



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

March 13, 2017

MEMORANDUM FOR: Master David Nelson
Commanding Officer, NOAA Ship *Oregon II*

FROM: Captain Scott M. Sirois, NOAA *For [Signature] LCDR/NOAA*
Commanding Officer, NOAA Marine Operations Center-Atlantic

SUBJECT: Project Instruction for R2-17-01
Experimental Longline

Attached is the final Project Instruction for R2-17-01, Experimental Longline Survey, which is scheduled aboard NOAA Ship *Oregon II* during the period of March 20 to April 20, 2017. Of the 30 DAS scheduled for this project, 30 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.




Attachment


cc:
Karen Mitchell




U. S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Science Center



Mississippi Laboratories
3209 Frederic St.
Pascagoula, MS 39567 +
Project Instructions

Date Submitted: 02/14/2017 
Platform: NOAA Ship OREGON II
Cruise Number: R2-17-01(321)
Project Title: Experimental Longline
Cruise Dates: 03/20/2017  - 04/20/2017 

Prepared by: HANNAN.KRISTIN.M Digitally signed by HANNAN KRISTIN MAUREEN I 990493483 Date: 2017.02.14 14:16:28 -0600
AUREEN.1390493483
Field Party Chief
Date: 02/14/2017 

Approved by: DESFOSSE.LISA Digitally signed by DESFOSSE LISA L. 1365834519 Date: 2017.02.22 10:19:17 -0600
.L.1365834519
Lab Director
Date: 02/22/2017 

Approved by: BRAINERD.THEOPHI Digitally signed by BRAINERD THEOPHILUS R DR 1365819285 Date: 2017.02.23 04:49:39 -0500
LUS.R.DR.1365819285
Dr. Bonnie Ponwith
Director, SEFSC
Date: 02/22/2017 

Approved by:  LCDR/NOAA
For Captain Scott M. Sirois, NOAA
Commanding Officer
Marine Operations Center - Atlantic
Date: 3/15/17 

I. Overview

A. Brief Summary and Project Period

Conducting R2-17-01(321) experimental bottom longline survey on the U.S. continental shelf in the north Gulf of Mexico (GOM) from March 20 to April 20, 2017.

B. Days at Sea (DAS)

Of the 30 DAS scheduled for this project, 0 DAS are funded by an OMAO allocation, 30 DAS are funded by a Line Office Allocation, 0 DAS are Program Funded, and 0 DAS are Other Agency funded. This project is estimated to exhibit a High Operational Tempo.

C. Operating Area

The area of operation is the U.S. shelf waters of the northern GOM (27° 30' N, 85° 00' W; 27° 30' N, 90° 50' W) in depths between 10 and 2,500 m (Figure 1).

D. Summary of Objectives

One objective of the experimental bottom longline survey is test the effects of variable gear types (bait type, hook size, gangion material) under controlled experimental conditions on catch rates of teleost and elasmobranch fishes in the northern Gulf of Mexico. GoPro video cameras equipped with lasers attached to the longline mainline will provide an additional means of monitoring selectivity. An additional objective of the experimental survey is to explore depths outside of the annual NMFS MS Labs Shark/Red Snapper bottom longline survey.

E. Participating Institutions

NOAA/NMFS/SEFSC Mississippi Laboratories

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

Name (Last, First)*	Title	Leg	Date Aboard	Date Disembark	Gender	Affiliation	Nationality
Hannan, Kristin	FPC, WL	I, II	3/20/2017	4/20/2017	F	Riverside	US
Driggers, William	WL	I, II	3/20/2017	4/20/2017	M	NMFS	US
Jones, Lisa	WL	I, II	3/20/2017	4/20/2017	M	NMFS	US
Jones, Christian	WL	I	3/20/2017	4/3/2017	M	NMFS	US
Hopkins, Nick	WS	I	3/20/2017	4/3/2017	M	NMFS	US
Hoffmayer, Eric	WS	I	3/20/2017	4/3/2017	M	NMFS	US

