



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

May 26, 2017

MEMORANDUM FOR: Captain Donn Pratt, NOAA
Master, NOAA Ship *Nancy Foster*

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

SUBJECT: Project Instruction for NF-17-05
Southeast Regional Ecosystem Assessment

Attached is the final Project Instruction for NF-17-05, Southeast Regional Ecosystem Assessment, which is scheduled aboard NOAA Ship *Nancy Foster* during the period of June 9 to June 26, 2017. Of the 16 DAS scheduled for this project, 16 days are funded by a Line Office Allocation. 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.





UNITED STATES DEPARTMENT OF COMMERCE
 National Oceanic and Atmospheric Administration
 NATIONAL OCEAN SERVICE
 Office of National Marine Sanctuaries
 Gray's Reef National Marine Sanctuary
 10 Ocean Science Circle
 Savannah, Georgia 31411

DRAFT Project Instructions

Date Submitted: 24 May 2017

Platform: NOAA Ship *Nancy Foster*

Project Number: NF-17-05 (OMAO)

Project Title: Southeast Regional Ecosystem Assessment

Project Dates: June 09, 2017 to June 26, 2017

Prepared by: ROBERSON.KIMBERLY.K
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 ou=OTHER, cn=ROBERSON.KIMBERLY.K
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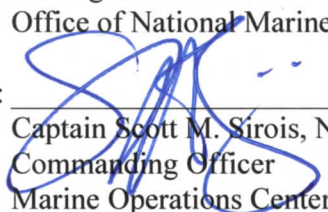
Kimberly Roberson
 Chief Scientist
 Research Coordinator, GRNMS/ ONMS/ NOS

Approved by: FANGMAN.MARY.SA
Digitally signed by FANGMAN.MARY.SARAH.1365871716
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 ou=OTHER, cn=FANGMAN.MARY.SARAH.1365871716
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Sarah Fangman:
 Superintendent
 GRNMS/ ONMS/ NOS

Approved by: BOHNE.REED.M.1365860749
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 Date: 2017.05.25 10:52:43 -0400
 0749 Dated: _____

Reed Bohne
 SE Regional Director
 Office of National Marine Sanctuaries/ NOS

Approved by:  Dated: 6/2/17
 Captain Scott M. Sirois, NOAA
 Commanding Officer
 Marine Operations Center - Atlantic



I. Overview

A. Brief Summary and Project Period

Gray's Reef National Marine Sanctuary has a variety of ongoing research and monitoring projects that will be continued during this research expedition. Projects will investigate questions related to fish and invertebrate abundance and distribution, and habitat and human impacts.

Mobilization: 09 June 2017 – Charleston, SC

Departure: 10 June 2017

Return/Demobilization: 23 June 2017 – Savannah, GA

Open House: 23 or 24 June 2017 – Savannah, GA

B. Days at Sea (DAS)

Of the 16 DAS scheduled for this project, 16 DAS are funded by a Line Office Allocation. This project is estimated to exhibit a Medium Operational Tempo.

C. Operating Area

Diving and sampling will be conducted in and near waters of Gray's Reef National Marine Sanctuary (GRNMS). Exact locations of these sites will be determined while at sea based on a variety of factors and will be provided to the ship's navigation crew the night before a site is to be visited. A list of probable sites outside of Gray's Reef is provided in Tables 1-2 at the end of this document. Multibeam mapping activities will occur in and outside of the boundaries of GRNMS.

D. Summary of Objectives

Objective 1: Ship based mapping and characterization of benthic habitats outside of GRNMS. Collected data will need to include backscatter.

Objective 2: Assess spatial variation in distribution of prey and associated predators both on and off reefs (i.e., along a gradient of distance from edges of undercut ledges), using acoustic survey methods and diver-based surveys, over diel periods. The diver-based surveys may occur at dawn or dusk and throughout the day.

Objective 3: Continue collecting data on the abundance, diversity and distribution of fish and invertebrates both inside and outside the Research Area in Gray's Reef. This project will include diving to assess fish and invertebrate populations around the sanctuary.

Objective 4: Characterize areas outside GRNMS that have high potential for ecological connectivity to GRNMS, using diver-based surveys and acoustic survey methods.

E. Participating Institutions

NOAA Gray's Reef National Marine Sanctuary
 Georgia Southern University
 Valdosta State University
 University of Connecticut
 NOAA National Marine Fisheries Service, Beaufort Laboratory
 Louisiana State University

