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

JUN 13 2013

MEMORANDUM FOR: Lieutenant Commander Nicholas Chrobak, NOAA
Commanding Officer, NOAA Ship *Nancy Foster*

FROM: Captain Anita L. Lopez, NOAA
Commanding Officer, NOAA Marine Operations Center-Atlantic

SUBJECT: Project Instruction for NF-13-06
Mapping Essential Fish Habitat in the Southeast US

Attached is the final Project Instruction for NF-13-06, Mapping Essential Fish Habitat in the Southeast US, which is scheduled aboard NOAA Ship *Nancy Foster* during the period of 19 June – 07 September, 2013. Of the 20 DAS scheduled for this project, 12 DAS are base funded by OMAO in support of NOS and 8 DAS are program funded. This project is estimated to exhibit a Medium Operational Tempo. Acknowledge receipt of these instructions via e-mail to **OpsMgr.MOA@noaa.gov** at Marine Operations Center-Atlantic.

Attachment

cc:
MOA1

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE
CENTER FOR COASTAL FISHERIES AND HABITAT RESEARCH
101 Pivers Island Road
Beaufort, NC 28516

DRAFT Project Instructions

Date Submitted: February 1, 2013

JUN 13 2013

Platform: NOAA Ship *Nancy Foster*

Project Number: NF-13-06 EFH Atlantic (OMAO)

Project Title: Mapping Essential Fish Habitat in the Southeast US to Support Fisheries Management and Spatial Planning

Project Dates: Part 1: June 19, 2013 to June 30, 2013
Part 2: August 31, 2013 to September 7, 2013

Prepared by: TAYLOR.JAMES.CHRISTOPHER.1366275122 Digitally signed by TAYLOR.JAMES.CHRISTOPHER.1366275122 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER, cn=TAYLOR.JAMES.CHRISTOPHER.1366275122 Date: 2013.05.23 23:21:54 -04'00' Dated: _____
J. Christopher Taylor
Chief Scientist
Center for Coastal Fisheries and Habitat Research

Approved by: GUYTON.JAMES.LOWELL.JR.1215137038 Digitally signed by GUYTON.JAMES.LOWELL.JR.1215137038 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER, cn=GUYTON.JAMES.LOWELL.JR.1215137038 Date: 2013.05.30 15:58:48 -04'00' Dated: _____
David Johnson
Director
Center for Coastal Fisheries and Habitat Research

Approved by: ERICKSON.MARY.C.1365826923 Digitally signed by ERICKSON.MARY.C.1365826923 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER, cn=ERICKSON.MARY.C.1365826923 Date: 2013.06.07 12:51:38 -04'00' Dated: _____
Mary Erickson
Acting Director
National Centers for Coastal Ocean Science

Approved by: _____ Dated: 11 JUN 13
Captain Anita L. Lopez, NOAA
Commanding Officer
Marine Operations Center - Atlantic

I. Overview

A. Brief Summary and Project Period

The Center for Coastal Fisheries and Habitat Research (CCFHR) will conduct a research mission onboard NOAA Ship *Nancy Foster*. The purpose of the cruise will be to collect sidescan sonar, swath bathymetry and acoustical backscatter, as well as fishery sonar data to characterize the seafloor habitats, essential fish habitat and fish habitat use in proposed wind energy areas near Cape Fear, North Carolina.

B. Service Level Agreements

Of the 12 DAS (Part 1) and 7 DAS (Part 2) scheduled for this project, 7 DAS are funded by the program and 12 DAS are funded by OMAO. This project is estimated to exhibit a Medium Operational Tempo.

C. Operating Area

Cape Fear, North Carolina. See Figure 1.

D. Summary of Objectives

Scientists will collect high resolution sidescan, multibeam and acoustic fisheries sonar data in shallow depths approximately 20- 55 meters to characterize seafloor habitats within fishing grounds and proposed outer continental shelf (OCS) energy development regions. The objective of this project is to collect sidescan sonar for 110% seafloor ensonification. Simultaneous multibeam bathymetry and backscatter will be collected, but at less than 100% coverage, with selected areas covered in higher detail. Fishery acoustics data will be collected to characterize broad-scale fish abundance, biomass, and habitat utilization patterns, as well as to locate and document fish spawning aggregations. The strategies developed for each survey area will take into account the minimum depths, general bathymetry, and time allotment. The delineation and identification of seafloor habitats will be used to identify and delineate hard-bottom and shipwrecks in the study area. These targets will be revisited in future missions to conduct biological characterization and habitat groundtruthing.