Rademacher, Kevin	WS	I	3/20/2017	4/3/2017	M	NMFS	US
Crawford, Lydia	WS	I	3/20/2017	4/3/2017	F	Volunteer	US
Kenton, Madeline	WS	II	4/6/2017	4/20/2017	F	Volunteer	US
Stepongzi, Chrissy	WS	II	4/6/2017	4/20/2017	F	Riverside	US
Wallace, Taniya	WS	II	4/6/2017	4/20/2017	F	Riverside	US
Glabach, Miaya	WS	I	3/20/2017	4/3/2017	F	Volunteer	US
Still, Lauren	WS	II	4/6/2017	4/20/2017	F	Volunteer	US

FPC-Field Party Chief, WL-Watch Leader, WS-Watch Stander

G. Administrative

1. Points of Contacts:

Field Party Chief: Kristin Hannan, NMFS/Riverside Technology, Inc,
3209 Frederic St., Pascagoula, MS 39567. Phone: 228-549-1683
Kristin.Hannan@noaa.gov

2. Diplomatic Clearances

None Required.

3. Licenses and Permits

This project will be conducted under the Scientific Research Permit (U.S.) issued by National Marine Fisheries Service to Brandi Noble and the following:

NMFS Highly Migratory Species Division Scientific Research Permit
NMFS Southeast Regional Office
Mississippi Saltwater Scientific Collection Permit
Alabama Saltwater Scientific Collection Permit
Florida Special Activity License: Permit No. SAL-14-0135-SR

II. Operations

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

A. Project Itinerary

<u>Leg</u>	<u>Date</u>	<u>Depart/Arrive Location</u>	<u>Sea Days</u>
Leg 1	03/20/2017	Depart Pascagoula, MS	15
	04/03/2017	Arrive Pascagoula, MS	
Leg 2	04/06/2017	Depart Pascagoula, MS	15
	04/20/2017	Arrive Pascagoula, MS	

B. Staging and De-staging:
Pascagoula, MS/Pascagoula, MS

C. Operations to be conducted:

At each station, prior to deploying gear, it is requested that the ship monitor bottom topography and current to try and determine any potential problems with gear retrieval. If the bottom appears prohibitive or the current is too high for safe gear deployment, the FPC and/or Watch Leader can make the decision to either move the station or if suitable conditions are not found, to drop the station and continue to the next station. A drift test can be conducted prior to gear deployment to determine the best direction to set gear based on oceanographic conditions; longline sets are best conducted into the wind or seas, generally at a speed of 4–5 kt.

Longline generally consists of the following: 1) one nautical mile of mainline plus the necessary amount of mainline for gear to reach the bottom (4mm, 1000 lb test), 2) two highflyers, 3) three weights (5–10 kg), 4) 100 baited gangions, consisting of a snap, 3.7 m of 3 mm monofilament, and a circle hook, and 5) three to six GoPro Video cameras equipped with a laser array attached to a snap with 3.7 m of 3 mm monofilament. Additional weights and flotation will possibly be attached dependent upon depths being fished.

Bait comparisons will be conducted by fishing with either Atlantic mackerel (*Scomber scombrus*) or squid (*Illex* sp.), with bait type being alternated between longline sets. Gangion materials however, will be compared by alternating traditional monofilament gangions and gangions with 0.5 m stainless steel leaders (total gangion length of 3.7 m) from hook to hook within longline sets. Variable hook sizes will be fished on the deepest sets with the four sizes #15/0, #12/0, #11/0, and #8/0 being fished simultaneously on the same longline sets.

One nautical mile of mainline is defined as the distance between the first and last weight, with gangions attached to the mainline at uniform distances determined by the deck crew. Longline gear will soak for one to four hours depending on the depth being fished. The soak time is defined as the time from deployment of the last highflyer to retrieval of the first highflyer. We request that longline retrieval or haulback be conducted in the same direction as the gear was deployed, starting with the first highflyer deployed. If the direction of the haulback must be changed due to weather or gear complications, we request that the bridge notify the Watch Leader and notate the change in the bridge log.

Order of longline gear deployment: 1) the first highflyer is attached to the mainline and deployed over the stern; 2) as the vessel steams forward, enough longline is deployed to create a 'buoy line' with approximately a 1.5:1 scope ratio based on bottom depth; 3) once the correct amount of line is deployed, the first weight is attached; 4) 50 gangions are attached, followed by the mid-weight and then the remaining 50 gangions; 5) the final weight is attached and the buoy line for the last highflyer is created by deploying enough mainline for an approximate 1.5: 1 ratio to depth; 6) the set is completed by cutting the mainline and attaching the final highflyer. The GoPro video cameras are to be evenly distributed along the mainline during gear deployment. For shallow water sets the 'buoy line' length will be determined by the deck crew. For deeper water sets, a combination of the line counter, and consultation between the Watch Leader and deck crew, will be used to determine when an adequate amount of mainline has been deployed.