F. Personnel/Science Party: name, title, gender, affiliation, and nationality (Also please see Appendix 5.)

| Name (Last, First) | Title | Date Aboard | Date Disembark | Gender | Affiliation | Nationality | CAC? Y or N |
|---------------------|-----------------------------|--------------|----------------|--------|-----------------------------|-------------|-------------|
| Roberson, Kimberly* | Chief Scientist, Divemaster | 09 June 2017 | 24 June 2017 | F | GRNMS | USA | Y |
| Fangman, Sarah* | Scientist | 09 June 2017 | 24 June 2017 | F | GRNMS | USA | Y |
| Munoz, Roldan* | Scientist | 09 June 2017 | 19 June 2017 | M | NMFS | USA | Y |
| Hines, Chris* | Scientist | 19 June 2017 | 24 June 2017 | M | GRNMS | USA | Y |
| Gleason, Daniel* | Scientist | 09 June 2017 | 24 June 2017 | M | Georgia Southern University | USA | N |
| Henkel, Timothy* | Scientist | 09 June 2017 | 19 June 2017 | M | Valdosta State University | USA | N |
| LaPalme, Richard* | Scientist | 19 June 2017 | 24 June 2017 | M | GRNMS/ Team Ocean | USA | N |
| Gimble, Samantha* | Scientist | 09 June 2017 | 19 June 2017 | F | Valdosta State University | USA | N |
| Campanella, Fabio | Scientist | 09 June 2017 | 24 June 2017 | M | NMFS | Italy | N |
| Head, ENS Marybeth* | Scientist | 09 June 2017 | 24 June 2017 | F | NOAA/ GRNMS | USA | Y |
| Auster, Peter* | Scientist | 09 June 2017 | 24 June 2017 | M | University of Connecticut | USA | N |
| Haynes, Haley | Scientist | 09 June 2017 | 24 June 2017 | F | U Conn | USA | N |
| Rudd, Randall* | Scientist | 09 June 2017 | 24 June 2017 | M | GRNMS/ Team Ocean | USA | N |
| Varnerin, Brianne* | Scientist | 09 June | 24 June | F | Georgia | USA | N |

| | | | | | | | |
|--------------------|-----------|--------------|--------------|---|-----------------------------|-----|---|
| | | 2017 | 2017 | | Southern University | | |
| Stefaniak, Lauren* | Scientist | 09 June 2017 | TBD | F | Georgia Southern University | USA | N |
| Riegel, Alicia* | Scientist | 09 June 2017 | 24 June 2017 | F | LSU | USA | N |
| Remondi, Aria | Scientist | 09 June 2017 | 15 June 2017 | F | GRNMS | USA | Y |
| Patterson, Jody | Scientist | 15 June 2017 | 19 June 2017 | F | GRNMS | USA | Y |
| Phillips, Barbara* | Scientist | 19 June 2017 | 24 June 2017 | F | GRNMS | USA | N |
| Cohen, Risa* | Scientist | 09 June 2017 | 15 June 2017 | F | Georgia Southern University | USA | N |
| Scott, Alison* | Scientist | 15 June 2017 | 24 June 2017 | F | GRNMS/ Team Ocean | USA | N |

*Denotes Diver

G. Administrative

1. Points of Contacts:

Kimberly Roberson, *Chief Scientist*

Gray's Reef NMS

10 Ocean Science Circle

Savannah GA 31411

912-598-2382

Kimberly.Roberson@noaa.gov

ENS Keith Hanson, *Operations Officer*

NOAA Ship *Nancy Foster*

1050 Register Street

North Charleston SC 29405

843-991-6326

2. Diplomatic Clearances

None required.

3. Licenses and Permits

This project will be conducted under the Scientific Research Permit (U.S.) issued

by NOAA's Office of National Marine Sanctuaries on 01 January 2014, effective until 31 December, 2018 and issued to the Superintendent of Gray's Reef National Marine Sanctuary (Sarah Fangman).

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:

09 June: Mobilize project gear and supplies

10 June: Depart Charleston

23 June: Return to Savannah, demobilize project gear and supplies

23 or 24 June: Open House

B. Staging and Destaging:

Mobilization activities will occur in Charleston SC on 09 June. Demobilization will occur in Savannah GA on 25 June. Ship's crew and equipment will be requested to assist with loading/ offloading all miscellaneous equipment and SCUBA bottles.

C. Operations to be Conducted:

Multibeam Mapping

Use Reson 7125 (or mid-water) multi-beam system aboard NOAA Ship *Nancy Foster* to collect acoustic and backscatter data for preparation of maps of habitats around GRNMS. Multibeam operations will occur primarily at night at locations outside the sanctuary.

Picivore Ecology

Conduct simultaneous split-beam (EK-60) and multibeam sonar surveys along lines delineated for specific study reefs both inside and outside the Research Area within Gray's Reef (as performed previously starting in 2011). Surveys will be conducted early morning, mid-day, late afternoon, post-sunset, sometime during middle night time hours and prior to sunrise (with actual timing determined by time of sunset and sunrise). Surveys will focus on one reef each day, from a set of 10 reefs previously surveyed.

Invertebrate Abundance and Diversity Assessment:

1. Document the abundance and diversity of sessile invertebrate populations which will be quantified in 0.5 x 0.5 m (0.25 m²) quadrats placed along ledges found within and outside the Gray's Reef. At each ledge, quadrats will be placed at 3 points: a) on the ledge immediately adjacent to the scarp, b) 2 m away from the scarp on the sandy portion of the ledge and c) 5 m away from the scarp on the sandy portion of the ledge. Quadrats will be placed in these positions to take into account gradations in community composition. A minimum of 10 quadrats will be completed at each of the 3 positions on a ledge.

2. A total of 20 sites will be monitored: 10 inside and 10 outside the no-take Research Area, and

potentially some additional dives outside of Gray's Reef. It is estimated that 2 sites per day (2 dives of 35-40 minutes at each site for 4 dives per person per day) can be completed with 4 divers available.

