA Ship *Thomas Jefferson* EM710 and EM2040.

E. Participating Institutions N/A

F. Personnel/Science Party: name, title, gender, affiliation, and nationality

Name (Last, First)	Title	Date Aboard	Date Disembark	Gender	Affiliation	Nationality
Rice, Glen	Physical Scientist	9/22/16	9/29/16	M	HSTB	USA
Beaudoin, John	Chief Scientist QPS	9/22/16	9/29/16	M	QPS	Canada
Hiroji, Anand Devappa	PhD student UNB	9/22/16	9/29/16	M	UNB	India
Younkin, Erick	Physical Scientist	9/22/16	9/29/16	M	HSTB	USA
Hohing, Chuck	Kongsberg	9/22/16	9/29/16	M	Kongsberg Maritime	USA

G. Administrative

1. Points of Contacts:

Principal Investigator:

LCDR Samuel Greenaway, NOAA
Chief, Hydrographic Systems and Technology
Program, 1315 East West Hwy, #6854 Silver
Spring, MD 20910
(301) 713-2702 x112
Samuel.Greenaway@noaa.gov

Chief Scientist:

CDR Christiaan VanWestendorp, NOAA
Commanding Officer, NOAA Ship *Thomas Jefferson*
439 West York Street Norfolk, VA 23510-1114
(757) 647-0187
CO.Thomas.Jefferson@noaa.gov

2. Diplomatic Clearances None

Required.

3. Licenses and Permits

The Office of Coast Survey is sensitive to the potential effects of its operations on the physical, biological, and cultural marine environment. In accordance with the National Environmental Policy Act, Coast Survey prepared a Programmatic Environmental Assessment to gauge the environmental impacts resulting from surveying and other data-gathering activities. As a result, the National Ocean Service has published a Finding of No Significant Impact (FONSI) for the Office of Coast Survey program of conducting hydrographic surveys for the calendar years 2013 - 2018.

In addition The Office of Coast Survey has implemented Best Management Practices (BMPs) based on the ESA mitigation and monitoring measures agreed to between the OCS Hydrographic Services Division (HSD) and the NMFS Office of Protected Resources (OPR-ESA) and documented in the April 30, 2013 Biological Opinion. They were adopted in the context of the ESA, but include BMPs for marine mammals listed in the ESA ("depleted" under MMPA).

For further information on the BMPs, please refer to the Environmental Compliance Section of the Hydrographic Survey Project Instructions. For further information on OCS Regulations and Policies go to: <http://www.nauticalcharts.noaa.gov/Legal/>

II. Operations

The Commanding Officer is responsible for ensuring the scientific staff are trained in planned operations and are knowledgeable of project objectives and priorities. The Commanding Officer is responsible for ensuring all operations conform to the ship's accepted practices and procedures.

A. Project Itinerary:

Itinerary will be based upon the ship's schedule and executed under the direction of the Commanding Officer. Every effort shall be made by the Commanding Officer to maximize the operational efficiency of assigned projects. Please refer to ships sailing schedule below:

DATE	PORT	PROJECT INFO	LO	LONG-TERM GOAL	DAS
DEP: 9/22/2016	Thu Norfolk, VA	New Sonar shakedown and calibration	OMAO	Resilient Communities	8
ARR 9/29/2016	Thu Norfolk, VA				

B. Staging and Destaging: N/A

C. Operations to be Conducted:

Hydrographic survey operations shall be conducted per the appended project instructions. The ship and/or survey launches shall operate for a total of 24 hr/day for data acquisition and project field support. To achieve this, the Commanding Officer may elect to run 24 hr ship survey operations for short or extended periods of time with reduced launch operations as long as the total hours per day are achieved. Two fully-outfitted and operational survey launches to support shallow water survey operations utilizing hull-mounted side scan sonar, multibeam, and vertical beam sonar systems.

