



UNITED STATES DEPARTMENT OF COMMERCE

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

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

FROM: Captain Anita L. Lopez, NOAA *f m l, Chrobak*
Commanding Officer, NOAA Marine Operations Center-Atlantic

SUBJECT: Project Instruction for NF-13-05
Gray's Reef National Marine Sanctuary Regional Development and
Assessment Cruise

Attached is the final Project Instruction for NF-13-05, Gray's Reef National Marine Sanctuary Regional Development and Assessment Cruise, which is scheduled aboard NOAA Ship *Nancy Foster* during the period of 02 June – 15 June, 2013. Acknowledge receipt of these instructions via e-mail to OpsMgr.MOA@noaa.gov at Marine Operations Center-Atlantic.

Attachment

cc:
MOA1



**PROJECT
INSTRUCTIONS**
NF-13-05-SERA

PI SUBMISSION DATE:

NOAA SHIP: NOAA Ship *Nancy Foster*

PROJECT NUMBER: NF-13-05-SERA

PROJECT TITLE: Gray's Reef National Marine Sanctuary Regional Development
and Assessment Cruise

PROJECT DATES: Depart 06/2/2013
Arrive 06/15/2013

AREA OF OPERATIONS: Gray's Reef National Marine Sanctuary (GRNMS)

Chief Scientist:

Sarah Fangman, Program Coordinator
Office of National Marine Sanctuaries Southeast Region
10 Ocean Science Circle
Savannah, GA 31411
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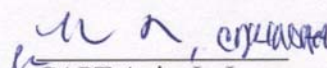
Requested by:

Sarah Fangman
ONMS Southeast Region

Approved by:



Dr. Billy Causey
SEGOMCAR Regional Director, National Marine Sanctuary Program



CAPT Anita L. Lopez
Commanding Officer, Marine Operations Center-Atlantic

Project Instructions

I. Overview

A. Project Period: Mobilization: June 1, 2013- Savannah, GA
Departure: June 2, 2013
Return/Demobilization: June 15, 2013 – Charleston, SC

B. Operating Area

Diving and sampling will be conducted in waters within 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. Multibeam mapping activities will occur outside and to the south of the boundaries of Gray's Reef NMS.

C. Summary of Objectives (not necessarily in order of priority)

Objective 1: Ship based mapping and characterization of benthic habitats in the waters around Gray's Reef National Marine Sanctuary. Collected data will need to include backscatter.

Objective 2: Continuation of invertebrate recruitment investigation in Gray's Reef. This project will include diving to assess the colonization and succession of invertebrates to areas of natural substrate.

Objective 3: Continue investigations to quantify variation in space and time of the abundance of schooling prey and mid-water predators at mid-shelf reefs: this involves conducting survey lines using the EK-60 survey system.

Objective 4: Continue collecting data on the abundance, diversity and distribution of both fishes and invertebrates both inside and outside the proposed Research Area in Gray's Reef. This will require divers to conduct visual fish censuses along transects and take pictures of quadrats to assess invertebrate fauna.

Objective 5: Continue ecological characterizations of the condition of benthic fauna and concentrations of chemical contaminants in sediments and biota at GRNMS.

Objective 6: Service acoustic telemetry array (opportunistic, assuming available personnel and boat, and time permitting)

D. Participating Institutions:

Georgia Southern University (GSU)
National Centers for Coastal Ocean Sciences – Charleston & Beaufort (NCCOS)
National Marine Fisheries Service - Beaufort
NOAA Gray's Reef National Marine Sanctuary (GRNMS)
Office of National Marine Sanctuaries Southeast Region (SEGOM)
Smithsonian Institution
University of Alabama