3. Complete photographic monitoring of 30 permanent plots established at the Gray's Reef Monitoring Site Station 20 in summer 2010. It is estimated that it will take 2-3 dives for 2 divers to complete these photographs.

Gray's Reef Hardbottom Community Survey

1. Conspicuous fish survey - 50 m underwater visual census (UVC) transects with an estimated width of 5m on each side targeting mobile conspicuous fishes. Area surveyed = 500 m.

2. Prey fish survey - 30 m UVC transects with an estimated width of 1m on each side that only targets the cryptic (or juvenile) prey species 10 cm and less in length. Area surveyed = 60 m.

3. Habitat structure quantification - At fixed intervals along the fish survey transects (5, 15, 25, 35 and 45 m) two ledge measurements will be collected: total ledge height and undercut height. Time permitting, at each ledge measurement location, macroalgae and invertebrate height will be recorded. Maximum height of an individual will be recorded to the nearest centimeter.

D. Dive Plan

All dives are to be conducted in accordance with the requirements and regulations of the NOAA Diving Program (<http://www.oma.noaa.gov/learn/diving-program>) and require the approval of the ship's Commanding Officer.

Diving operations will be conducted as required to support invertebrate studies, fish surveys, and recovery of lost gear (if necessary). Either three small boats will be needed simultaneously or one small boat for dawn/ dusk dives and two small boats simultaneously (see Appendices for proposed Plans of the Day with no dawn/dusk dives, with dusk dives, and with dawn dives) to support these projects. Each small boat will carry 4-5 divers and will conduct 2-4 dives before returning to the ship. Individuals who will function as divers are identified above in the list of scientific crew and all are Nitrox certified. Ship's divers are invited to assist with dive operations as other duties allow (ship's divers will be included in the project dive plan submitted to the NOAA Diving Center). A NOAA Divemaster (Kimberly Roberson) will be on board for all dive operations on this project and will follow all NOAA diving policies and regulations. A minimum of two divers will work together on all dives. Dives may be conducted in teams of two, three or four people. Each team will dive between one and six times daily as allowed under "No Decompression" limits of 36% NITROX except if working dives are necessary (none are planned), which require the use of air. The presence and use of a qualified technician or crewmember to assist with the mixing of NITROX is respectfully requested.

A general Dive Plan encompassing all legs of NF-17-05 is presented in Appendix 4.

E. Applicable Restrictions

Conditions which preclude normal operations: Poor weather, equipment failure, poor underwater visibility, safety concerns or unforeseen circumstances. Regular safety and planning meetings will be held to consider and address these potential events.

III. Equipment

- A. Equipment and Capabilities provided by the ship (itemized)
- A trained technician / crew member to assist with mixing breathing gas
 - NITROX scuba tanks (8x100's and 15x80's) and means of refilling tanks at sea to support dive operations
 - 1 small boat for deployment of up to 6 divers AND
 - 2 small boats for deployment of 4 divers
 - 2 portable emergency oxygen delivery kits
 - One operator for each of the small boats (projects require two small boats to be operated simultaneously)
 - Storage Area – Dry storage for the scientific party's supplies
 - Icemaker
 - 1 Freezer (minimum of $0 \pm 5^\circ$ F) – For sample storage
 - 1 Refrigerator for sample storage
 - Wet Lab and Dry Lab work space
 - Electronic feed into dry lab of ship's GPS and fathometer
 - CTD
 - Crane and operator for mobilizing and demobilizing equipment and gear and for launching boats
 - Clean 110v power from the wet lab
 - EK-60 Split Beam Sonar System
 - Reson 7125 Multibeam Sonar
 - One technician to acquire and process multibeam imagery
 - Scientific Computer System (SCS) – Data-logging capability; centralized location in dry lab for optimal use by scientific party; sensors to include: DGPS, depth, wind speed/direction, vessel speed
- B. Equipment and Capabilities provided by the scientists (itemized)
- NITROX Tanks (30 x 80's)
 - 1 portable emergency oxygen delivery kit
 - Sample containers and miscellaneous sampling supplies
 - Various redundant diving equipment
 - Various lab supplies and equipment
 - Sample containers and miscellaneous sampling supplies

- Any small tools and hardware necessary for scientific objectives.
- Dive sites will be entered into small boat GPS units by science party

IV. Hazardous Materials

A. Policy and Compliance

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

B. Inventory: N/A

C. Chemical safety and spill response procedures: N/A

D. Radioactive Materials

No Radioactive Isotopes are planned for this project

E. Inventory (itemized) of Radioactive Materials: N/A

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 shortcomings 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 <https://sites.google.com/a/noaa.gov/omao-intranet-dev/operations/marine/customer-satisfaction-survey> and provides a "Submit" button at the end of the form. It is also located at https://docs.google.com/a/noaa.gov/forms/d/1a5hCCkgIwaSII4DmrHPudAehQ9HqhRqY3J_FXqbJp9g/yiewform. 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 ship by the Chief Scientist (Appendix 5). 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 makeup 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 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 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

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.