E. Participating Institutions

NOAA (NCCOS), Geodynamics Group, Inc,Department of Interior (Bureau of Ocean Energy Management) and students from academic institutions.

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

Name (Last, First)	Title	Date Aboard	Date Disembark	Gender	Affiliation	Nationality
Taylor, Chris	Chief Scientist	6/19/13 8/31/13	6/30/13 9/7/13	Male	NOAA	U.S.
Bernstein, David	Hydrographer	6/19/13 8/31/13	6/30/13 9/7/13	Male	Contractor	U.S.
Lembke, Aron	Hydrographer	6/19/13 8/31/13	6/30/13 9/7/13	Male	Contractor	U.S.
Sumners, Ben	Hydrographer	6/19/13 8/31/13	6/30/13 9/7/13	Male	Contractor	U.S.
Intaphan, Taylor	Hydrographer	6/19/13	6/30/13	Male	College of Charleston	U.S.
Jeno, Brian	Intern	6/19/13	6/30/13	Male	Cape Fear Community College	U.S.
Rosemond, Rebecca	Intern	6/19/13	6/30/13	Female	NOAA	U.S.
Blankenship, Mark	Hydrographer	6/19/13	6/24/13	Male	NOAA/OCS	U.S.
Paxton, Avery	Student	6/19/13	6/30/13	Female	University of NC	U.S.
Hoffman, William	Archaeologist	6/19/13	6/24/13	Male	DOI/BOEM	U.S.
Turner, Paul	Hydrographer	6/24/13	6/30/13	Male	NOAA	U.S.

G. Administrative

1. Points of Contacts: Chief Scientist: Chris Taylor, 101 Pivers Island Road, Beaufort, NC, 252-838-0833, Chris.Taylor@noaa.gov

2. Diplomatic Clearances

This project involves Marine Scientific Research in waters under the jurisdiction of the United States. No diplomatic clearances are required.

3. Licenses and Permits

No licenses or permits are required.

II. Operations

A. Project Itinerary

Actual survey locations will be made available to the Operations Officer during the daily operations meeting. Sidescan sonar and multibeam sonar operations will be conducted during all shifts (Appendix 1, Figure 1). Fisheries acoustics via the Simrad EK60 Suite will occur during all shifts.

B. Staging and Destaging

Part 1: Equipment will be loaded on 18 June 2013 PM in Charleston, SC. Destaging will occur 30 June 2013 PM in Charleston, SC.

Part 2: Equipment will be loaded on 30 August 2013 PM in Charleston, SC. Destaging will occur 7 September 2013 PM in Charleston, SC.

C. Operations to be Conducted (**N 33.5° W 78°**).

PART 1.
18 June (Tuesday): NOAA Ship *Nancy Foster* berthed in Charleston, SC
Survey NF: Science team readies system for sidescan sonar install and sets up dry lab for digital data acquisition and backup of SSS data (using Ship system to acquire and backup MBES data). Terminate coaxial tow cable for SSS operations, test winch remote control, ready data feeds from block/cable counter, navigation and motion. Review of MBES calibration and planning for updated patch test. Review of survey line scheme with ship operations officers.
All: Remaining science party arrives. Team meeting 1800.

19 June (Wednesday):
Transit: (1000 ETD). Safety briefing, science party welcome. Ship transit from Charleston to Cape Fear operating area (**N 33.5° W 78°**). Calibrate fishery acoustics, conduct SSS, MBES and SBES patch test. Begin SSS, MBES and fishery acoustic survey Cape Fear region upon arrival. Fishery acoustics calibration will occur in water depths >15m at a slow drift or at anchor.

20-24 June:
Survey NF: (0000-2359). Conduct SSS, MBES and FA of Cape Fear operating area. Operating speed 5-7 knots. CTD / Sound velocity casts during 2x per day, XBT casts 4x per day, recovery of SSS required for CTD casts, XBT casts completed at survey speed.