E. Personnel

1. Sarah Fangman ONMS-SER (Chief Scientist/NOAA diver) (F, USA)
2. Cindy Cooksey, NCCOS/ CCEHBR (F, USA) *note: aboard until project 5 is completed*
3. Roldan Munoz NMFS-Beaufort (NOAA diver) (M, USA) *note: week 2 of project only*
4. Brittany Poirson, GSU (AAUS diver) (F, USA)
5. JD Dubick, NCCOS/CCEHBR (M, USA) *note: aboard until project 5 is completed*
6. Laura Kracker, NOS/NCCOS (F, USA)
7. Danny Gleason, GSU (AAUS diver) (M, USA)
8. Risa Cohen, GSU (AAUS diver) (F, USA) *note: week 1 of project only*
9. Kenan Matterson, University of Alabama (AAUS diver) (M, USA)
10. Jenny Vander Pluym, NCCOS, (NOAA diver) (F, USA) *note: week 1 of project only*
11. Aliscia Reigel, GSU (AAUS diver) (F, USA)
12. Mitchell Tartt, ONMS (NOAA Divemaster) (M, USA)
13. Chris Freeman, Smithsonian Institution, (AAUS diver)(M, USA)
14. Debbie Meeks, GRNMS (F, USA)

F. Administrative

1. Points of Contact:

Chief Scientist: Sarah Fangman
Office: 912-598-2428
Cell: 912-220-5721
Email: Sarah.Fangman@Noaa.gov

Ops Officer: LT Colin Kliewer
Cell: 843-991-6326
Iridium: 808-434-5653
Email: ops.nancy.foster@Noaa.gov

2. Diplomatic Clearances: N/A
3. Licenses and Permits: Manager's Permit – Gray's Reef National Marine Sanctuary; Permit for Dr. Danny Gleason, GSU from Gray's Reef National Marine Sanctuary; Permit for Dr. Jeff Hyland from Gray's Reef National Marine Sanctuary.

II. Operations

A. Project Plan/Itinerary

For all activities, a Plan of the Day (POD) will be provided to the bridge that details the specifics of the projects and timelines related to operations and logistics for the following day. The POD will be delivered to the Operations Officer each evening.

Four primary projects are planned for the duration of this project: characterizing benthic fauna and sediment, fish abundance and diversity surveys, invertebrate monitoring assessments and bio-acoustic surveys. Nighttime multibeam mapping is also planned for the project. Diving operations will be planned to comply with ship's requirements for safety. Below is a proposed timeline of activities to be conducted. This is meant only to be a general guide for how these activities could occur and is not intended to be a binding daily schedule. *Note: The first few days of the project will also include sediment grabs and CTD sampling, conducted around diving operations, until the 9 stations are completed.*

0730	Divers load gear on small boats (3 boats with 3-6 divers per boat)
0750	Daily safety meeting
0800	Deploy small boats for diving operations
0900	Ship stands by to support diving operations occurring aboard small boats and GRNMS vessels (<i>Note: first few days ship will conduct CTD and sediment sampling concurrently with dive operations</i>)
1100	Small boats return to NOAA Ship <i>Nancy Foster</i>
1100-1130	Recover small boats
1130	Lunch
1330	Load small boats (3 boats with 3-4 divers per boat)
1345-1415	Small boats redeploy for diving operations
1345	Ship stands by to support diving operations occurring aboard NOAA Ship <i>Nancy Foster</i> small boats and GRNMS vessels (<i>Note: first few days ship will conduct CTD and sediment sampling concurrently with dive operations</i>)
1600	Small boats return to NOAA Ship <i>Nancy Foster</i>
1600-1630	Recover small boats
1700	Secure from diving operations
1730	Begin transects for bio-acoustic surveys and/or multibeam (<i>Note: first few days ship will conduct sediment and CTD sampling</i>)
0700	Commence nighttime operations

Special Activities in addition to above (all contingent on weather):

Personnel transfers are planned during the project and will be contingent on weather. Media and or VIP visits are planned during the project.

Note: Small boats are requested to be aware of recreational vessels operating in Gray's Reef and to adjust location of activities if necessary so as not to conflict with users.

B. Staging and Destaging

Mobilization activities will occur in Savannah, GA on June 1. Demobilization will occur in Charleston, SC on June 15. Ship's crew and equipment will be requested to assist with loading/offloading all miscellaneous equipment and SCUBA bottles.