D. Dive Plan

Dives are not planned for this project

E. Applicable Restrictions

Conditions which preclude normal operations:

- Poor weather conditions
- Equipment failure
- Safety concerns
- Personnel shortage

III. Equipment

A. Equipment and Capabilities provided by the ship (itemized)

1. Two survey launches fully-outfitted with hydrographic survey equipment to support multibeam and/or side scan and/or vertical beam sonar survey operations.
2. Ship fully-outfitted with hydrographic survey equipment to support multibeam and/or side scan sonar survey operations.
3. Personnel to staff and operate the survey equipment on the launches and ship for the required operational hours/day described in *Section II. C. Operations to be Conducted*.
4. A fully-staffed survey department to efficiently manage the project's data processing requirements.

- B. Equipment and Capabilities provided by the scientists (itemized)

Hydrographic Surveys Division may provide Physical Scientists for hydrographic data acquisition, processing, training, and data quality assurance support during project survey operations. Additionally, shore-based technical support may be provided for survey systems and data acquisition and processing software.

IV. Hazardous Materials

- A. Policy and Compliance

No Hazardous Materials are being brought aboard the ship for this project.

- B. Radioactive Materials

No Radioactive Isotopes are planned for this project

V. Additional Projects

- A. Supplementary (“Piggyback”) Projects

No Supplementary Projects are planned

- B. NOAA Fleet Ancillary Projects

No NOAA Fleet Ancillary Projects are planned

VI. Disposition of Data and Reports

Disposition of data gathered aboard NOAA ships will conform to NAO 216-101 *Ocean Data Acquisitions* and NAO 212-15 *Management of Environmental Data and Information*. To guide the implementation of these NAOs, NOAA’s Environmental Data Management Committee (EDMC) provides the *NOAA Data Documentation Procedural Directive* (data documentation) and *NOAA Data Management Planning Procedural Directive* (preparation of Data Management Plans). OMAO is developing procedures and allocating resources to manage OMAO data and Programs are encouraged to do the same for their Project data.

VII. Meetings, Vessel Familiarization, and Project Evaluations

- A. Pre-Project Meeting: The Principal Investigator and the Commanding Officer will conduct a meeting of pertinent members of the scientific party and ship’s crew to discuss required equipment, planned operations, concerns, and establish mitigation strategies for all concerns. This meeting shall be conducted before the beginning of the project with sufficient time to allow for preparation of the ship and project personnel.
- B. Vessel Familiarization Meeting: The Commanding Officer is responsible for ensuring scientific personnel are familiarized with applicable sections of the standing orders and

vessel protocols, e.g., meals, watches, etiquette, drills, etc. A vessel familiarization meeting shall be conducted in the first 24 hours of the project's start and is normally presented by the ship's Operations Officer.

- C. Post-Project Meeting: The Commanding Officer is responsible for conducting a meeting no earlier than 24 hrs before or 7 days after the completion of a project to discuss the overall success and short comings of the project. Concerns regarding safety, efficiency, and suggestions for future improvements shall be discussed and mitigations for future projects will be documented for future use. This meeting shall be attended by the ship's officers, applicable crew, the Commanding Officer, and members of the scientific party and is normally arranged by the Operations Officer.

- D. Project Evaluation Report: Within seven days of the completion of the project, a Customer Satisfaction Survey is to be completed by the HSD Operations Branch. The form is available at <http://www.oma.noaa.gov/fleeteval.html> and provides a "Submit" button at the end of the form. Submitted form data is deposited into a spreadsheet used by OMAO management to analyze the information. Though the complete form is not shared with the ships', specific concerns and praises are followed up on while not divulging the identity of the evaluator.

VIII. Miscellaneous

A. Meals and Berthing

The ship will provide meals for the scientists listed above. Meals will be served 3 times daily beginning one hour before scheduled departure, extending throughout the project, and ending two hours after the termination of the project. Since the watch schedule is split between day and night, the night watch may often miss daytime meals and will require adequate food and beverages (for example a variety of sandwich items, cheeses, fruit, milk, juices) during what are not typically meal hours. Special dietary requirements for scientific participants will be made available to the ship's command at least seven days prior to the project.

