UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NOAA Marine and Aviation Operations
Marine Operations Center - Atlantic
Norfolk, Virginia 23510-1114

MEMORANDUM FOR: Lieutenant Commander Matthew Jaskoski, NOAA
Commanding Officer, NOAA Ship *Ferdinand Hassler*

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

SUBJECT: Project Instruction for FH-16-03
Benthic Habitat Assessment of the Northeast Continental Shelf Ecosystems

Attached is the final Project Instruction for FH-16-03 Benthic Habitat Assessment of the Northeast Continental Shelf Ecosystems, scheduled aboard NOAA Ship *Ferdinand Hassler* during the period of November 30, 2016 to December 11, 2016. Of the 12 DAS scheduled for this project, 12 days are funded by a Line Office Allocation. This project is estimated to exhibit a High Operational Tempo. Acknowledge receipt of these instructions via e-mail to **chiefops.moa@noaa.gov** at Marine Operations Center-Atlantic.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northeast Fisheries Science Center
166 Water Street
Woods Hole, MA 02543-1026

Final Project Instructions

Date Submitted:	November 3, 2016
Platform:	NOAA Ship *Ferdinand Hassler*
Project Number:	FH-16-03
Project Title:	Benthic Habitat Assessment of the Northeast Continental Shelf Ecosystems
Project Dates:	**November 30, 2016 – December 11, 2016 (NEFSC travel November 29 and December 12)**

Prepared by: Vincent Guida, Ph.D.
Chief Scientist
Coastal Ecology Branch, Chief
Northeast Fisheries Science Center
J.J. Howard Marine Laboratory

Approved by: _____ Dated: 11/10/16
Jonathan Hare, Ph.D.
Science and Research Director
Northeast Fisheries Science Center

Approved by: _____ Dated: 11/16/16
Captain Scott M. Sirois, NOAA
Commanding Officer
Marine Operations Center - Atlantic

I. Overview

A. Brief Summary and Project Period

In the interest of the National Marine Fisheries Service (NMFS) Northeast Fisheries Science Center (NEFSC) theme of Science in Support of Ecosystem-Based Fisheries Management, we plan to conduct hydroacoustic survey operations off of southern New Jersey from November 30th to December 11th to support its regional Benthic Habitat Assessment (NEFSC BHA) project. Through this work we plan to develop a better sense of the function of benthic and demersal habitats toward fisheries production. In the course of this phase of the NEFSC BHA project, our goals are as follows:

1) Characterize offshore benthic habitats that fall within Bureau of Ocean Energy Management (BOEM) designated New Jersey Wind Energy Areas (NJ WEA), and

2) Develop benthic habitat maps, models, and other data products that can be used to improve NEFSC's analytical and decision-making capabilities with respect to:

    a) offshore energy siting and monitoring,

    b) improved essential fish habitat definition, and

    c) data in support of conventional and alternative fisheries management strategies in the mid-Atlantic.

Specific to this cruise, we will collect high-resolution multibeam (bathymetry and backscatter), sidescan sonar imagery (SSS), and CTD cast data from a range of bottom types in order to characterize important topographic, geologic, and summertime oceanographic features of benthic and demersal habitats within the New Jersey Wind Energy Area (NJ WEA).

B. Days at Sea (DAS)

Of the 12 DAS scheduled for this project, 12 DAS are funded by a Line Office Allocation. This project is estimated to exhibit a High Operational Tempo.

C. Operating Area

Our area of operation is located roughly 30 km east of southern New Jersey, within the New Jersey Wind Energy Area (NJ WEA: Appendix Fig. 1). The entire WEA spans roughly 1000 km^2. Within this larger area, we will target a 150 km^2 mapping area, which we have preselected in order to characterize a range of ecologically important benthic habitats in the extreme southern end of the NJ WEA, east of the Cape May Peninsula. Water depths in the mapping area range 21-38 m.