Foreign National access must be sought not only for access to the ship involved in the project but also for any Federal Facility access (NOAA Marine Operations Centers, NOAA port offices, USCG Bases) that foreign nationals might have to traverse to gain access to and from the ship. The following are basic requirements.

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

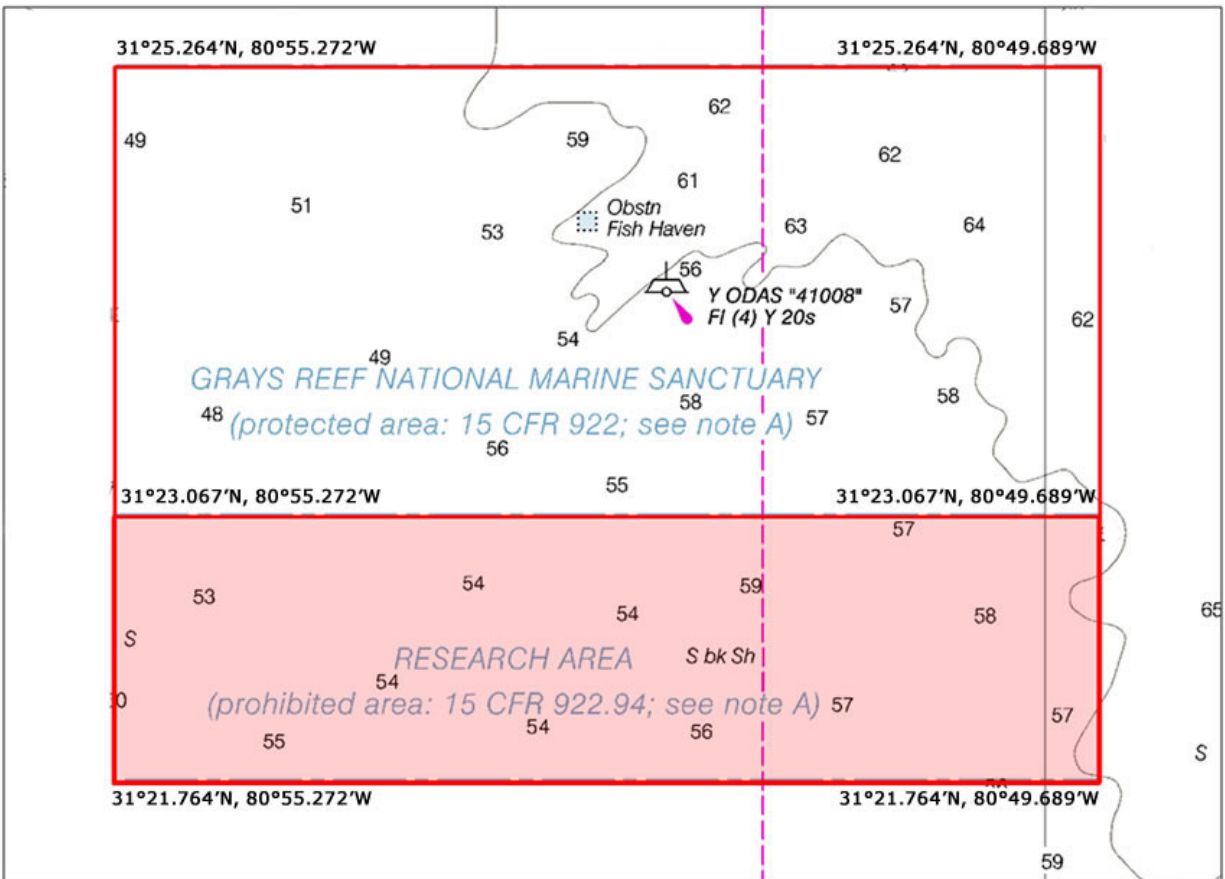
be responsible for the foreign national while on board. The identified individual must be a U.S. citizen and a NOAA or DOC employee. According to DOC/OSY, this requirement cannot be altered.

3. Ensure completion and submission of Appendix C (Certification of Conditions and Responsibilities for a Foreign National)