Berthing requirements, including number and gender of the scientific party, will be provided to the Commanding Officer by the Principal Investigator. The Commanding Officer will work on a detailed berthing plan to accommodate the gender mix of the scientific party taking into consideration the current make-up of the ship's complement.

All NOAA scientists will have proper travel orders when assigned to any NOAA ship. The Principal Investigator will ensure that all non NOAA or non-Federal scientists aboard also have proper orders. It is the responsibility of the Principal Investigator to ensure that the entire scientific party has a mechanism in place to provide lodging and food and to be reimbursed for these costs in the event that the ship becomes uninhabitable and/or the galley is closed during any part of the scheduled project.

All persons boarding NOAA vessels give implied consent to comply with all safety and

security policies and regulations which are administered by the Commanding Officer. All spaces and equipment on the vessel are subject to inspection or search at any time. All personnel must comply with OMAO's Drug and Alcohol Policy dated May 17, 2000 which forbids the possession and/or use of illegal drugs and alcohol aboard NOAA Vessels.

B. Medical Forms and Emergency Contacts

The NOAA Health Services Questionnaire (NHSQ, NF 57-10-01 (3-14)) must be completed in advance by each participating scientist. The NHSQ can be obtained from <http://www.corporateservices.noaa.gov/noaaforms/eforms/nf57-10-01.pdf>.

All NHSQs submitted after March 1, 2014 must be accompanied by [NOAA Form \(NF\) 57-10-02](#) - Tuberculosis Screening Document in compliance with [OMAO Policy 1008](#) (Tuberculosis Protection Program).

The completed forms should be sent to the Regional Director of Health Services at the applicable Marine Operations Center. The NHSQ and Tuberculosis Screening Document should reach the Health Services Office no later than 4 weeks prior to the start of the project to allow time for the participant to obtain and submit additional information should health services require it, before clearance to sail can be granted. Please contact MOC Health Services with any questions regarding eligibility or completion of either form. Ensure to fully complete each form and indicate the ship or ships the participant will be sailing on. The participant will receive an email notice when medically cleared to sail if a legible email address is provided on the NHSQ.

The participant can mail, fax, or email the forms to the contact information below. Participants should take precautions to protect their Personally Identifiable Information (PII) and medical information and ensure all correspondence adheres to DOC guidance (http://ocio.os.doc.gov/ITPolicyandPrograms/IT_Privacy/PROD01_008240).

The only secure email process approved by NOAA is [Accellion Secure File Transfer](#) which requires the sender to setup an account. [Accellion's Web Users Guide](#) is a valuable aid in using this service, however to reduce cost the DOC contract doesn't provide for automatically issuing full functioning accounts. To receive access to a "Send Tab", after your Accellion account has been established send an email from the associated email account to accellionAlerts@doc.gov requesting access to the "Send Tab" function. They will notify you via email usually within 1 business day of your approval. The "Send Tab" function will be accessible for 30 days.

Contact information:

Regional Director of Health Services
Marine Operations Center – Atlantic 439
W. York Street
Norfolk, VA 23510
Telephone 757-441-6320

Fax 757-441-3760

Email MOA.Health.Services@noaa.gov

Prior to departure, the Executive Officer will obtain an electronic listing of emergency contacts for all members of the scientific party, with the following information: contact name, address, relationship to member, and telephone number.

C. Shipboard Safety

Hard hats are required when working with suspended loads. Work vests are required when working near open railings and during small boat launch and recovery operations. Hard hats and work vests will be provided by the ship when required.

Wearing open-toed footwear or shoes that do not completely enclose the foot (such as sandals or clogs) outside of private berthing areas is not permitted. At the discretion of the ship CO, safety shoes (i.e. steel or composite toe protection) may be required to participate in any work dealing with suspended loads, including CTD deployment and recovery. The ship does not provide safety-toed shoes/boots. The ship's Operations Officer should be consulted by the Principal Investigator to ensure members of the scientific party report aboard with the proper attire.