D. Summary of Objectives

The operational objectives are to collect: (1) high resolution (2x2m) multibeam bathymetry, backscatter, and sidescan sonar imagery, (2) survey-directed MVP casts, and (3) survey-directed Ponar grab samples throughout the NJ WEA mapping area. Survey-directed SVP casts will be completed and stored periodically at the discretion of active sonar technician(s) and NEFSC scientist(s) (ideally every 2 hours) for real-time sound-velocity profile correction. Survey-directed Ponar grab samples will also be collected and stored on the final day of operations (weather dependent) for grain size analysis ashore for use in ground-truthing of collected backscatter and sidescan data.

E. Participating Institutions

NMFS- Northeast Fisheries Science Center
Bureau of Ocean Energy Management (U.S Dept. of Interior: BOEM)

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

Name (Last, First)	**Title**	**Date Aboard**	**Date Disembark**	**Gender**	**Affiliation**	**Nationality**
TBD						

G. Administrative:

1. Points of Contacts:

Chief Scientist – Vincent Guida, Ph.D.
office: 732-872-3020; email: Vincent.guida@noaa.gov

Ops. Officer- ops.ferdinand.hassler@noaa.gov,

Agent: Nathan Keith, Vessel Coordinator
office: 508-495-2224

Email Contact: The following should be included as recipients of the daily e-mail message:

Thomas.Noji@noaa.gov {E&A Division Chief}

Susan.Gardner@noaa.gov {Deputy Science and Research Director}

Jon.Hare@noaa.gov	{ Science and Research Director}
Nathan.Keith@noaa.gov	{NEFSC Vessel Coordinator}
CO.Ferdinand Hassler@noaa.gov	{Commanding Officer – FERDINAND HASSLER}
Michael.S.Abbott@noaa.gov	{NEFSC Port Captain}

2. Diplomatic Clearances

None Required.

3. Licenses and Permits

This study will operate under a Scientific Research Permit (SRP) issued by the Greater Atlantic Regional Fisheries Office, and NEFSC MMPA and ESA Incidental Take Authorization.

II. Operations

The Chief Scientist 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:

30 November: Depart from Newcastle, NH and commence cruise operations upon arrival to operation area.

11 December: Complete cruise operations, and steam for Newcastle, NH.

B. Staging and Destaging:

29 November: Begin cruise staging at in Newcastle, NH.

30 November: Complete cruise staging. Load and setup remaining scientific equipment (e.g., SVP, Ponar), embark scientific personnel, and complete CTD, Ponar and SCS work station setup.

11 December: Dock in Newcastle. Disembark scientific personnel, and off-load scientific equipment and data.

C. Operations to be Conducted:

Operations Summary: Hydroacoustic transects (multibeam, backscatter, and sidescan sonar), survey-directed SVP sampling, and survey-directed grab sampling (ground-truthing) will be conducted throughout the NJ WEA priority area (Figure 1). During the collection of hydroacoustic and SVP data, several of the ship's systems will need to be configured both to run and log continuously including the Reson 7125, Klein 5550 V2, SVP-70, Applanix POS M/V 320, all associated standard Scientific Computer Stations (SCS). Active sonar technician(swill also collaboratively monitor the multibeam and SSS returns to select optimal ground-truthing sites. Then on the final day, grab sampling operations will commence with only SCS required to populate the ships Event Logger running. The survey progress will depend on the sea state and water depth of the area, with rough weather and shallower areas likely requiring closer survey line spacing, and deeper areas requiring slightly more time to grab sampler. In addition to the ship's SCS, hand written log notebooks will also be maintained by throughout the cruise for hydroacoustic, MVP, and grab sampler activities (Figure 2-4).