Longline retrieval: During the haulback, all catch, when possible, will be brought on board, identified, measured, weighed, and released if not retained for specific sampling. In addition some animals, prior to release, will be tagged and/or have non-lethal samples taken. Landed organisms should be handled in a manner which will serve to minimize additional stress and injury. Retained specimens will be examined for identification clarification, tissue/hard part sampling, and/or determination of sex/maturity state. To facilitate measurements of large sharks and teleosts, it is requested that the provided fish sling be deployed with the ship's crane to bring animals up to the deck level to be sampled. If this is not possible we request that the haulback be paused so that captures can be brought alongside the vessel for identification, size estimation and, if possible, tagging.

CTD casts: The CTD may be deployed before the set, during the soak or after the haul. The CTD should be submerged at the surface to a depth that will minimize movement due to wave action and held at this depth for three minutes to allow the instrument package to equilibrate. The unit will then be lowered to within 1 m of the bottom (or at a depth determined by the Watch Leader). The instrument will then be brought to the surface and returned to the deck.

Sampling protocol may be altered by the FPC or Watch Leader in order to optimize survey effort or to adhere to mitigation measures for protected resources. Mitigation measures are as follows:

- Under the Preferred Alternative, the SEFSC will initiate a formalized "Move-on" Rule. If any marine mammals, sea turtles or other protected species are sighted around the vessel before setting the gear, the vessel may be moved away from the animals to a different section of the sampling area if the animals appear to be at risk of interaction with the gear at the discretion of the Field Party Chief (Chief Scientist) and Scientific Watch Leader. In most cases, fishing gear is not deployed if marine mammals or sea turtles have been sighted near the ship unless those animals do not appear to be in danger of interactions with the gear, as determined by the judgment of the Field Party Chief (Chief Scientist) and Scientific Watch Leader.

- The SEFSC will initiate a process for its Field Party Chief (Chief Scientist), Scientific Watch Leaders and vessel officers to communicate with each other about their experiences with protected species interactions during research work with the goal of improving decision-making regarding avoidance of adverse interactions. As noted in the Status Quo Alternative description of mitigation measures, there are many situations where professional judgment is used to decide the best course of action for avoiding protected species interactions before and during the time research gear is in the water. The intent of this mitigation measure would be to draw on the collective experience of people who have been making those decisions, provide a forum for the exchange of information about what went right and what went wrong, and try to determine if there are any rules-of-thumb or key factors to consider that would help in future decisions regarding avoidance practices. The SEFSC would coordinate not only among its staff but also with those from other fisheries science centers with similar experience.
- Mitigation Measures for Protected Species during Research with Bottom Longline Gear
 - Monitoring methods: The officer on watch (or member of the Scientific Party), and crew standing watch on the bridge visually scan for marine mammals, sea turtles, and other ESA-listed species (protected species) during all daytime operations. Bridge binoculars are used as necessary to survey the area upon arrival at the station, during visual and sonar reconnaissance of the trawl line to look for potential hazards (e.g., commercial fishing gear, unsuitable bottom for trawling, etc.), and while the gear is deployed. If any marine mammals or sea turtles are sighted by the bridge or deck crew prior to setting the gear or at any time the gear is in the water, the bridge crew and/or Chief Scientist are alerted immediately. Environmental conditions (e.g., lighting, sea state, precipitation, fog, etc.) often limit the distance for effective visual monitoring of protected species.
 - Operational procedures: If any marine mammals, sea turtles or other protected species are sighted around the vessel before gear deployment, in most cases, gear is not deployed unless those animals do not appear to be in danger of interactions with the gear, as determined by the judgment of the Field Party Chief/Scientific Watch Leader (Chief Scientist). The vessel may be moved or gear deployment may be delayed until the animals no longer appear to be at risk of interaction with the gear.
 - If longline operations have been delayed because of the presence of marine mammals or sea turtles, the vessel resumes longline operations only when these species have not been recently sighted or otherwise determined to no longer be at risk. This decision is at the discretion of the Field Party Chief (Chief Scientist) or Scientific Watch Leader and is dependent on the situation.
 - Longline gear is always the first equipment or fishing gear to be deployed when the vessel arrives on station. Longline gear is set immediately upon arrival at each station.
 - If sea turtles or marine mammals are detected during setting operations and are considered to be at risk, halting the setting operations and retrieval of set gear may be warranted.
 - If sea turtles or marine mammals are detected while longline gear is in the water, the Field Party Chief (Chief Scientist) or Scientific Watch Leader in conjunction with the officer on watch exercise professional judgment and discretion to avoid incidental take of these species with longline gear as described for trawl gear. Haul-