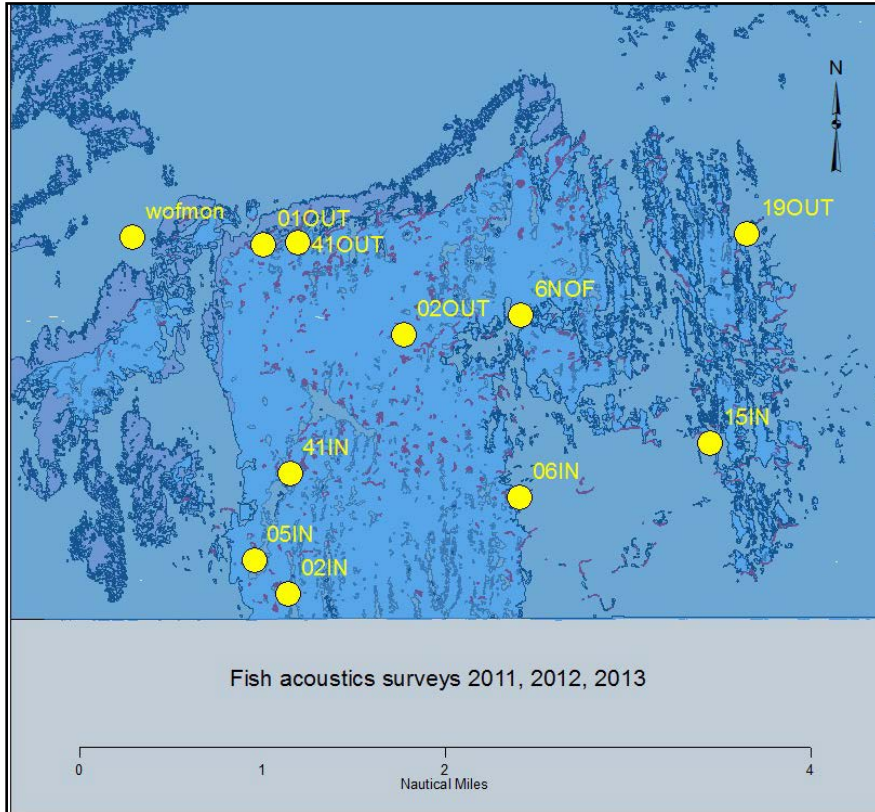
VIII. Appendices

1. Maps of Gray's Reef National Marine Sanctuary
 - a. Map of GRNMS, including the Research Area
 - b. Map of piscivore ecology stations
2. Station/Waypoint List (coordinates in Latitude, Longitude: degree-minutes)
 - a. Sites inside GRNMS for fish and invertebrate abundance and diversity assessment.
 - b. Sites inside GRNMS for piscivore ecology investigation.
 - c. Sites outside GRNMS for potential investigation, once research inside GRNMS has been successfully concluded.
3. Plan of the Day examples
 - a. With three launches and daytime only dives
 - b. With three launches, including one launch conducting dusk dives and two launches conducting daytime only dives
 - c. With three launches, including one launch conducting dawn dives and two launches conducting daytime only dives
4. General Dive Plan for NF-17-05
5. Proposed berthing matrix of Scientists

Appendix 1a. Map of Gray's Reef National Marine Sanctuary, including the Research Area



Appendix 1b. Map of piscivore ecology stations.



Appendix 2. Station/Waypoint List (coordinates in Latitude, Longitude: degree-minutes) of sites inside and outside Gray's Reef National Marine Sanctuary for potential investigation.

a.. Sites inside GRNMS for fish and invertebrate abundance and diversity assessment.

| Site | LONG_DD | LAT_DD |
|----------|----------|----------|
| 01ALTIN | -80.8791 | 31.37791 |
| 01ALTOUT | -80.8628 | 31.40024 |
| 01IN | -80.8881 | 31.37854 |
| 01OUT | -80.894 | 31.3963 |
| 02ALTIN | -80.8687 | 31.38328 |
| 02ALTOUT | -80.8384 | 31.38887 |
| 02IN | -80.8913 | 31.36438 |
| 02OUT | -80.879 | 31.3881 |
| 03ALTIN | -80.8479 | 31.38296 |
| 03ALTOUT | -80.858 | 31.40167 |
| 03IN | -80.8913 | 31.37542 |
| 03OUT | -80.8778 | 31.39066 |
| 04ALTIN | -80.8815 | 31.38084 |
| 04ALTOUT | -80.8983 | 31.39313 |
| 04IN | -80.8751 | 31.37697 |
| 04OUT | -80.8617 | 31.40042 |
| 05ALTIN | -80.8859 | 31.37475 |
| 05ALTOUT | -80.852 | 31.40431 |
| 05IN | -80.895 | 31.36749 |
| 05OUT | -80.8396 | 31.38955 |
| 06ALTIN | -80.8876 | 31.38295 |
| 06ALTOUT | -80.8869 | 31.39465 |
| 06IN | -80.8666 | 31.3732 |
| 06OUT | -80.8885 | 31.3939 |
| 07ALTIN | -80.8395 | 31.37649 |
| 07ALTOUT | -80.8402 | 31.38678 |
| 07IN | -80.8431 | 31.36613 |
| 07OUT | -80.8379 | 31.38586 |
| 08ALTIN | -80.8397 | 31.38257 |
| 08ALTOUT | -80.8749 | 31.38621 |
| 08IN | -80.8428 | 31.38106 |
| 08OUT | -80.8573 | 31.40373 |