Hydroacoustic Survey Operations: Reson 7125 and Klein 5550 survey operations will be conducted continuously within the New Jersey priority area at the highest safe transit speed possible. The two systems will be configured and optimized to log data continuously in 20-40m water depth, and survey lines will be planned and spaced for the collection of high resolution multibeam (bathymetry and backscatter) and sidescan imagery (both at least 2 m X 2 m). Regarding line spacing, full coverage with enough overlap to ensure useable data from outer beams is desired. Regarding survey vessel speed, the maximum commensurate with obtaining good multibeam imagery should be employed. If there is not sufficient time to cover the entire proposed area, the highest priority is to cover the southern half of the mapping area, where the depths are deepest and the terrain most varied (Fig. 2).

Acting survey personnel will include at least 1-2 sonar. Sonar technician(s) will be responsible for monitoring both instruments at all times 1) to ensure high quality hydroacoustic data collection and 2) to reduce "cross-talk" between systems. While the ships SCS will record standard track information, the acting technicians will also record the time and location of major events throughout survey activities within the Hydroacoustic Event Log Notebook (see data sheet, Figure 3), including the start and end of survey lines, the location/time of all MVP casts, as well as any other survey events that might be pertinent to later interpretation and/or analysis of collected data.

Benthic Grab Stations: During hydroacoustic survey operations, sonar technician(s) will monitor the multibeam and SSS waterfall displays to select sites that require further ground-truthing (e.g. site that fall within the full spectrum of returns, as well as potentially interesting features). Then, on the last day of survey operation, a Ponar grab sampler will be deployed at each selected site to record visual substrate characterization, conduct a numbered surface photo, and collect triplicate samples of sediment for further grain-size analysis. In terms of setup, the grab sampler. Operating personnel will include the ship's hydroacoustic winch operator, one or more ship's deck crew with proper safety gear to handle the instrument on deck at the launch site, and 1-2 sample processors who will collect, catalog, and store sediment samples from each site. All three stations (winch, deck, and processing) should be in voice contact with one another and the bridge, preferably with hand-held radios.

Prior to commencing grab sampling operations, NEFSC scientists will provide a compiled and prioritized list of survey-identified ground truthing locations. The ship will then transit to each of these locations based on proximity and priority. Once on site, the bridge will position the ship for sampling activities, the sample processor(s) will record the appropriate site information (see sample recording sheet, Figure 3), and the deck operator(s) will arm the grab sampler for deployment. When given the signal from the bridge that the ship is in position, the grab sampler will then be lifted over the side by the winch operator, and sent down to the bottom a the fastest speed allowable. Once on bottom, the winch operator will return the sampler to the surface and lower it onto its stand. *If the sample is adequate as judged by the scientist collecting the sample (jaws closed and bucket at least 2/3 full),* this information will be passed to the bridge so that they can get underway for the next station as soon as possible. Grab information will be recorded (see sample recording sheet, Figure 3) , a photo of its surface will be taken by a member of the scientific crew, and then a 3 cm (1 3/16") diameter plastic core tube will be used to take a subsample of at least 5 cm (2"…use a ruler) depth for grain size analysis. That tube will then be capped on top, carefully removed from the grab, capped on the bottom, recorded, labeled, and stored upright in a refrigerator (preferable) or freezer (if necessary). No chemical preservation of cores is necessary. *If the sample is inadequate, this will be communicated to the bridge so that they can either reposition the ship for another grab or give the signal to redeploy the sampler.* To avoid wasting time, the team shall attempt to sample a single location no more than 3 times and any unsuccessful attempts will be recorded in the Benthic Grab Field Notebook (Figure 3).

Scientific Computer System (SCS): In addition to paper logs, the *Ferdinand Hassler* SCS and EventLog program (s) will be configured for NOAA standard Hydroacoustic

Survey, CTD Cast, and Grab Sample data collection, and will be used by the technicians and scientists to document all operational events (*e.g.*, beginning and end of track lines, cast log, gear deployments). Date and time for data collections from computers, instrumentation, and logsheets recording will be synchronized using the vessel's GPS master clock and Dimension IV software. The *Ferdinand Hassler*'s ET are responsible for ensuring data collection and logging.