back may be postponed if the protected species are considered to be at risk. The species, number, and behavior of the protected species are considered along with the status of the ship and gear, weather and sea conditions, and crew safety factors. The Field Party Chief (Chief Scientist) or the Scientific Watch Leader uses professional judgment and discretion to minimize the risk of potentially adverse interactions with protected species during all aspects of longline survey activities.

- o Hooks vary in size depending on the target species but are typically 15/0 circle hooks for bottom longline gear and 18/0 circle hooks for surface or pelagic longline gear. No stainless steel hooks are used in the SEFSC surveys so that in the event the hook cannot be removed, it will corrode. Finfish bait (ex. mackerel, striped mullet, spot) and non-offset circle hooks are used instead of J-hooks to reduce the incidental capture of sea turtles.
- o All SEFSC bottom and pelagic longline sets are conducted with gear marked at both ends with buoys. Bottom longline sets have a 1 hour soak time while pelagic sets typically have a 3 hour soak time, excluding setting and hauling the gear.
- o SEFSC longline protocols specifically prohibit chumming (releasing additional bait to attract target species to the gear).

D. Dive Plan

All dives are to be conducted in accordance with the requirements and regulations of the NOAA Diving Program (<http://www.ndc.noaa.gov/dr.html>) and require the approval of the ship's CO.

Scientific dives are not planned for this project. If the ship must conduct dive operations while at sea the CO will confer with the FPC as to when dives will occur, in an attempt to minimize impact on scientific work.

E. Applicable Restrictions

In some instances pre-selected stations may need to be moved and/or dropped to avoid obstacles (ex. shipping lanes, rigs), bad conditions (ex. high current, bottom features) or to make sure that survey areas are adequately sampled in the allotted sea days/leg. In these cases, the FPC, Officer on Duty and/or CO will work together to make decisions, striving to maintain the proportional allocation of stations. If the bottom appears prohibitive or the current is too high for safe gear deployment, the FPC and/or Watch Leader can make the decision to either move the station or if suitable conditions are not found, to drop the station and continue to the next station. Additional conditions which preclude normal operations include adverse weather.

III. Equipment

A. Equipment and Capabilities provided by the ship:

1. Freezer space for frozen bait (approximately 4100 lb) and biological samples

2. Hydrographic winch for deploying CTD
3. Seabird SBE-911+ CTD with the following suite of sensors and backups and calibrated as recently as possible and not exceeding 365 days.
 - a. Unit should be mounted horizontally and mounted in the water sampling frame. The frame should be examined to ensure it is in good physical condition and there are no breaks present in any of the welds supporting the frame.
 - b. The standard 12 position SBE 32 Carousel should be properly mounted in the water sampler section of the frame and tested to ensure that bottle positions are working properly and respond to software requests for firing.
 - c. The internal Digiquartz pressure sensor should be in good working order and have a calibration/service date not to exceed 365 days.
 - d. The primary sensor suite should be installed and consist of the following (the sensors should have a calibration date as recent as possible, not to exceed 365 days):
 - i. One (1) SBE 3 Premium Temperature sensor
 - ii. One (1) SBE 4 Conductivity sensor
 - iii. One (1) SBE 43 Dissolved Oxygen sensor
 - iv. One (1) “Y” air bleeder valve. Valve should be checked to ensure it is not clogged.
 - v. One (1) Wetlabs Wetstar pumped fluorometer (to be removed at deeper stations)
 - vi. One (1) SBE 5T pump that has been checked by Seabird within the last 365 days for proper operation
 - vii. One (1) Wetlabs C-Star transmissometer (to be removed at deeper stations)
 - viii. Proper plumbing. Tubing should be checked to ensure it meets Seabird’s recommended method of plumbing and is free from cracks and holes with red end caps for proper storage between stations.
 - e. The secondary sensor suite should be installed and consist of the following (the sensors should have a calibration date as recent as possible, not to exceed 365 days):
 - i. One (1) SBE 3 Premium Temperature sensor
 - ii. One (1) SBE 4 Conductivity sensor
 - iii. One (1) SBE 43 Dissolved Oxygen sensor
 - iv. One (1) “Y” air bleeder valve. Valve should be checked to ensure it is not clogged
 - v. One (1) Wetlabs Wetstar pumped fluorometer
 - vi. One (1) SBE 5T pump that has been checked by Seabird within the last 365 days for proper operation
 - vii. One (1) Wetlabs C-Star transmissometer
 - viii. Proper plumbing. Tubing should be checked to ensure it meets Seabird’s recommended method of plumbing and is free from cracks and holes.