24 June:
All: (1000) At-sea transfer of science party members (Turner incoming, Blankenship and Hoffman outgoing). USCG - Oak Island will meet near sea buoy or northern region of operating area using 47 lifeboat.

24-29 June:
Survey NF: (0000-2359). Conduct SSS, MBES and FA of Cape Fear operating area. Operating speed 5-7 knots. CTD / Sound velocity casts during 2x per day, XBT casts 4x per day, recovery of SSS required for CTD casts, XBT casts completed at survey speed.

30 June (Monday):
All: (0000 ETA) Transit and return to Charleston Port. Demobilization.

PART 2.
30 August (Friday):
All: Science team readies sidescan sonar and MBES, test winch, cable and communications for operations. Science part arrives, Team meeting 1800.

31 August (Saturday):
Transit (ETD). Safety briefing, welcome. Transit from Charleston SC to Care Fear area. Patch test and calibration of SSS and MBES.

1-6 September:
Survey (0000-2359): Conduct SSS, MBES and FA of Cape Fear operating area. Survey speed 5-7 kts. CTD/SV casts 2x per day, XBT casts 4 times per day. Recovery of SSS required for CTD casts. XBT casts completed at survey speed.

7 September (Saturday):
All: (0000 ETA). Transit and return to Charleston Port. Demobilization.

D. Dive Plan

No diving is anticipated for this mission.

E. Applicable Restrictions

Conditions which preclude normal operations:

Equipment failure: Mitigation - at sea repair, switch to alternate sidescan, multibeam or operations.

Poor weather: Mitigation – switch to more protected area or suspend operations.

Safety concerns: Mitigation – discuss as safety briefing or with ships command.

III. Equipment

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

1) Hand held radios for communication between bridge and deck.
2) CTD's 100m depth rating.
3) EM 1002 and Reson Seabat 7125 multibeam, and Kongberg split-beam EK-60 sonars.
4) DT20 Winch and coaxial armored data cable for towing sidescan sonar at 6-7 kts, 20-50 meters below surface, towing from A-frame
5) Simrad EK60 splitbeam calibration downriggers and calibration sphere
6) Metered block at A-frame and digital Cable counter (data feed to dry lab)
7) Applanix Pos/MV v.4
8) Remote camera to view DT20 winch
9) Internet connection and connection to ship's data server for MBES and EK60 processing computers
10) Dynamic Positioning System

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

1) Edgetech 4200 Sidescan Sonar
2) Cable termination pigtails for Edgetech 4200 Sidescan Sonar, wetside and topside

3) Loaned XBT system (from AOML) and probes
4) Three high end laptops / workstations and 4 flat screen monitors, internet connection required
5) 6 Tb Data Server
6) CARIS, ArcGIS, SonarWeb, Hypack/Hysweep, FMGT

Image of Edgetech 4200 Sidescan Sonar towfish

IV. Hazardous Materials

A. Policy and Compliance

The Chief Scientist is responsible for complying with FEC 07 Hazardous Materials and Hazardous Waste Management Requirements for Visiting Scientific Parties (or the OMAO procedure that supersedes it). By Federal regulations and NOAA Marine and Aviation Operations policy, the ship may not sail without a complete inventory of all hazardous materials by name and the anticipated quantity brought aboard, MSDS and appropriate neutralizing agents, buffers, or absorbents in amounts adequate to address spills of a size equal to the amount of chemical brought aboard, and a chemical hygiene plan. Documentation regarding those requirements will be provided by the Chief of Operations, Marine Operations Center, upon request.

Per FEC 07, the scientific party will include with their project instructions and provide to the CO of the respective ship 60 to 90 days before departure:

- A list of hazardous materials by name and anticipated quantity
- Include a chemical spill plan the addresses all of the chemicals the program is bringing aboard. This shall include:
  - Procedures on how the spilled chemicals will be contained and cleaned up.
  - A complete inventory (including volumes/amounts) of the chemical spill supplies and equipment brought aboard by the program. This must be sufficient to clean and neutralize <u>all</u> of the chemicals brought aboard by the program.