C. Operations to be conducted:

Project 1: *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 at night but could be conducted opportunistically during the daytime hours contingent on availability of survey tech. It is understood that the backscatter from the system may not be high quality but that the bathy should be fully functional.

Project 2: *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 the GRNMS. At each ledge, quadrats will be placed at 3 points: 1) on the ledge immediately adjacent to the scarp, 2) 2 m away from the scarp on the sandy portion of the ledge and 3) 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 zone. 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 GRNMS Monitoring Site Station 20 in summer 2010. It is estimated that it will take 2-3 dives for 2 divers to complete these photographs.
4. Deploy artificial substrata (30 x 30 cm limestone tiles) at 4 sites within the sanctuary to investigate the role that the existing biological community plays in invertebrate re-establishment. There will be a total of 30 tiles per site with 2 sites inside the research zone and 2 outside. The sites used will be at the following locations: 31.3963N by -80.89396W, 31.3732N by -80.86665W, 31.3939N by -80.88853W, 31.3641N by -80.87085W.

Project 3: *Assessing Patterns of Fish Distribution and Species Interactions at Multiple Scales*

1. Split-beam acoustics. Survey six dive sites along parallel transects (50m spacing) using split beam sonar in the morning, afternoon/dusk and dawn.
2. Fisheries acoustics will run simultaneously with night-time Multibeam mapping operations.
3. Calibration of EK-60 system - requires 4-6 hours.

Project 4: *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 targeted 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.

4. Habitat community surveys - a combination survey of invertebrate methodologies and algal surveys with photo quadrats

Project 5: Long-term Monitoring of Ecological Condition at Gray's Reef National Marine Sanctuary

At each of nine stations (Figure 1; Table 1), samples will be collected for characterization of general habitat conditions (depth, temperature, salinity, pH, DO, TOC, grain size), concentrations of sediment contaminants (metals, pesticides, PCBs, PAHs), diversity and abundance of macroinfauna (> 0.5 mm), and aesthetic quality (presence of anthropogenic debris, visible oil, noxious sediment odor, and water clarity/turbidity) (Table 2).

Sediment Grab Sampling. Sediment sampling will be conducted using a Young-modified Van Veen grab. The sampling device is 39.5" in height, has a diameter of 34.5", and is composed of one 0.04m² sampler in a frame. Contents of the grabs will be used for analysis of benthic macroinfaunal communities, concentration of sediment contaminants, % silt-clay, and organic-carbon content (TOC). An estimated four to six grab samples will be required at each station to acquire adequate sediment for both benthic infaunal analysis (3 separate replicate grabs) and chemistry/granulometric analyses (1 to 3 grabs).

The three replicate benthic macroinfaunal samples will be live-sieved onboard through a 0.5 mm screen and preserved separately in 10% buffered formalin (with Rose Bengal stain added to facilitate subsequent sorting in the laboratory). As part of the QA/QC procedures, samples that have undergone significant slumping or loss of material through the jaws of the grab (e.g., samples with a sediment layer < 5cm) will be rejected. Samples for the analysis of sediment toxicity (microtox), sediment contaminants, % silt-clay, % water, and % TOC will be sub-sampled from composited surface sediment (upper 2-3 cm) collected from additional multiple grabs independent of the macroinfaunal grabs. Approximately 2 L of sediment are required for these latter chemistry/granulometric analyses. Though it is estimated that from 1 to 3 grabs will be needed to produce this volume of surficial sediment, additional grabs may be required in coarse-grained seabed where recovery is generally poorer. Sediment samples for contaminant analysis will be collected using basic techniques to avoid accidental contamination.

Scientific personnel will be responsible for the set-up, deployment, and recovery of the Young grab; however, a ship's winch and winch operator will be required in support of this operation. Members of the scientific party also will be responsible for the processing of samples collected from the grab operations. Many of the chemical measurements that will be carried out on the sediment samples are sensitive to contamination from soot, oils, solvents, spray cleaners, lubricants, paints, hydraulic fluid, and other substances. The Chief Scientist must be notified prior to the use of these substances by ship personnel during sampling operations. Care must be taken to avoid contamination of the grab system with these substances. Prior to sampling at a station, all sampling equipment will be cleaned with acetone and rinsed with in situ water to minimize contamination.