D. Communications

A progress report on operations prepared by the Commanding Officer may be relayed to the program office. The ship's primary means of communication with the Marine Operations Center is via email and the Very Small Aperture Terminal (VSAT) link.

Standard VSAT bandwidth at 128kbs is shared by all vessels staff and the science team at no charge. Increased bandwidth in 30 day increments is available on the VSAT systems at increased cost to the scientific party. If increased bandwidth is being considered, program accounting is required and it must be arranged through the ship's Commanding Officer at least 30 days in advance.

E. IT Security

Any computer that will be hooked into the ship's network must comply with the *OMAO Fleet IT Security Policy* 1.1 (November 4, 2005) prior to establishing a direct connection to the NOAA WAN. Requirements include, but are not limited to:

- (1) Installation of the latest virus definition (.DAT) file on all systems and performance of a virus scan on each system.
- (2) Installation of the latest critical operating system security patches.
- (3) No external public Internet Service Provider (ISP) connections.

Completion of the above requirements prior to boarding the ship is required.

Non-NOAA personnel using the ship's computers or connecting their own computers to the

ship's network must complete NOAA's IT Security Awareness Course within 3 days of embarking.

F. Foreign National Guests Access to OMAO Facilities and Platforms

All foreign national access to the vessel shall be in accordance with NAO 207-12 and RADM De Bow's March 16, 2006 memo (<http://deemedexports.noaa.gov>). National Marine Fisheries Service personnel will use the Foreign National Registration System (FNRS) to submit requests for access to NOAA facilities and ships. The Departmental Sponsor/NOAA (DSN) is responsible for obtaining clearances and export licenses and for providing escorts required by the NAO. DSNs should consult with their designated Line Office Deemed Export point of contact to assist with the process.

Full compliance with NAO 207-12 is required.

Responsibilities of the Chief Scientist:

1. Provide the Commanding Officer with the email generated by the Servicing Security Office granting approval for the foreign national guest's visit. (For NMFS-sponsored guests, this email will be transmitted by FNRS.) This email will identify the guest's DSN and will serve as evidence that the requirements of NAO 207-12 have been complied with.
2. Escorts – The Chief Scientist is responsible to provide escorts to comply with NAO 207-12 Section 5.10, or as required by the vessel's DOC/OSY Regional Security Officer.
3. Ensure all non-foreign national members of the scientific party receive the briefing on Espionage Indicators (NAO 207-12 Appendix A) at least annually or as required by the Servicing Security Office.
4. Export Control - Ensure that approved controls are in place for any technologies that are subject to Export Administration Regulations (EAR).

The Commanding Officer and the Chief Scientist will work together to implement any access controls necessary to ensure no unlicensed export occurs of any controlled technology onboard regardless of ownership.

Responsibilities of the Commanding Officer:

1. Ensure only those foreign nationals with DOC/OSY clearance are granted access.
2. Deny access to OMAO platforms and facilities by foreign nationals from countries controlled for anti-terrorism (AT) reasons and individuals from Cuba or Iran without written approval from the Director of the Office of Marine and Aviation Operations and compliance with export and sanction regulations.
3. Ensure foreign national access is permitted only if unlicensed deemed export is not likely to occur.
4. Ensure receipt from the Chief Scientist or the DSN of the FNRS or Servicing Security Office email granting approval for the foreign national guest's visit.
5. Ensure Foreign Port Officials, e.g., Pilots, immigration officials, receive escorted access in accordance with maritime custom to facilitate the vessel's visit to foreign ports.
6. Export Control - 8 weeks in advance of the project, provide the Chief Scientist with a current inventory of OMAO controlled technology onboard the vessel and a copy of the vessel Technology Access Control Plan (TACP). Also notify the Chief Scientist of any OMAO-sponsored foreign nationals that will be onboard while program equipment is aboard so that the Chief Scientist can take steps to prevent unlicensed export of Program controlled technology. The Commanding Officer and the Chief Scientist will work together to implement any access

controls necessary to ensure no unlicensed export occurs of any controlled technology onboard regardless of ownership.