- A list of the trained personnel that will be accompanying the project and the training they've completed.

Upon embarkation and prior to loading hazardous materials aboard the vessel, the scientific party will provide to the CO or their designee:

- An inventory list showing actual amount of hazardous material brought aboard
- An MSDS for each material
- Confirmation that neutralizing agents and spill equipment were brought aboard sufficient to contain and cleanup all of the hazardous material brought aboard by the program.

Upon departure from the ship, scientific parties will provide the CO or their designee an inventory of hazardous material indicating all materials have been used or removed from the vessel. The CO's designee will maintain a log to track scientific party hazardous materials. MSDS will be made available to the ship's complement, in compliance with Hazard Communication Laws.

Scientific parties are expected to manage and respond to spills of scientific hazardous materials. Overboard discharge of scientific chemicals is not permitted during projects aboard NOAA ships.

B. Radioactive Isotopes

N/A

C. Inventory (itemized) of Radioactive Materials

No Radioactive Materials will be used or brought on the vessel.

V. Additional Projects

A. Supplementary ("Piggyback") Projects

No piggyback projects planned.

C. NOAA Fleet Ancillary Projects

No NOAA Fleet Ancillary Projects are planned for this mission.

VI. Disposition of Data and Reports

A. Data Responsibilities

We request that the Ship's data storage be made available during the cruise to store all digital data. The science party will transfer that data from the Ship storage to scientist drives at the end of the cruise. The scientists will be responsible for providing data archives to NGDC and AHB as part of R2R within 12 months of the completion of the survey objectives or in consultation with AHB and research partners.

B. Pre and Post Project Meeting

Prior to departure, the Chief Scientist will conduct a meeting of the scientific party to train them in sample collection and inform them of project objectives. Some vessel protocols, e.g., meals, watches, etiquette, etc. will be presented by the ship's Operations Officer prior to departure.

Post-Project Meeting: Upon completion of the project, a meeting will normally be held at 0830 (unless prior alternate arrangements are made) and attended by the ship's Operations Officer, Commanding Officer and the Chief Scientist to review the project. Concerns regarding safety, efficiency, and suggestions for improvements for future projects should be discussed.

C. Ship Operation Evaluation Report

Within seven days of the completion of the project, a Ship Operation Evaluation form is to be completed by the Chief Scientist. The preferred method of transmittal of this form is via email to omao.customer.satisfaction@noaa.gov. If email is not an option, a hard copy may be forwarded to:

Director, NOAA Marine and Aviation Operations
NOAA Office of Marine and Aviation Operations
8403 Colesville Road, Suite 500
Silver Spring, MD 20910

VII. 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 survey.

There are three vegetarians in the science party for Part 1, 19-30 June.

Berthing requirements, including number and gender of the scientific party, will be provided to the ship by the Chief Scientist. The Chief Scientist and Commanding Officer will work together 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. The Chief Scientist is responsible for ensuring the scientific berthing spaces are left in the condition in which they were received; for stripping bedding and linen return; and for the return of any room keys which were issued. The Chief Scientist is also responsible for the cleanliness of the laboratory spaces and the storage areas utilized by the scientific party, both during the project and at its conclusion prior to departing the ship.

All NOAA scientists will have proper travel orders when assigned to any NOAA ship. The Chief Scientist will ensure that all non NOAA or non Federal scientists aboard also have proper orders. It is the responsibility of the Chief Scientist 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 7, 1999 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, Revised: 02 JAN 2012) 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. The completed form should be sent to the Regional Director of Health Services at Marine Operations Center. The participant can mail, fax, or scan the form into an email using the contact information below. The NHSQ should reach the Health Services Office no later than 4 weeks prior to the project to allow time for the participant to obtain and submit additional information that health services might require before clearance to sail can be granted. Please contact MOC Health Services with any questions regarding eligibility or completion of the NHSQ. Be sure to include proof of tuberculosis (TB) testing, sign and date the 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.

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
E-mail 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

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. The ship does not provide steel-toed boots. Hard hats are also 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.

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 e-mail 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 it must be arranged at least 30 days in advance.