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| 09ALTIN | -80.8774 | 31.37667 |
| 09ALTOUT | -80.8443 | 31.38894 |
| 09IN | -80.8676 | 31.36621 |
| 09OUT | -80.8778 | 31.39653 |
| 10ALTIN | -80.8849 | 31.38366 |
| 10IN | -80.8709 | 31.37424 |
| 10OUT | -80.8636 | 31.40216 |
| 11ALTIN | -80.871 | 31.38252 |
| 11IN | -80.8923 | 31.36547 |
| 11OUT | -80.845 | 31.38846 |
| 12ALTIN | -80.8667 | 31.36869 |
| 12ALTOUT | -80.8792 | 31.38618 |
| 12IN | -80.8819 | 31.37883 |
| 12OUT | -80.878 | 31.39902 |
| 13ALTIN | -80.869 | 31.37564 |
| 13ALTOUT | -80.8836 | 31.397 |
| 13IN | -80.8718 | 31.36398 |
| 13OUT | -80.8862 | 31.39769 |
| 14ALTIN | -80.8737 | 31.37583 |
| 14ALTOUT | -80.8382 | 31.39142 |
| 14IN | -80.8389 | 31.37047 |
| 14OUT | -80.8885 | 31.3962 |
| 15ALTIN | -80.8677 | 31.37711 |
| 15ALTOUT | -80.862 | 31.40561 |
| 15IN | -80.8463 | 31.37808 |
| 15OUT | -80.8964 | 31.39117 |
| 16ALTIN | -80.853 | 31.36766 |
| 16ALTOUT | -80.849 | 31.39281 |
| 16IN | -80.8452 | 31.37522 |
| 16OUT | -80.8636 | 31.40489 |
| 17ALTIN | -80.8802 | 31.38221 |
| 17ALTOUT | -80.8766 | 31.39905 |
| 17IN | -80.8832 | 31.38011 |
| 17OUT | -80.8601 | 31.39741 |
| 18ALTIN | -80.868 | 31.3827 |
| 18ALTOUT | -80.8702 | 31.39806 |
| 18IN | -80.8707 | 31.37491 |
| 18OUT | -80.8429 | 31.3876 |
| 19ALTOUT | -80.8789 | 31.39819 |

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| 19IN | -80.894 | 31.36421 |
| 19OUT | -80.8424 | 31.3972 |
| 20IN | -80.8773 | 31.36425 |
| 20OUT | -80.8818 | 31.3981 |
| 21ALTOUT | -80.8383 | 31.38482 |
| 21IN | -80.8924 | 31.36884 |
| 21OUT | -80.884 | 31.39741 |
| 22ALTOUT | -80.8771 | 31.38722 |
| 22IN | -80.8521 | 31.37805 |
| 22OUT | -80.8932 | 31.39739 |
| 23ALTOUT | -80.8938 | 31.39143 |
| 23IN | -80.89 | 31.37658 |
| 23OUT | -80.9026 | 31.39849 |
| 24IN | -80.8912 | 31.37728 |
| 24OUT | -80.8829 | 31.39419 |
| 25ALTOUT | -80.8706 | 31.40317 |
| 25IN | -80.8546 | 31.37958 |
| 25OUT | -80.8509 | 31.39552 |
| 26ALTOUT | -80.8526 | 31.39835 |
| 26IN | -80.8676 | 31.37005 |
| 26OUT | -80.8856 | 31.39786 |
| 27ALTOUT | -80.8722 | 31.40165 |
| 27IN | -80.8858 | 31.3822 |
| 27OUT | -80.8666 | 31.39726 |
| 28ALTOUT | -80.8914 | 31.39667 |
| 28IN | -80.8415 | 31.37682 |
| 28OUT | -80.8617 | 31.38824 |
| 29ALTOUT | -80.8867 | 31.39625 |
| 29IN | -80.8529 | 31.37921 |
| 29OUT | -80.8511 | 31.40263 |
| 30ALTOUT | -80.88 | 31.39547 |
| 30IN | -80.8709 | 31.3641 |
| 30OUT | -80.8738 | 31.38731 |
| 31ALTOUT | -80.8455 | 31.40002 |
| 31IN | -80.8656 | 31.37 |
| 31OUT | -80.8865 | 31.3955 |
| 32ALTOUT | -80.8522 | 31.4064 |
| 32IN | -80.8886 | 31.38373 |
| 32OUT | -80.8529 | 31.40375 |

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| 33ALTOUT | -80.8751 | 31.39438 |
| 33IN | -80.8408 | 31.36716 |
| 33OUT | -80.8902 | 31.39121 |
| 34ALTOUT | -80.8848 | 31.39692 |
| 34IN | -80.8803 | 31.38007 |
| 34OUT | -80.8651 | 31.40107 |
| 35ALTOUT | -80.8605 | 31.40157 |
| 35IN | -80.8871 | 31.37734 |
| 35OUT | -80.845 | 31.39352 |
| 36ALTOUT | -80.8939 | 31.39684 |
| 36IN | -80.8888 | 31.37709 |
| 36OUT | -80.8668 | 31.40481 |
| 37ALTOUT | -80.8886 | 31.39456 |
| 37IN | -80.8831 | 31.37454 |
| 37OUT | -80.866 | 31.38629 |
| 38ALTOUT | -80.8662 | 31.40562 |
| 38IN | -80.8898 | 31.36838 |
| 38OUT | -80.8769 | 31.38662 |
| 39ALTOUT | -80.8764 | 31.39355 |
| 39IN | -80.8981 | 31.3723 |
| 39OUT | -80.8591 | 31.40393 |
| 40IN | -80.872 | 31.38213 |
| 40OUT | -80.8409 | 31.3925 |
| 41OUT | -80.8903 | 31.39652 |

b. Sites inside GRNMS for piscivore ecology investigation.