Data: At the end of the cruise the ship will provide the Field Scientific Lead with copies of the data from the Ship's navigation system (cruise track), Reson 7125, the Klein sidescan, the event log system, and any auxiliary post-processed datasets required for processing multibeam and sidescan data in Caris HIPS/SIPS. A copy of the SCS data should also be provided to DMS personnel in Woods Hole.

D. Dive Plan

All dives are to be conducted in accordance with the requirements and regulations of the NOAA Diving Program (http://www.ndc.noaa.gov/dr.html) and require the approval of the ship's Commanding Officer. (This statement must remain in all project instructions)

Dives are not planned for this project.

E. Applicable Restrictions

Conditions which preclude normal operations: (List restrictions such as poor weather conditions, equipment failure, safety concerns, unforeseen circumstances, as well as mitigation strategies that might be used).

Protected Resources

North Atlantic right whale protection: The vessel is requested to adhere to right whale protection regulations. Information on Seasonal Management Area (SMA) and Dynamic Management Area (DMA) regulations and information for protecting right whales from collisions with vessels are provided through the NOAA Protected Resources website (http://www.nmfs.noaa.gov/pr/shipstrike/), Right Whale Sighting Advisory System (SAS) website (http://www.nefsc.noaa.gov/psb/surveys/), the U.S. Coast Guard's "Notices To Mariners" and NOAA weather radio.Mariners are urged to use caution and proceed at safe speeds in areas where right whales occur. U.S. Law (50 CFR 224.105) prohibits operating vessels 65 feet (19.8 meters) or greater in excess of 10 knots in Seasonal Management Areas (SMAs) along the U.S. east coast. Mariners are also requested to route around voluntary speed restriction zones, Dynamic Management Areas (DMAs) or transit through them at 10 knots or less. Approaching within 500 yards of right whales is prohibited, unless the Chief Scientist is in possession of an ESA/MMPA permit allowing such approaches.

Whale sightings: Sightings of right whales, or dead or entangled whales of any species, are extremely valuable and reports are urgently requested. Please report all right whale sightings north of the Virginia-North Carolina border to 866-755-6622; right whale sightings south of that border should be reported to 877-WHALE HELP. Right whale sightings in any location may be reported to the U.S. Coast Guard via VHF channel 16. Protocols for reporting sightings are described in the Guide to Reporting Whale Sightings placard. The placard is available online (http://www.nefsc.noaa.gov/psb/surveys/documents/20120919_Report_a_Right_Whale.pdf) and laminated copies will be provided by the Protected Species Branch upon request. It is requested that this placard be kept on the bridge for quick reference and to facilitate rapid reporting (via satellite phone if necessary). Opportunistic sightings of other marine mammal species that are live and well may be reported using the Platforms of Opportunity (POP) forms and protocols. To information regarding the WhaleALERT application http://stellwagen.noaa.gov/protect/whalealert.html. For information on reporting a dead whale http://www.nefsc.noaa.gov/psb/surveys/documents/20120919_Report_a_Dead_Whale.pdf

Mitigation for Protected Resources:

Plankton Nets, Small-mesh Towed Nets, Oceanographic Sampling Devices, Video Cameras, and Remotely Operated Vessel (ROV) Deployments

The NEFSC deploys a wide variety of gear to sample the marine environment during many of their research cruises, such as plankton nets, oceanographic sampling devices, video cameras, and ROVs. These types of gear are not considered to pose any risk to protected species because of their small size, slow deployment speeds, and/or structural details of the gear and are therefore not subject to specific mitigation measures. However, the officer on watch and crew monitor for any unusual circumstances that may arise at a sampling site and use their professional judgment and discretion to avoid any potential risks to protected species during deployment of all research equipment.

"Take" of Protected Resources: Under the Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA) it is unlawful to take a protected species. The MMPA defines take as "harass, hunt, capture, kill, or collect, or attempt to harass, hunt, capture, or collect". The ESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." An incidental take is one that is incidental to, but not the purpose of, otherwise lawful activities.