7. Ensure all OMAO personnel onboard receive the briefing on Espionage Indicators (NAO 207-12 Appendix A) at least annually or as required by the Servicing Security Office.

Responsibilities of the Foreign National Sponsor:

1. Export Control - The foreign national's sponsor is responsible for obtaining any required export licenses and complying with any conditions of those licenses prior to the foreign national being provided access to the controlled technology onboard regardless of the technology's ownership.
2. The DSN of the foreign national shall assign an on-board Program individual, who will be responsible for the foreign national while on board. The identified individual must be a U.S. citizen and a NOAA or DOC employee. According to DOC/OSY, this requirement cannot be altered.
3. Ensure completion and submission of Appendix C (Certification of Conditions and Responsibilities for a Foreign National

VIII. Appendices

1. Primary Project Instructions: HSAT-TJ-16, Thomas Jefferson Hydrographic Systems Acceptance Test.

Hydrographic Survey Project Instructions

Project Name:	Hydrographic Systems Acceptance Test
Project Number:	HSAT-TJ-16
Assigned Field Unit:	NOAA Ship <i>Thomas Jefferson</i>
Assigned Processing Branch:	Atlantic Hydrographic Branch
Signed Date:	09/13/2016
Project Instructions Version:	Final
Planned Acquisition Time:	Start Date: 09/2016 End Date: 10/2016
Delivery Dates:	NA

Purpose and Location:
The purpose of this project is to test and calibrate two sonar systems recently installed on the NOAA Ship Thomas Jefferson.
Supporting Documents:
Hydrography shall consist of Navigable Area Surveys in accordance with the following support documents.
NOS Hydrographic Surveys Specifications and Deliverables Manual (HSSD), March 2016
NOS Field Procedures Manual for Hydrographic Surveying (FPM), April, 2014
Hydrographic Survey Technical Directive (HTD) 2016-2
Hydrographic Survey Technical Directive (HTD) 2016-3

PERSONNEL SAFETY AND DATA QUALITY SHALL ALWAYS BE EMPHASIZED OVER DATA QUANTITY! THE HYDROGRAPHER SHALL NEVER SUBJECT PERSONNEL OR BOATS TO UNDUE RISKS AND HAZARDS.

Registry Details:						
General Locality: Atlantic Ocean						
<i>Registry Number</i>	<i>Sheet Number</i>	<i>Sublocality</i>	<i>State or Territory</i>	<i>Scale</i>	<i>Estimated SNM</i>	<i>Instructions</i>
Not Applicable	1	Hydrographic Systems Acceptance Test	Virginia, Atlantic	0	1	

Limits & Coverage:	
Inshore Limit: There is no inshore limit defined for this survey.	
Coverage Requirements:	
<i>Coverage Water Depth</i>	<i>Coverage Required</i>
All waters in survey area	Survey as needed to meet the testing and calibration requirements.

Assigned Tasks

Acknowledgement:
Acknowledgement of these project instructions is not required for this project.

Environmental Compliance Requirements
Comply with the marine mammal observation and reporting requirements in Section 1.4 of the HSSD; and all Best Management Practices (BMPs) listed at the end of these Project Instructions.

Aids to Navigation (ATONs):
There are no ATONs specifically assigned for this project. Any ATONs located within the survey area should be verified so that they serve their intended purpose in accordance with Section 7.2 of the HSSD.

AWOIS Items:
There are no AWOIS investigation requirements for this project.

Maritime Boundary Points (MBPs):
There are no Maritime Boundary investigation requirements for this project.

Bottom Samples:
There is no Bottom Sample requirement for this project.

Chart Comparison:

There is no Chart Comparison requirement for this project.

Coast Pilot:

There is no Coast Pilot requirement for this project.

Dangers to Navigation (DTONs):

There is no DTON requirement for this project.

Junctions:

No junctioning surveys have been provided for this project.

Progress Reports:

There is no Progress Report requirement for this project.

Survey Outlines:

There is no Survey Outline requirement for this project.