- f. The unit should be properly terminated and connected to a properly functioning SBE 11 Deck Unit. The deck unit should be connected to allow the following:
 - i. Proper control of the SBE Water Sampler Carousel via the SEASAVE application
 - ii. Integration of a proper NMEA signal from a GPS unit.
 - 4. A second SBE 9plus profiler should be available as well. Unit does not have to be configured as a complete functioning ready-to-install on the sea cable unit; however, it should have the following components available:
 - a. Sensors for a Primary suite (with a calibration date as recent as possible, not to exceed 365 days):
 - i. One (1) SBE 3 Premium Temperature sensor
 - ii. One (1) SBE 4 Conductivity sensor
 - iii. One (1) SBE 43 Dissolved Oxygen sensor
 - iv. One (1) “Y” air bleeder valve. Valve should be checked to ensure it is not clogged.
 - v. One (1) Wetlabs Wetstar pumped fluorometer
 - vi. One (1) SBE 5T pump that has been checked by Seabird within the last 365 days for proper operation.
 - vii. One (1) Wetlabs C-Star transmissometer
 - viii. Proper plumbing. Tubing should be checked to ensure it meets Seabird’s recommended method of plumbing and is free from cracks and holes.
 - b. Sensors for a complete Secondary suite (with a calibration date as recent as possible, not to exceed 365 days):
 - i. One (1) SBE 3 Premium Temperature sensor
 - ii. One (1) SBE 4 Conductivity sensor
 - iii. One (1) SBE 43 Dissolved Oxygen sensor
 - iv. One (1) “Y” air bleeder valve. Valve should be checked to ensure it is not clogged.
 - v. One (1) Wetlabs Wetstar pumped fluorometer
 - vi. One (1) SBE 5T pump that has been checked by Seabird within the last 365 days for proper operation.
 - vii. One (1) Wetlabs C-Star transmissometer.
 - viii. Proper plumbing. Tubing should be checked to ensure it meets Seabird’s recommended method of plumbing and is free from cracks and holes.
 - 5. Forward deck crane
 - 6. Hydraulic hoses, connectors and controller valve to operate long line reel
 - 7. SCS version 4.5.1.1063, with working WiFi
 - 8. Hand-held radios for communication between the bridge, deck and scientists
 - 9. 120V AC power supply for ROV

B. Equipment and Capabilities provided by the scientists:

- 5. Six (6) GoPro Video Cameras
- 6. Two (2) 2TB External Hard drives

7. Two (2) longline reels with 1000 lb test (4mm) main line
8. Independent hydraulic unit with power box, hoses and controller valve
9. One (1) 25 lb spool of mainline (1000 lb test, 4mm)
10. One (1) 25 lb spool of gangion monofilament (3mm)
11. Nine (9) longline weights
12. Six (4) inflatable polyball floats with tethers
13. Six (6) extendable highflyer buoys
14. Four (4) hook tubs
15. Tackle box
 - a. 1000, #15/0, #12/0, and #8/0 non-offset circle hooks
 - b. 250 gangion snaps 148-8/0 swivel
 - c. crimps/sleeves for gangions (Momoi A-3.5 ID single A1)
 - d. Three (3) crimpers
 - e. Four (4) monofilament blocks
 - f. reflective tape
 - g. strobes and batteries for highflyers
16. Stern deck sampling tables
17. Fish landing sling and remote electronic dynamometer
18. Turtle release kit and dip nets
19. Two extendable tagging poles
20. Two extendable line cutters
21. Biological sampling equipment
 - a. chisels
 - b. dykes
 - c. knives
 - d. biopsy punches
22. ~3500 lb frozen mackerel and ~880 lb frozen squid (bait)
23. Deck bait box (for defrosting)
24. Weatherproof laptop computers
25. Handheld D.O. meter