CTD Operations. A CTD unit with rosette sampler will be supplied by NOAA Ship *Nancy Foster*. This unit will be used to acquire continuous profiles of conductivity, temperature, pH, dissolved oxygen, and depth as it is lowered through the water column. The unit also will be equipped with 12 Niskin bottles to acquire discrete water samples at two designated water depths: 0.5m below sea surface, and 3-5 m off seabed.

On approaching the bottom, the CTD should be held as close as possible above the seabed (ideally ~ 5 m) for one minute to allow for equilibration of the DO sensor. Vessel heave may dictate a higher altitude of several meters above seabed, in order to avoid damaging the unit. Multiple Niskin bottles should be fired at this depth. Multiple Niskin bottles should be fired at 0.5-m depth below sea-surface on the upcast.

If Niskin bottles do not fire or a continuous profile was not acquired, the CTD must then be re-launched and the cast performed again in entirety. Water samples will be processed for nutrients, total suspended solids, and chlorophyll.

Fish Collection. A maximum of 12 *Centropristis striata* (black seabass) will be collected using hook-and-line fishing methods from a subset of stations during the sampling project for tissue contaminant analysis (6 black seabass were collected in 2012). Fish to be saved for chemical contaminant analysis will be rinsed with ambient seawater, individually wrapped in heavy aluminum foil, and, within a station, collectively placed in double plastic Ziploc bags. Inside each bag, there is to be a label with information on date of capture, station number, method of capture, species, and number specimens in sample. Care must be taken while processing the sample to avoid contamination from outside sources such as fuel, deck grease, etc. Hook-n-line fishing will be conducted concurrently with sediment grab sampling and CTD operations if permitted by the Commanding Officer; otherwise this activity will begin after the last grab sample is taken and continue until sufficient numbers of fish are caught (1-3 per station), or until the allotted station time of 1 hour has been reached.

Estimated Sampling Times. The estimated time to complete the above work at each station overall is 1.0 hours.

Upon arriving at a station, we will proceed with the CTD operations first, then the sediment grab operations. Hook-n-line fishing will be conducted concurrently with sediment grab sampling and CTD operations if feasible; otherwise this activity will begin after the last grab sample is taken and continue until sufficient numbers of fish are caught, or until the allotted station time of 1 hours has been reached.

A tentative progress plan defining the among-station sequence of sampling will be developed in conjunction with the ship's personnel. This plan will seek to minimize steam time between stations and coordinate with other sampling activities occurring during the project. Any final adjustments to this plan should be determined in the field by the ship's personnel, with concurrence from the Chief Scientist, and should be based on factors such as safety and allowing flexibility to accommodate potential shifts in plans due to weather or equipment failure.

The ship's navigation equipment (GPS) will be used for station positioning. Navigational accuracy at a station should be within a minimum of 500 meters (0.27 nm), but ideally within 50 meters of the target station coordinates. The ship should attempt to stay within this radius as sampling gear is deployed, returning to it as necessary. If sampleable bottom cannot be located within this radius of the sampling site (e.g., due to presence of hard bottom), it is permissible to relocate (along a random bearing heading away from known hard bottom) within a 3-km (1.62 nm) radius of the original station coordinates **while remaining within the sampling frame gird cell.** However, any such relocation that exceeds a 1-km (0.54 nm) radius should be flagged, so that data associated with the site can be scrutinized as part of subsequent evaluations. Sample site relocation decisions must be made in consultation between the bridge and the P.I. of Project 5.

Project 6: Numerous acoustic receivers are deployed within Gray's Reef to track the movement of tagged fish. Divers will return to receiver sites to service the array which includes checking line, shackles and floats as well as removing deployed instruments and replacing with new receivers. In addition, divers may deploy new receiver arrays in the vicinity of the fine scale movement study (near the position 31° 22.588 -80° 50.372). Receiver arrays (float, line and anchor) may be recovered from other areas of the sanctuary to be deployed in the area of the fine scale movement study. This task would be considered a working dive and would be conducted according to all NOAA Dive Program working dive regulations and would be under the supervision of a NOAA Divemaster.