In the event of an incidental take of a marine mammal or federally listed threatened or endangered species during the cruise, the chief scientist will take the following actions:

Marine turtle, Sturgeon and Atlantic salmon bycatch: Please refer to the Permits & Incidental Take Manual for handling and sampling procedures. Information should be collected on the Sturgeon & Salmon and Turtle Data Collection Sheets and required information should be submitted within 24 hours of the take to Incidental.Take@noaa.gov, Elizabeth.Josephson@noaa.gov, Nathan.Keith@noaa.gov, Sarah.Pike@noaa.gov for PSIT entry.

Dead turtles, sturgeon, and Atlantic salmon shall, if feasible, be frozen and returned to the Woods Hole Laboratory.

Marine mammal bycatch: Please refer to the Permits & Incidental Take Manual for handling and sampling procedures. Information should be collected on the Marine Mammal Incidental Take & Data Collection Sheet. **Animals determined to be dead, shall if feasible be frozen and return to the Woods Hole laboratory.** Required PSIT information should be submitted within 24 hours of the take to Incidental.Take@noaa.gov, Elizabeth.Josephson@noaa.gov, Nathan.Keith@noaa.gov, Sarah.Pike@noaa.gov.

Migratory bird salvage: Please refer to the Federal Fish and Wildlife "Special Purpose – Salvage" Permit located in the Permits & Incidental Take Manual for the salvage of dead migratory birds (except species listed as threatened or endangered under the Endangered Species Act; see 50 CFR 17.11).

III. Equipment

A.

Equipment and Capabilities provided by the ship (itemized)			
	Purpose	Item	Quantity
1	Hydroacoustic		
2	Hydroacoustic Surveys	Reson 7125 Multibeam Ecosounder	2
3	Hydroacoustic Surveys	Klein 5550 Side Scan Sonar	1
4	Hydroacoustic Surveys/CTD Sampling	Computer(s) (meeting NOAA security standards) and electronic storage for running and logging hydroacoustic operations	ample
5	Grab Sampling Operations	Ponar Grab Sampler	1
6	Grab Sampling Operations	Refrigerator (preferred) or Freezer space (if available)	ample
7	Grab Sampling Operations	Walky-Talkys	ample
8	Grab Sampling Operations	Deck hose	1

B.

Equipment and Capabilities provided by the scientists (itemized)			
1	Grab Sampling Operations	Backup Van-Veen Grab Sampler with stand	1
2	Grab Sampling Operations	Grab Sampler Toolbox, inc:	1
3	Grab Sampling Operations	WD-40	1
4	Grab Sampling Operations	Zip ties (various sizes)	ample
5	Grab Sampling Operations	Duck tape	ample
6	Grab Sampling Operations	Electrical Tape	ample
7	Grab Sampling Operations	Wrenches	set
8	Grab Sampling Operations	Scientific Fisher Rulers for measuring sediment depth	ample
9	Grab Sampling Operations	Coring tubes and caps	ample
10	Grab Sampling Operations	Core labels	ample
11	Grab Sampling Operations	Sharpies	ample
12	Grab Sampling Operations	Baggies (for double packing samples)	ample
13	Grab Sampling Operations	Digital Camera (for photographing grab samples, water-resistant and drop-proof ideal)	2
14	Grab Sampling Operations	Rite in Rain Paper cut into small strips (for labeling photos, and double cores)	ample
15	NEFSC Data Retrieval/ Logs	2TB Hard Drive	1
16	NEFSC Data Retrieval/ Logs	Rite in Rain Field Notebooks	ample
17	NEFSC Data Retrieval/ Logs	Pens and pencils	ample
18	NEFSC Data Retrieval/ Logs	Premade datasheets in three ring binders for 1)CTD casts, 2) hydroacoustic surveys, 3) grab samples	ample, and 3
19	NEFSC Data Retrieval/ Logs	Laptop computer (meeting NOAA security standards) for cruise tracking and data manipulation in field	1
20	NEFSC Data Retrieval/ Logs	Scientific Drybox	1
21	NEFSC Personal Protective	Foul Weather gear (for scientific crew)	3

	Equipment		
22	NEFSC Personal Protective Equipment	Hard Hats (for scientific crew)	3
23	NEFSC Personal Protective Equipment	Boots (for scientific crew)	3
24	NEFSC Personal Protective Equipment	Gloves (for scientific crew)	3

IV. Hazardous Materials

A. Policy and Compliance

No Hazardous Materials are being brought aboard the ship 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.