IV. Hazardous Materials

A. Policy and Compliance

The FPC 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 quantity, MSDS, appropriate spill cleanup materials (neutralizing agents, buffers, or absorbents) in amounts adequate to address spills of a size equal to the amount of chemical brought aboard, and chemical safety and spill response procedures. Documentation regarding those requirements will be provided by the Chief of Operations, Marine Operations Center, upon request.

Per OMAO procedure, the scientific party will include with their project instructions and provide to the CO of the respective ship 30 days before departure:

- List of chemicals by name with anticipated quantity
- List of spill response materials, including neutralizing agents, buffers, and absorbents
- Chemical safety and spill response procedures, such as excerpts of the program's Chemical Hygiene Plan or SOPs relevant for shipboard laboratories
- For bulk quantities of chemicals in excess of 50 gallons total or in containers larger than 10 gallons each, notify ship's Operations Officer regarding quantity, packaging and chemical to verify safe stowage is available as soon as chemical quantities are known.

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
- Confirmation that chemical safety and spill response procedures were brought aboard

Upon departure from the ship, scientific parties will provide the CO or their designee an inventory showing that all chemicals were 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. If the spill is severe enough to require a respirator the scientific party will act as support.

Overboard discharge of hazardous materials is not permitted aboard NOAA ships.

B. Inventory

Common Name of Material	Qty	Notes	Trained Individual	Spill control
Formalin solution (10%)	1 x 9.5 L		Lisa Jones	F
Ethanol (95%)	1 x 19 L		Lisa Jones	E

C. Chemical safety and spill response procedures:

A: Acid

- Wear appropriate protective equipment and clothing during clean-up. Keep upwind. Keep out of low areas.
- Ventilate closed spaces before entering.

- Stop flow of material if this is without risk. Dike the spilled material when possible.
- Large spills: dike far ahead of spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.
- Small spills: wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
- Never return spilled material to original container for re-use.

E: Ethanol

- Ventilate area of leak or spill. Remove all sources of ignition.
- Wear appropriate personal protective equipment.
- Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible.
- Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container.
- Do not use combustible materials, such as saw dust.

F: Formalin/Formaldehyde

- Ventilate area of leak or spill. Remove all sources of ignition.
- Wear appropriate personal protective equipment.
- Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible.
- Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container.
- Do not use combustible materials, such as saw dust.

U: Universal Chemicals, all other chemicals

- Ventilate area of leak or spill. Remove all sources of ignition.
- Wear appropriate personal protective equipment.
- Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible
- Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e.g. vermiculite, dry sand, earth), and place in a chemical waste container.
- Do not use combustible materials such as sawdust.

Inventory of Spill Kit Supplies

Product Name	Amount	Chemicals it is useful against	Amount it can clean up
Formaldehyde neutralizer	5 gallon bucket	Formaldehyde	30lbs per 5 gallon bucket
Universal Spill CleanUp Kit	5 gallon kit	Ethanol, Logul's iodine	5 gallons per kit

Formalin Spill Control	11 oz. bottle	Formaldehyde	40 oz of 10% or 9 oz of 37%
Kitty litter	3*5 gallon bucket	Ethanol, Lugol's iodine	30 gallons of chemical per bucket
Ansul Spill-X-A	1 pound container	acetic acid	

D. Radioactive Materials

No Radioactive Isotopes are planned for this project.

V. Additional Projects

A. Supplementary ("Piggyback") Projects

No Supplementary Projects are planned.

B. NOAA Fleet Ancillary Projects

No NOAA Fleet Ancillary Projects are planned.

VI. Disposition of Data and Reports

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

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 FPC and CO 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 FPC in arranging this meeting.