D. Dive Plan:

Diving operations will be conducted as required to support photography, habitat characterization, invertebrate studies, piscivore ecology, acoustic array service and recovery of lost gear (if necessary). Three small boats will be needed simultaneously to support these various projects. Each small boat will carry 3-6 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. Ship's divers are invited to assist with dive operations as other duties allow. A NOAA Divemaster will be provided 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 five times daily as allowed under "No Decompression" limits of 36% NITROX except where working dives will occur. The presence and use of a qualified technician or crewmember to assist with the mixing of NITROX is respectfully requested.

E. Applicable Restrictions: N/A

III. Equipment

Sufficient consumables, backup units, on-site spares, and technical support should be in place to assure that operational interruptions are minimal. All work areas should be well lit for night-time OPS. The following systems and their associated support services are essential to the project:

A. Equipment and Capabilities Provided by the Ship

- A trained technician / crew member to assist with mixing breathing gas
- 15 NITROX scuba tanks 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 2 to 4 divers
- One operator for each of the small boats (projects require three small boats to be operated simultaneously)
- J-frame for deployment/recovery of equipment
- Deck capstan (for recovery of Didson)
- Freezer space for at least 40 cu. ft.
- Refrigerator (2-3 cu. ft.)
- 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
- J-Frame – For CTD
- A-Frame – for grab sampler work
- Markey winch – 2 conducting wire; wire-out and rate readouts; remote reading in dry lab or survey tech lab; for use in conjunction with CTD
- CTD – (sensors for depth, temperature, conductivity, DO, and pH) with 12-position rosette frame with a submersible array firing assembly
- Technical support of CTD operations
- DT Winch – for bottom grab ops.

- 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
- Bottom-Grab Station – Safe access to OTS grabs, well lit for night OPS, saltwater hose
- Infaunal processing area – A protected outside area to conduct sediment sieving, and sample preservation (with formalin), saltwater hose
- 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
- Small Storage Cabinet for Hazardous Chemicals in wet lab
- Dynamic positioning capability (with offsetting by 10-30 feet after each grab).
- The ship is requested to provide technical expertise and assistance if unexpected problems arise

B. Equipment and Capabilities Provided by the Scientists (itemized)

- 24 NITROX Tanks
- Sample containers and miscellaneous sampling supplies
- Various redundant diving equipment
- Various lab supplies and equipment
- HAZMAT spill kit
- One Young-modified Van Veen grabs (0.04 m^2)
- Grab stand
- 0.5mm sieves
- 2 sieve stands
- Sediment bottles, jars, bags, labels
- 10% Buffered Formalin
- Goggles, gloves and chemical spill kits
- Fishing rods, bait, tackle, bags, and labels
- Coolers for sample storage and transport
- Sample containers and miscellaneous sampling supplies
- Any small tools and hardware necessary for scientific objectives.

IV. Hazardous Materials

A. HAZMAT – Policy and Compliance

The Chief Scientist is responsible for complying with MOCDOC 15, Fleet Environmental Compliance #07, Hazardous Material and Hazardous Waste Management Requirements for Visiting Scientists, released July 2002. Documentation regarding those requirements will be provided by the Chief of Operations, Marine Operations Center, upon request.

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, and/or absorbents in amounts adequate to address spills of a size equal to the amount of chemical brought aboard. The amount of hazardous material arriving and leaving the vessel shall be accounted for by the Chief Scientist.