A. Data Classifications: *Under Development*

a. OMAO Data

b. Program Data

B. Responsibilities: *Under Development*

VII. Meetings, Vessel Familiarization, and Project Evaluations

A. Pre-Project Meeting: The Chief Scientist and 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. The ship's Operations Officer usually is delegated to assist the Chief Scientist in arranging this meeting.

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 conducted 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 Chief Scientist, and members of the scientific party and is normally arranged by the Operations Officer and Chief Scientist.

D. Project Evaluation Report: Within seven days of the completion of the project, a Customer Satisfaction Survey is to be completed by the Chief Scientist. The form is available at http://www.omao.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. N/A

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

the Chief Scientist or the NOAA website 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 Chief Scientist must provide an electronic listing of emergency contacts to the Executive Officer 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 Chief Scientist to ensure members of the scientific party report aboard with the proper attire.

D. Communications

A progress report on operations prepared by the Chief Scientist may be relayed to the program office. Sometimes it is necessary for the Chief Scientist to communicate with another vessel, aircraft, or shore facility. Through various means of communications, the ship can usually accommodate the Chief Scientist. Special radio voice communications requirements should be listed in the project instructions. 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

Foreign National access to the NOAA ship or Federal Facilities is not required for this project.

VIII. Appendices

Figure 1: Area of operation and priority survey area of interest within the New Jersey Wind Energy Area (NJ WEA). Numbered green polygons represent previous OCS surveys that overlap the WEA. The blue rectangles are areas that were mapped aboard NOAA Ship *Thomas Jefferson* as part of this same project in 2015. The pink polygon is mapping area proposed for this cruise.