E. IT Security

Any computer that will be hooked into the ship's network must comply with the *NMAO 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 these 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

No foreign nationals are participating in this project

Appendices

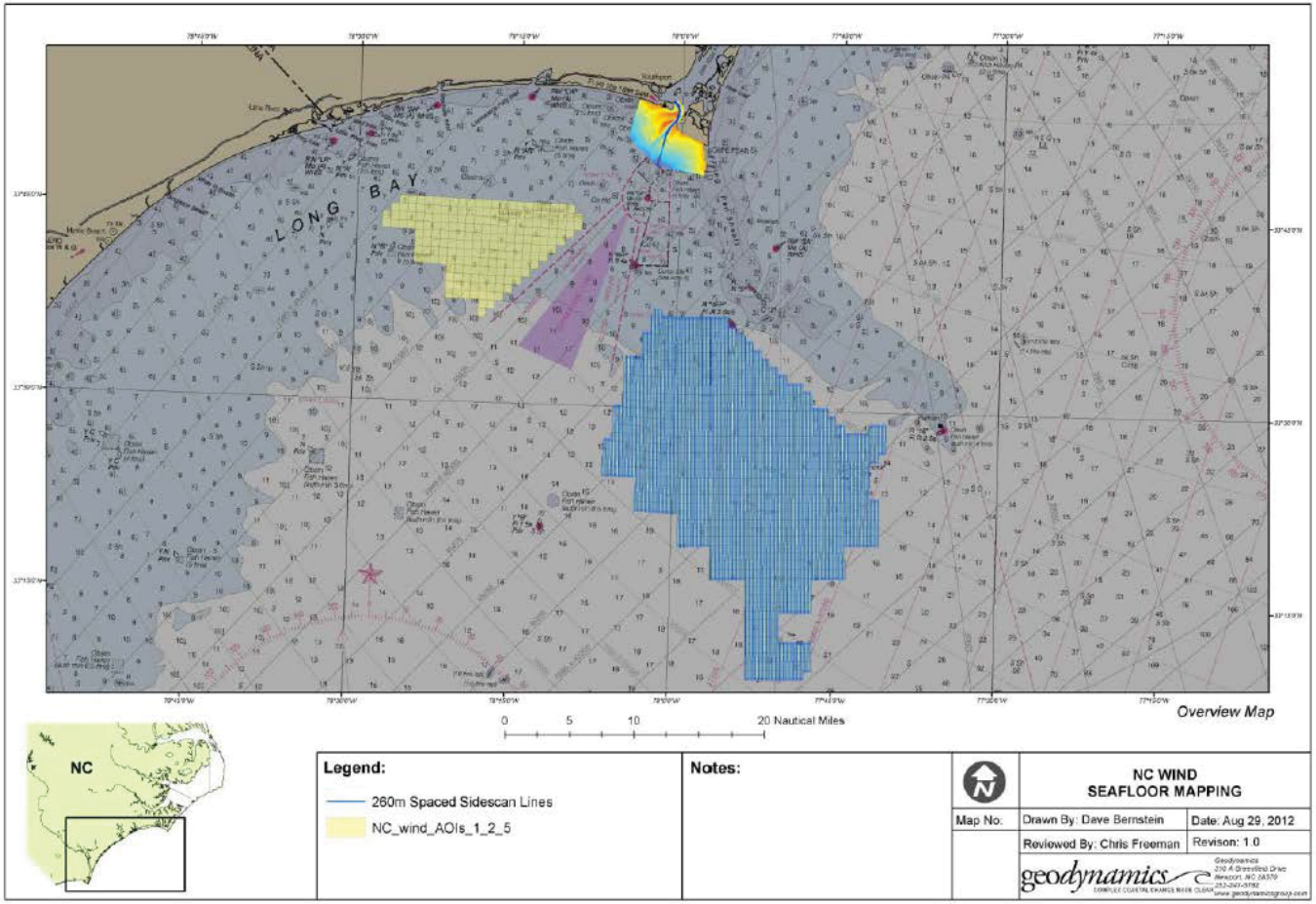

Figure 1: NF-13-03 Project Area (Blue), Wilmington-East Wind Energy and Essential Fish Habitat Area, Cape Fear, North Carolina