B. HAZMAT – Radioactive

Isotopes N/A

C. Inventory

70% Ethanol 40 L Flammable
Formalin (10%) 4 L
Caustic Bleach 1 L Non-caustic
Povidone iodine solution 1 Gallon – non caustic

<u>Chemical Name</u>	<u>Container</u>	<u>Quantity</u>	<u>Total</u>
Formalin	20 L PolyPac	3	140 L
Acetone	4L plastic jugs	2	8 L

V. Additional Projects

A. Supplementary (“Piggyback”)

Projects: N/A

B. NOAA Fleet Ancillary Projects: N/A

VI. Disposition of Data and Reports

A. Data Responsibilities

Under NAO 216-101, managers of programs are responsible for ensuring that data and related information are available in a timely manner (within 1 year) at the national processing centers and national data centers. Because of the large quantity of multibeam data collected by NOAA Ship *Nancy Foster*, and to ease the data burden on the program managers, the ship will coordinate archival of all multibeam data collected on this project. The ship survey department, under the direction of the Operations Officer, will ensure the multibeam data is archived at the National Geophysical Data Center within one year. This archival will be conducted in consultation with the Principal Investigator(s) to ensure there is no unintentional release of sensitive data. The Chief Scientist retains responsibility for management of all other data collected, including habitat and biologic assessments, fish movement, marine debris, and data downloaded from the acoustic receivers.

B. Pre- and Post-Project Meeting

Pre-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. Safety and vessel protocols, e.g., meals, watches, etiquette, etc. will be presented by the ship’s Operations Officer.

A daily safety meeting will be held prior to the commencement of boat operations to review and correct any observed safety issues. Ships’ officers, department heads, and the Chief Scientist will be in attendance.

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 CO, OPS, and the Chief Scientist to review the project. Concerns regarding safety, efficiency, and suggestions for improvements for future projects should be discussed.

D. 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

Meals and berthing are required for up to 15 scientists. 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.

Berthing requirements, including number and gender of the scientific party, will be provided to the ship by the Chief Scientist. The Chief Scientist and Command 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 that 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: 12/11) must be completed in advance by each participating scientist. The NHSQ can be obtained from the Chief Scientist or the NOAA website at <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

The business day before departure, the Chief Scientist must provide a listing of emergency contacts to the Executive Officer for all members of the scientific party, with the following information: 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. "Crocs" sandal style footwear is not permitted for any deck or small boat operations. 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 *OMAO Fleet IT Security Policy* 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 preferable.