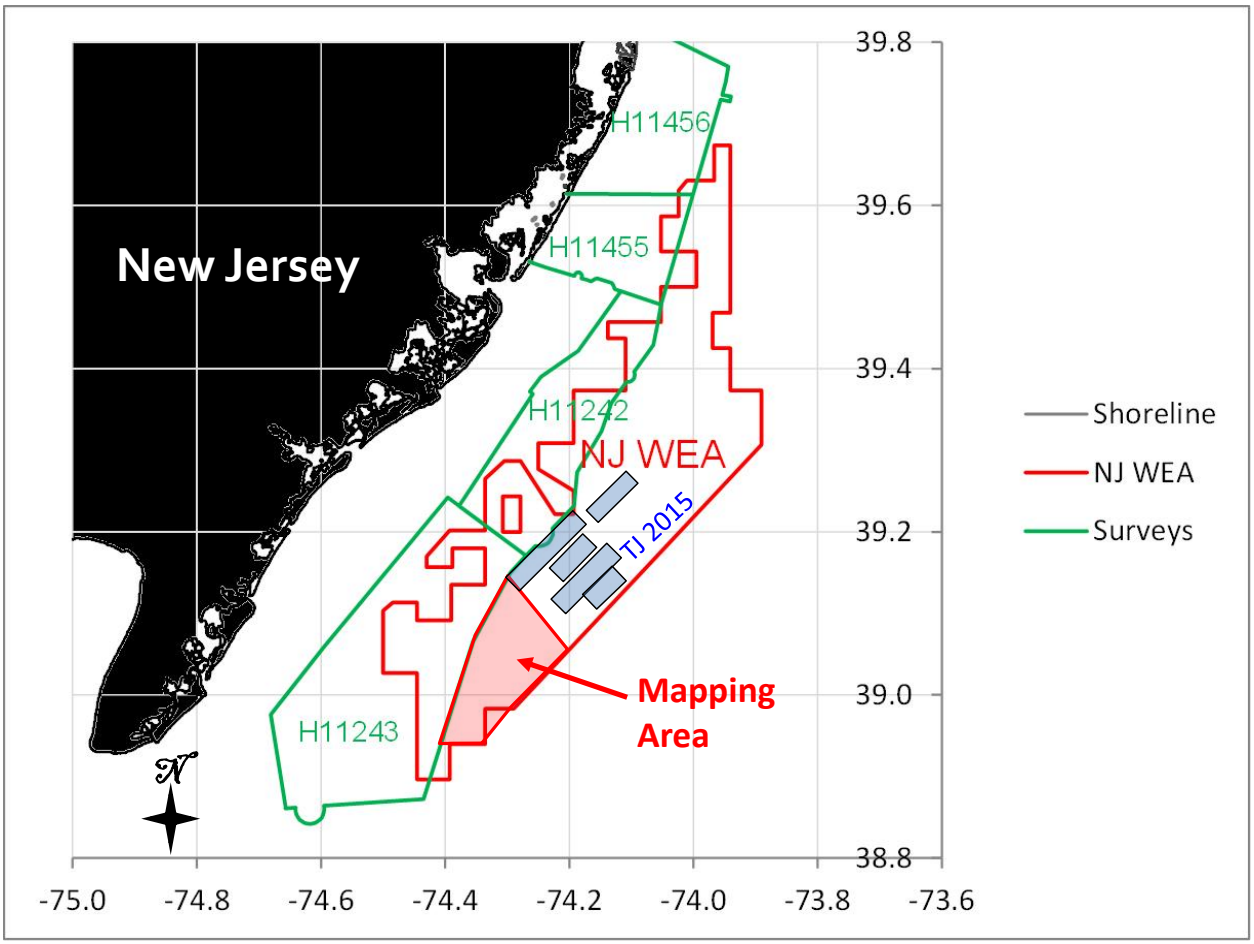

Figure 2. Contour map of area of New Jersey Wind Energy Area based on low resolution bathymetry from the National Centers for Environmental Information (NCEI).