| Site | Longitude | Latitude | I/O | 2011 | 2012 | 2013 |
|-----------|------------|-----------|-----|------|------|------|
| 02OUT | -80.879 | 31.3881 | OUT | yes | yes | yes |
| 41OUT | -80.8903 | 31.39652 | OUT | yes | yes | yes |
| 19OUT | -80.8424 | 31.3972 | OUT | no | yes | yes |
| 01OUT | -80.894 | 31.3963 | OUT | yes | no | no |
| wofmon | -80.908 | 31.397 | OUT | yes | no | no |
| 6NOF | -80.8665 | 31.3897 | OUT | No | yes | no |
| 15IN | -80.8463 | 31.37808 | IN | yes | yes | yes |
| 05IN | -80.895 | 31.36749 | IN | yes | yes | yes |
| 06IN | -80.8666 | 31.3732 | IN | no | yes | yes |
| 41IN | -80.8912 | 31.37538 | IN | yes | no | yes |
| 02IN | -80.8913 | 31.36438 | IN | no | yes | no |
| Tag array | -80.838483 | 31.376483 | IN | | | |

c. Sites outside GRNMS for potential investigation, once research inside has been successfully concluded

| Name | Latitude | Longitude |
|-----------------|------------|------------|
| Snapper Banks | 31° 33.608 | 80° 17.775 |
| | 31° 35.075 | 80° 21.073 |
| Anchor Ledge | 31° 37.666 | 80° 34.693 |
| R2 Tower Ledges | 31° 24.66 | 80° 35.260 |
| | 31° 23.77 | 80° 35.46 |

Appendix 3a.

NOAA SHIP NANCY FOSTER, OPS PLAN OF THE DAY

Draft WITHOUT Dusk/Dawn Dives

| Vessel | Time | Task |
|--------|-----------|--|
| NF | 2300 | Fisheries acoustics surveys |
| | TBD | Break off survey lines with enough time to get to AM dive site by 0750. |
| | 0745 | Daily safety meeting on bridge |
| | 0800 | Deploy NF2, NF3, NF4. |
| | 1045 | Recover NF2, NF3, NF4. |
| | 1100 | Transit to Site x for survey lines; conduct fisheries acoustics surveys at y |
| | 1100-1200 | Lunch |
| | 1315 | Transit to afternoon dive sites |
| | 1330 | Deploy NF2, NF3, NF4. |
| | 1630 | Recover NF2, NF3, NF4. |
| | 1700 | Fisheries acoustics surveys |
| | NF2 | 0800 |
| 1300 | | Coxswain Sites: 2-4 Divers 2 |
| NF3 | 0805 | Coxswain Sites: 2-4 Divers 4 |
| | 1305 | Coxswain Sites: 2-4 Divers 4 |
| NF4 | 0810 | Coxswain Sites: 4-6 Divers 6 |
| | 1310 | Coxswain Sites: 4-6 Divers 6 |

Appendix 3b.
 NOAA SHIP NANCY FOSTER, OPS PLAN OF THE DAY
 Draft WITH Dusk Dives

| Vessel | Time | Task | |
|----------------|----------------|--|------------------|
| NF | 2300 | Fisheries acoustics surveys | |
| | TBD | Break off survey lines with enough time to get to AM dive site by 0750. | |
| | 0745 | Daily safety meeting on bridge | |
| | 0800 | Deploy NF3, NF4. | |
| | 1045 | Recover NF3, NF4. | |
| | 1100 | Transit to Site x for survey lines; conduct fisheries acoustics surveys at y | |
| | 1100-1200 | Lunch | |
| | 1315 | Transit to afternoon dive sites | |
| | 1330 | Deploy NF2, NF3, NF4. | |
| | 1630 | Recover NF2, NF3, NF4. | |
| | 1hr pre sunset | Deploy NF2 | |
| | 2hr-3hr later | Recover NF2 | |
| | TBD | Fisheries acoustics surveys | |
| | NF2 | 0800 | no am deployment |
| 1300 | | Coxswain | Sites: 2-4 |
| | | Divers 2 | |
| 1hr pre sunset | | Coxswain | Site(s): 2-4 |
| | Divers 2 | | |
| NF3 | 0805 | Coxswain | Sites: 2-4 |
| | | Divers 4 | |
| | 1305 | Coxswain | Sites: 2-4 |
| | | Divers 4 | |
| NF4 | 0810 | Coxswain | Sites: 4-6 |
| | | Divers 6 | |
| | 1310 | Coxswain | Sites: 4-6 |
| | | Divers 6 | |