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

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

VIII. Miscellaneous

A. Meals and Berthing

The ship will provide meals for the scientists listed above. Meals will be served three 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 FPC. The FPC and CO 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 FPC 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 FPC 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 FPC will ensure that all non NOAA or non-Federal scientists aboard also have proper orders. It is the responsibility of the FPC 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 CO. 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
E-mail MOA.Health.Services@noaa.gov

Prior to departure, the FPC 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's 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 FPC to ensure members of the scientific party report aboard with the proper attire.

D. Communications

A progress report on operations prepared by the FPC may be relayed to the program office. Sometimes it is necessary for the FPC to communicate with another vessel, aircraft, or shore facility. Through various means of communications, the ship can usually accommodate the FPC. 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 vessel 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 at least 30 days in advance.

D. 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.

E. Foreign National Guests Access to OMAO Facilities and Platforms

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

VIII. Appendices

1. Figures, maps, tables, images

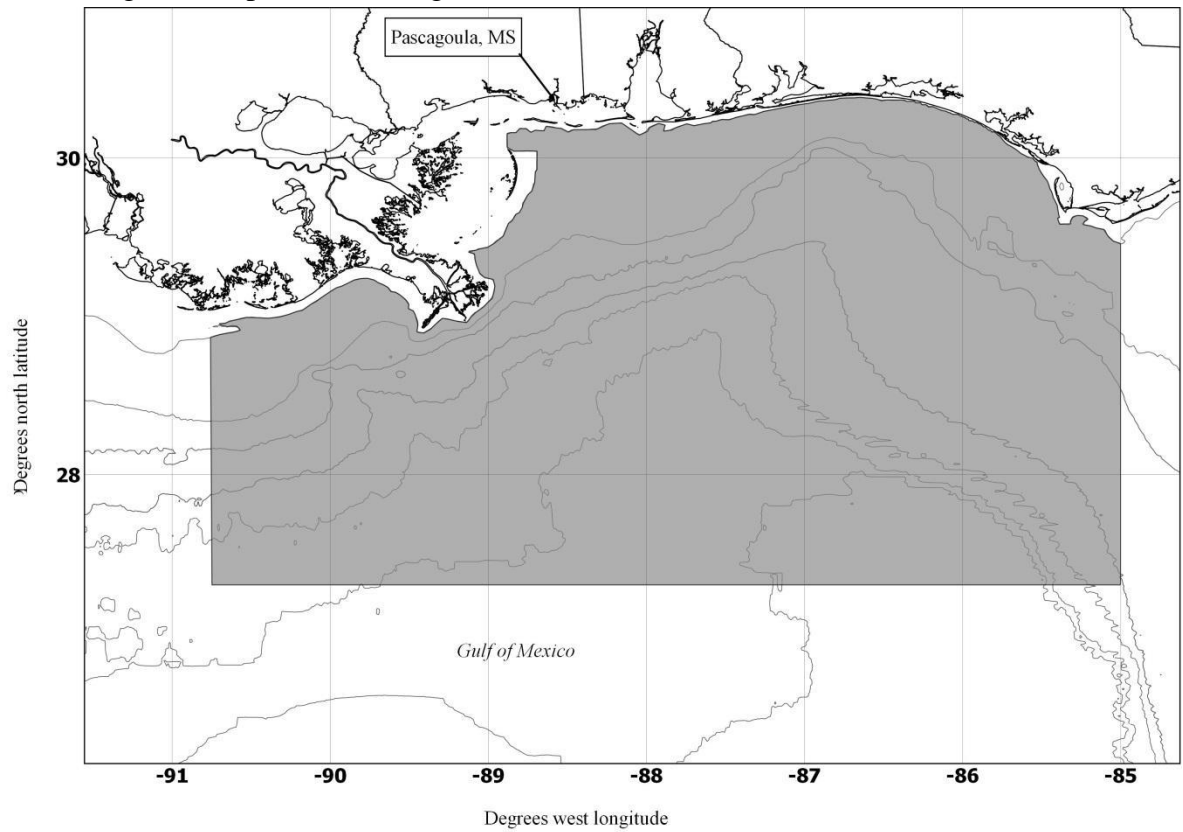


Figure 1. Survey area for experimental longline cruise, NOAA Ship *Oregon II*, cruise R2-17-01(321). Pictured isobaths 10, 50, 100, 500, 1000, 2000, 3000 m.