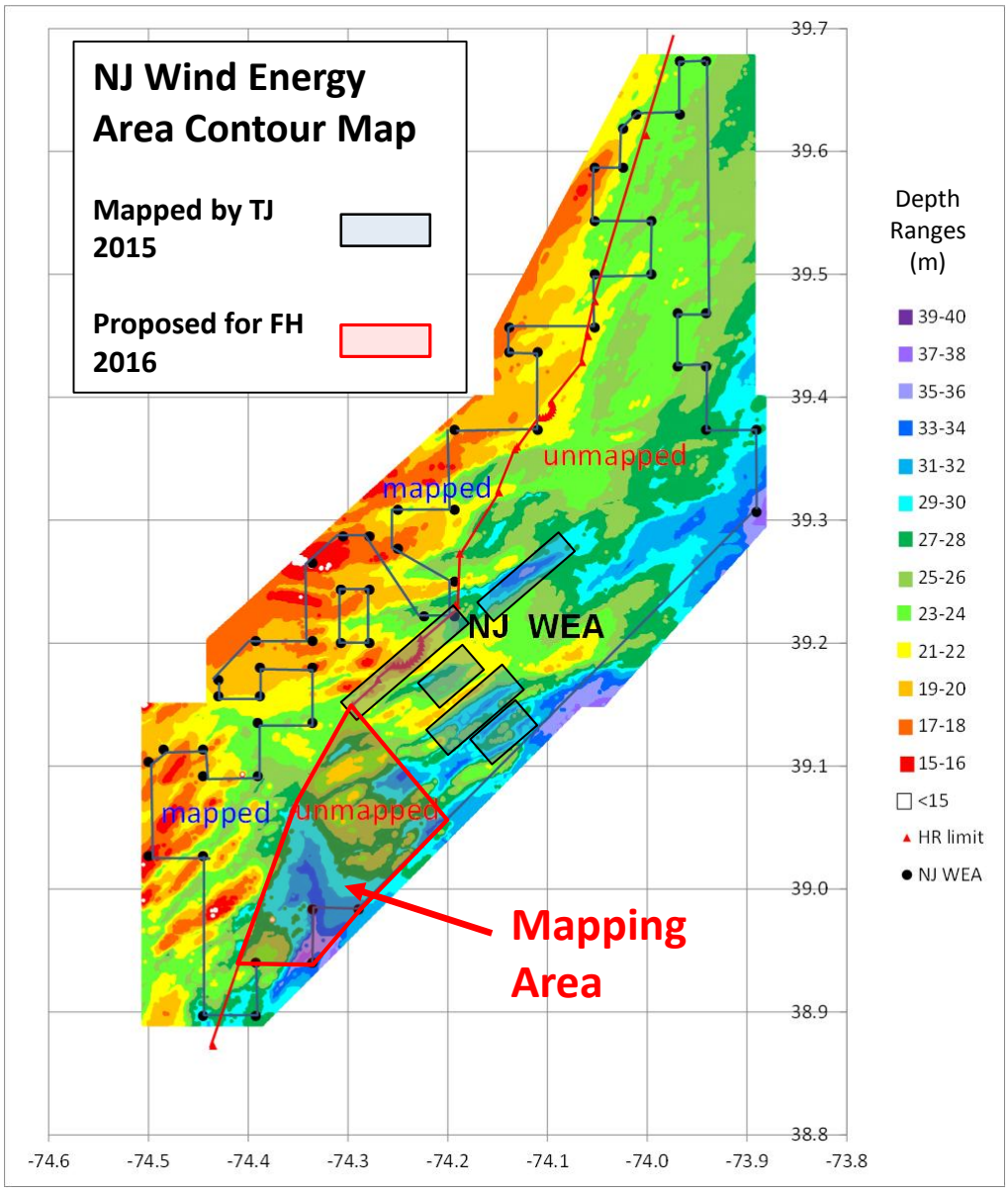

Figure 3: Template datasheet to be used in the Hydroacoustic Event Log Notebook

Survey Date			**Hydroacoustic Event Log Datasheet**		
Survey Area					
Cruise					
Event Number	Event Type**	Event Time	Latitude	Longitude	Notes
Event Types**= Line Start vs. Line End vs. CTD Cast					

Figure 4: Template datasheet used in the Benthic Grab Field Notebook.

BENTHIC GRAB FIELD LOG

Samples transferred to alcohol ☐ (post cruise)

CRUISE__________ STATION NAME______________ CONSECUTIVE STA #______ DATE ___________

Replicate	Time on Deck (UTC)	Photo Checkoff	Grain Size Core: Core No.	Grain Size Core: Core Depth (in.)	No. of Jars Filled: Gal.	No. of Jars Filled: half Gal.	Notes on grab success, sediment appearance, visible fauna
1			1				
2			2				
3			3				

CRUISE__________ STATION NAME______________ CONSECUTIVE STA #______ DATE ___________

Replicate	Time on Deck (UTC)	Photo Checkoff	Grain Size Core: Core No.	Grain Size Core: Core Depth (in.)	No. of Jars Filled: Gal.	No. of Jars Filled: half Gal.	Notes on grab success, sediment appearance, visible fauna
1			1				
2			2				
3			3				

CRUISE__________ STATION NAME______________ CONSECUTIVE STA #______ DATE ___________

Replicate	Time on Deck (UTC)	Photo Checkoff	Grain Size Core: Core No.	Grain Size Core: Core Depth (in.)	No. of Jars Filled: Gal.	No. of Jars Filled: half Gal.	Notes on grab success, sediment appearance, visible fauna
1			1				
2			2				
3			3				