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

N/A

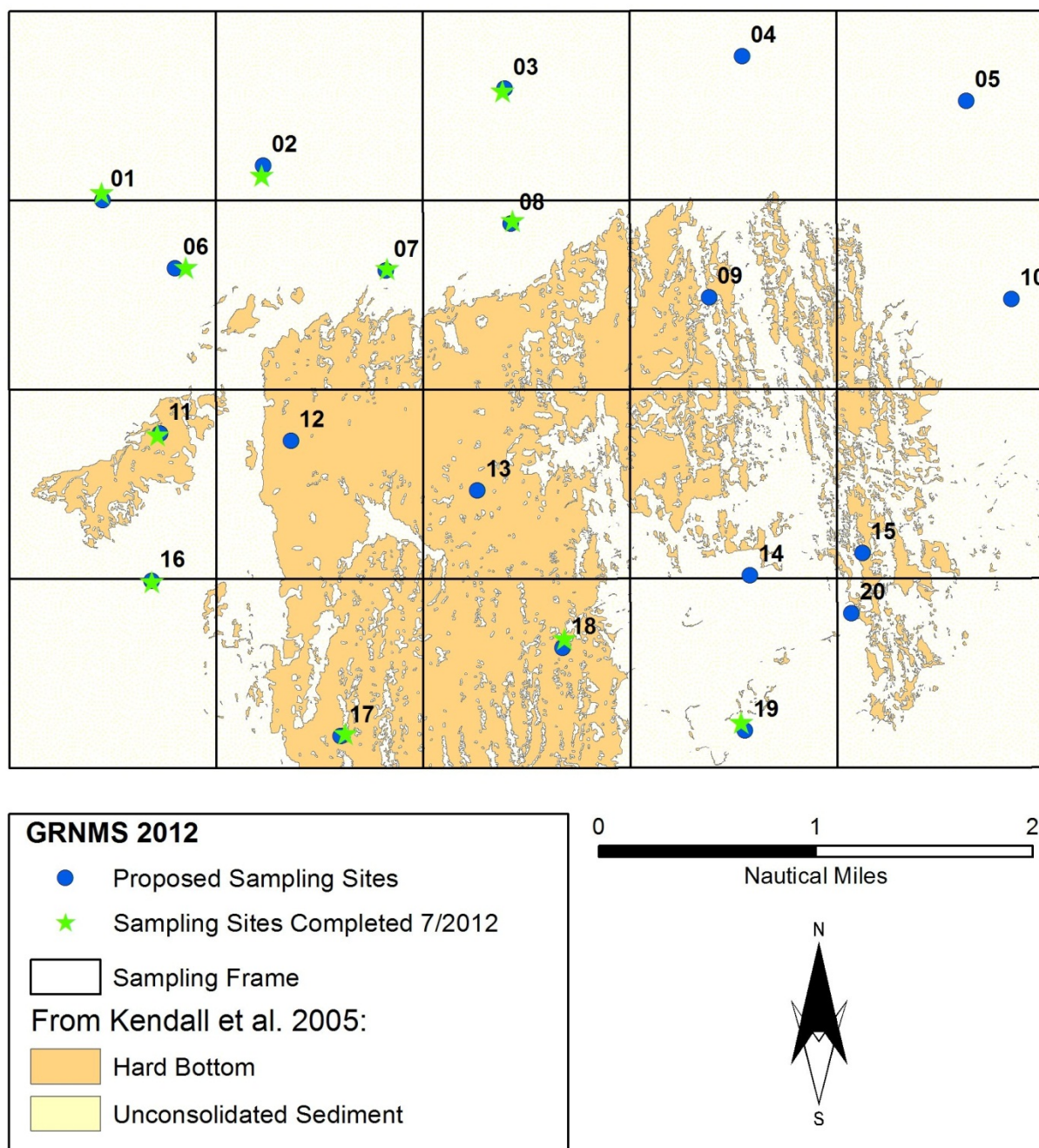


Figure 1. Planned station locations within GRNMS for the June 2013 survey. Stations labeled with a blue circle, but lacking a green star, represent the nine target stations for this 2013 project. Stations labeled with a blue circle and a green star represent the 11 stations successfully sampled in 2012. Stations were randomly selected within each of the 20 cells (2.9 km² each).

Table 1. Locations of nine planned sampling sites within GRNMS for the 2013 long-term monitoring survey.

Planned		
Station	Longitude (DD)	Latitude (DD)
GR12004	-80.85524	31.41760
GR12005	-80.83507	31.41411
GR12009	-80.85824	31.39899
GR12010	-80.83104	31.39884
GR12012	-80.89586	31.38798
GR12013	-80.87911	31.38413
GR12014	-80.85459	31.37757
GR12015	-80.84448	31.37927
GR12020	-80.84547	31.37465

Table 2. Summary of field samples to be collected for the long-term monitoring survey.

Parameters	# of Replicates	Container	Sample Size	Preservation
Infauna	3	1000 ml Polypropylene jar	All material retained on 0.5mm sieve	10% Buffered Formalin in the field
Metal Contaminants	1 (composited sediment)	250 ml (8 oz) polypropylene jar	2/3 full	frozen
Organic Contaminants	1 (composited sediment)	125 ml (4 oz) glass jar	2/3 full	frozen
TOC	1 (composited sediment)	125 ml (4 oz) Polypropylene jar	2/3 full	frozen
% Silt/Clay & % Moisture	1 (composited sediment)	500 ml (16 oz) HDPE jar	2/3 full	frozen
Microtox	1 (composited sediment)	125 ml (4 oz) Glass jar	2/3 Full	Refrigerate
Water Column (Temp., D.O., pH, Sal.)	1	N/A	CTD Profile	N/A
Turbidity	1 (water column - surface)	60 ml vial	Full	N/A
Fish Tissue	--	ziplock bag	2-3 specimens	frozen