Appendix 3c.
 NOAA SHIP NANCY FOSTER, OPS PLAN OF THE DAY
 Draft WITH Dawn Dives

| Vessel | Time | Task | |
|--------|-----------------|---|------------|
| NF | 2300 | Fisheries acoustics surveys | |
| | TBD | Break off survey lines with enough time to get to DAWN dive site by about 1 hr before sunrise | |
| | 1hr pre sunrise | Deploy NF2 | |
| | 2-3 hr later | Recover NF2 | |
| | 0745 | Daily safety meeting on bridge | |
| | 0800 | Deploy NF3, NF4. | |
| | 0930(?) | Deploy NF2 | |
| | 1045 | Recover NF3, NF4. | |
| | 1215(?) | Recover NF2 | |
| | 1100-1200 | Lunch | |
| | 1230 | Transit to Site x for survey lines; conduct fisheries acoustics surveys at y | |
| | 1445 | Transit to afternoon dive sites | |
| | 1500(?) | Deploy NF3, NF4. | |
| | 1800(?) | Recover NF3, NF4. | |
| | TBD | Fisheries acoustics surveys | |
| NF2 | 1hr pre sunrise | Coxswain | Sites: 2-4 |
| | | Divers 2 | |
| | 0930(?) | Coxswain | Sites: 2-4 |
| | | Divers 2 | |
| | 1500 | no pm deployment | |
| NF3 | 0800 | Coxswain | Sites: 2-4 |
| | | Divers 4 | |
| | 1500 | Coxswain | Sites: 2-4 |
| | | Divers 4 | |
| NF4 | 0805 | Coxswain | Sites: 4-6 |
| | | Divers 6 | |
| | 1505 | Coxswain | Sites: 4-6 |
| | | Divers 6 | |

Appendix 4. General dive plan for NF-17-05, diving in and around Gray's Reef National Marine Sanctuary.

| | | | | | |
|---|--|--|--|---------------------------------|---|
| NOAA Form 57-03-20 (02-15) | | U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION | | | |
| DIVE OPERATIONS PLAN | | | | | |
| DIVE OPERATIONS | | | | | |
| DATE(S) of DIVE OPERATIONS | 10-25 June 2017 | DIVE OPS START TIME | 0600 | DIVE OPS STOP TIME | 2030 |
| LOCATION of DIVE OPERATIONS | GRNMS | DISTANCE FROM SHORE | 2 nm | EVAC TIME to CHAMBER | 2hr boat, 1 |
| PLATFORM or FACILITY | NOAA Ship Nancy Foster | DEPTH RANGE | 60-99fsw | NUMBER of DIVERS | 17 |
| PLANNED NUMBER of DIVE EVOLUTIONS PER DAY | 5 | MAXIMUM NUMBER of DIVES to be LOGGED PER DAY | 85 | NUMBER of CONSECUTIVE DIVE DAYS | 9 |
| SAFE SHIP CHECKLIST REQUIRED | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> | DIVE MODE | OPEN CIRCUIT SCUBA <input checked="" type="checkbox"/> REBREATHER <input type="checkbox"/> | DIVE PURPOSE | SCIENTIFIC DIVE <input checked="" type="checkbox"/> WORKING DIVE <input type="checkbox"/> |
| FLOAT PLAN REQUIRED | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> | DECOMPRESSION CALCULATION | DIVE COMPUTER <input checked="" type="checkbox"/> DECOMPRESSION TABLES <input type="checkbox"/> | DIVE DUTY | ON-DUTY DIVE <input checked="" type="checkbox"/> OFF-DUTY DIVE w/SEP GEAR <input type="checkbox"/> |
| DIVERS (Attach additional sheets if more than 12 divers participate in the dive) | | | | | |
| DIVEMASTER / LEAD DIVER | DIVER | DIVER | | | |
| Kimberly Roberson | Marybeth Head | Sarah Fangman, Chris Hines | | | |
| DIVER | DIVER | DIVER | | | |
| Danny Gleason, Lauren Stefaniak | Roldan Munoz, SEFSC | Peter Auster, U Conn | | | |
| DIVER | DIVER | DIVER | | | |
| Tim Henkel, Sam Gimble, VSU | Alicia Riegel | Randy Rudd, Richard LaPalme | | | |
| DIVER | DIVER | DIVER | | | |
| Barbara Phillips | Jim Scott | Risa Cohen, Brianne Varnerin | | | |
| DESCRIPTION | | | | | |
| PURPOSE of DIVES and TASKS to be PERFORMED Participate in NOAA Ship Nancy Foster mission: conduct fish, invertebrate and benthic habitat surveys | | | | | |
| PRINCIPAL DIVER WORN EQUIPMENT and BREATHING MEDIA SEP and personal gear, Nitrox | | | | | |
| TOOLS and SPECIALIZED EQUIPMENT to be USED hand tools, cameras, surface floats and reels, clipboards, quadrats, other scientific equipment | | | | | |
| Tethered comms dive? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> | | | | | |
| POTENTIAL HAZARDS and MITIGATIONS (Certain hazards are present on all dives (AGE, DCS, drowning, etc.). The hazards listed below are unique to this operation.) Low visibility, strong currents, mitigated by staying together, good communication and aborting dive if beyond capabilities. Hazardous marine life injuries mitigated by avoiding or using caution when handling hazardous marine life (e.g. lionfish). Deploying from and returning to small vessels, mitigated by using caution when deploying and returning | | | | | |
| PRIMARY MEANS of EVACUATION for EMERGENCIES Transportation by vessel if non-urgent; USCG helicopter if urgent | | | | | |
| AUTHORIZATION | | | | | |
| SUBMITTED BY (DIVEMASTER/LEAD DIVER) | | SIGNATURE | | DATE | |
| Marybeth Head | | Marybeth Head | | | |
| APPROVED BY (UNIT DIVING SUPERVISOR/DESIGNEE) | | SIGNATURE | | DATE | |
| Kimberly Roberson | | ROBERSON KIMBERLY K W 1368067268 | | | |
| RESET | | | | | |