Horizontal Control Requirements:

There is no Horizontal Control requirement for this project.

Vertical Control Requirements:

There is no Vertical Control requirement for this project.

Orthometric Imagery:

No Orthometric Imagery has been provided for this project.

Shoreline and Nearshore Features:

There is no Shoreline Verification requirement for this project.

RELATED BEST MANAGEMENT PRACTICES (BMPS) FOR HSAT-TJ-16

The following BMPs are based on the ESA mitigation and monitoring measures agreed to between the OCS Hydrographic Services Division (HSD) and the NMFS Office of Protected Resources (OPR-ESA) and documented in the April 30, 2013 Biological Opinion. They were adopted in the context of the ESA, but include BMPs for marine mammals listed in the ESA (“depleted” under MMPA). OCS proposes that these BMPs be applied to all OCS hydro work while MMPA compliance is underway. In all cases BMPs will be communicated to ship and boat crews via project instructions.

Universal BMPs (Apply to all OCS Surveys):

Vessel Speed Limits

- Slow speeds (4 – 8 knots) when mapping
- Reduced speeds (<13 knots) when transiting outside of the Great Lakes

Echosounder Restrictions

- Avoid using sonar frequencies < 180 kHz when possible
 - If **multibeam** sonar frequencies < 180 kHz must be employed, use echosounders at ≥ 50 kHz frequencies, with the lowest possible power and ping-rate
 - If **single beam** sonar frequencies < 180 kHz must be employed, use echo sounders at ≥ 30 kHz frequencies, with the lowest possible power and ping-rate and a 12° beam angle.
 - If **single beam** sonar frequencies < 30 kHz must be employed, suspend transmissions of 30 kHz or lower when ESA-listed cetacean species (whales, dolphins, and porpoises) are within hearing range (i.e., the 4.2 meter beam width).

Vessel Maintenance Requirements

- Meet all EPA Vessel General Permits and Coast Guard requirements
- Use anti-fouling coatings
- Clean hull regularly to remove aquatic nuisance species
- Avoid cleaners with nonylphenols
- Rinse anchor with high-powered hose after retrieval

Anchoring Restrictions

- Use designated anchorage area when available
- Use mapping data to anchor in mud or sand, to avoid anchoring on corals
- Minimize anchor drag

Visual Monitoring Requirements

- Maintain trained observers aboard all vessels; 100% observer coverage
- Make species identification keys (for marine mammals, sea turtles, corals, abalone, and seagrasses) available on all vessels

Animal Approach Restrictions

- Avoid approaching within 200 yards of cetaceans (whales, dolphins, and porpoises), 500 yards for right whales
- Suspend single beam sonar transmissions of 30 kHz when ESA-listed cetaceans (whales, dolphins, and porpoises) are within hearing range (i.e., within the 4.2 meter beam width).
- Avoid approaching within 100 yards of in-water seals and walrus
- When possible, suspend sonar transmissions when ESA-listed seals and walrus are within hearing range (i.e., within the 4.2 meter beam width).
- Avoid approaching within 50 yards of sea turtles

Additional BMPs:

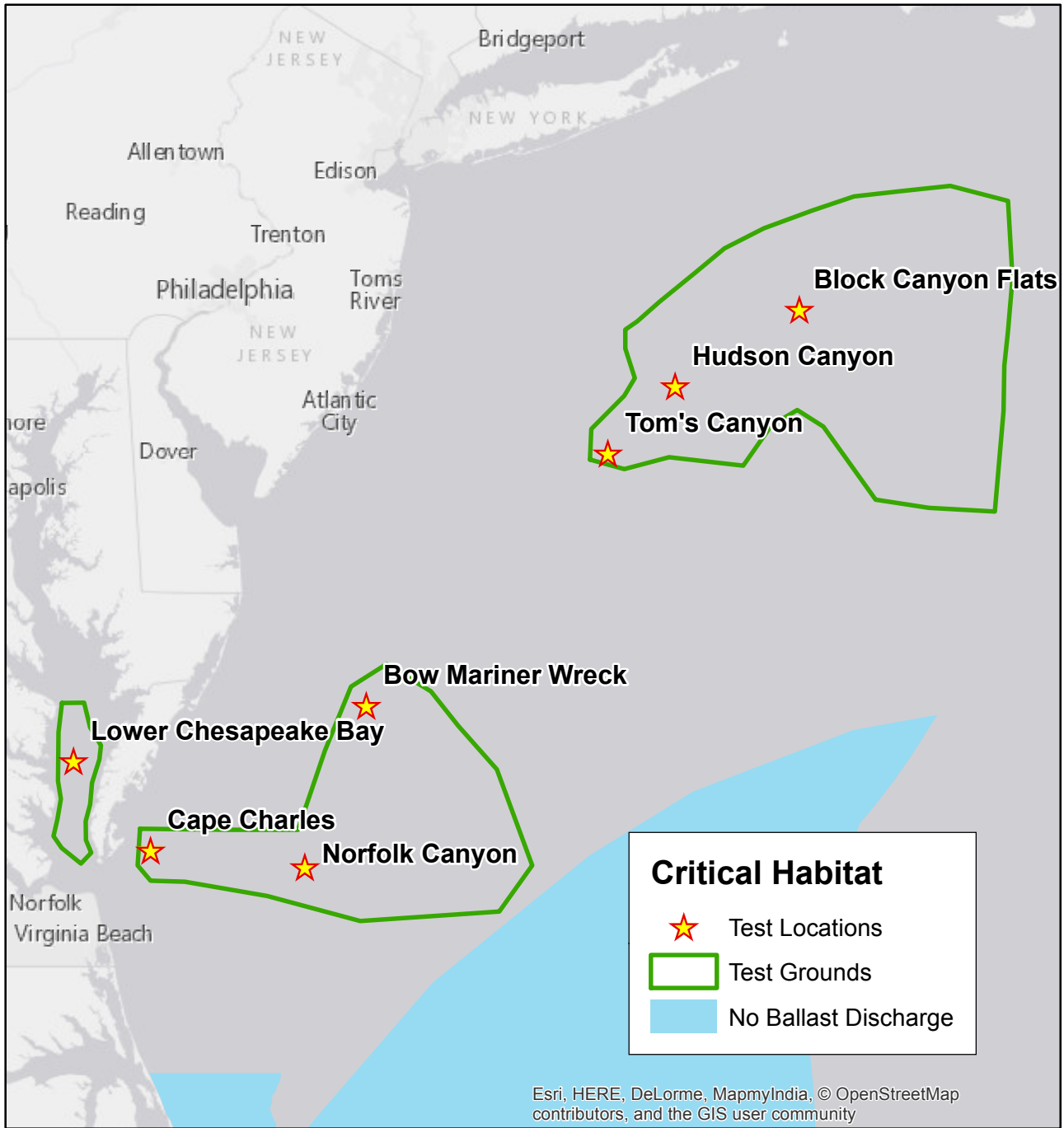
For critical habitat located near the project area refer to the map on the next page.

Discharge Restrictions

- Avoid discharge of ballast water and hull cleaning in designated critical habitat

Animal Approach Restrictions

- Avoid cetacean (whales, dolphins, and porpoises) critical habitat, when possible



Loggerhead Turtle Critical Habitat

Map: http://www.nmfs.noaa.gov/pr/species/turtles/criticalhabitat_loggerhead.htm
 CFR: <https://www.federalregister.gov/articles/2014/07/10/2014-15748/northwest-atlantic-ocean-loggerhead-sea-turtle-and-north-pacific-ocean-loggerhead-distinct>

User Contacts

The following primary offices and persons shall be contacted at or near the beginning and end of the field operations to discuss survey objectives and accomplishment (Mandatory) or are listed for contact at the discretion of the Commanding Officer (Reference).

Principal Investigator

Sam Greenaway

NOAA

Phone: 206-427-9554

Fax:

Email: Samuel.Greenaway@noaa.gov

Obligation: Mandatory