




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

June 12, 2017

MEMORANDUM FOR: Commander Nicholas Chrobak, NOAA
Commanding Officer, NOAA Ship *Pisces*

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

SUBJECT: Project Instruction for PC-17-03
Southeast Fishery-Independent Survey

Attached is the final Project Instruction for PC-17-03, Southeast Fishery-Independent Survey, which is scheduled aboard NOAA Ship *Pisces* during the period of July 11 – August 14, 2017. Of the 33 DAS scheduled for this project, 33 days are funded by a Line Office Allocation. The 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.



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

101 Pivers Island Road
Beaufort, NC 28516

Project Instructions

Date Submitted: 06/07/2017
Platform: NOAA Ship PISCES
Cruise Number: PC-17-03
Project Title: Southeast Fishery-Independent Survey (SEFIS)
Cruise Dates: 07/11/2017 - 08/14/2017

Prepared by: *Math M. Baska* **Date:** 06/07/2017
Field Party Chief

Approved by: HOHN.ALETA.A Digitally signed by HOHN.ALETA.A DN: cn=HOHN.ALETA.A, o=NOAA, ou=SEFIS, email=aleta.a@noaa.gov **Date:** 06/07/2017
DR.1365837976
Lab Director

Approved by: BRAINERD.THEOPHI Digitally signed by BRAINERD.THEOPHI DN: cn=BRAINERD.THEOPHI, o=NOAA, ou=SEFIS, email=theophi@noaa.gov **Date:** 06/09/2017
LUS. R.DR. 136581
Dr. Bonnie Ponwith
Director, SEFSC

FOR **Approved by:** *Scott M. Sirois* LT/NMMA **Date:** 7/6/17
Captain Scott M Sirois, NOAA
Commanding Officer
Marine Operations Center - Atlantic

I. Overview

A. Brief Summary and Project Period

The SouthEast Fishery-Independent Survey (SEFIS) conducts applied fishery-independent sampling with chevron fish traps and attached underwater video cameras. The project period is July 11, 2017 – August 14, 2017.

B. Days at Sea (DAS)

Of the 33 DAS scheduled for this project, 0 DAS are funded by an OMAO allocation, 33 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 Medium Operational Tempo.

C. Operating Area

The area of operation is southeast US continental shelf waters ranging from Cape Hatteras, NC (35°30' N, 75°19'W) to St. Lucie Inlet, FL (27°00'N, 75°59'W) (Figure 1). Operations for leg 1 will predominantly focus on waters in North and South Carolina (between Cape Hatteras, NC, and Charleston, SC) in waters 18–200 m (Figure 1); Leg 2 may operate between Cape Hatteras, NC, and St. Lucie Inlet, FL.

D. Summary of Objectives

NOAA Ship *Pisces* will conduct applied fishery-independent sampling focusing on:

1. Assessment of spatial variability in distribution and abundance of species within the snapper-grouper complex.
2. Comparative analysis of fish traps, video cameras, and acoustics.
3. Bathymetric and backscatter data collection (for subsequent habitat mapping) over hardbottom habitats.
4. Collect environmental and water quality information using Conductivity-Temperature-Depth sensor (CTD) casts and expendable bathythermographs (XBTs).
5. Periodic hook-and-line sampling for additional life history and diet samples.

E. Participating Institutions

NOAA/NMFS/SEFSC
JHT, Incorporated (NOAA Contractor)
South Carolina Department of Natural Resources
College of Charleston
North Carolina State University

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

Name (Last, First)	Title	Date Aboard	Date Disembark	Gender	Affiliation	Nationality
Schobernd, Zeb	FPC	July 11	July 26	M	NMFS	USA
Bacharach, Lauren	Video	July 11	July 26	F	NMFS JHT	USA
Berrane, David	Watch chief	July 11	July 26	M	NMFS JHT	USA
Gillum, Zach	Deck watch	July 11	July 26	M	NMFS JHT	USA
Gregalis, Kevan	Watch chief	July 11	July 26	M	NMFS JHT	USA
Hoke, David	Deck watch	July 10	July 26	M	NMFS	USA
Howington, Kathleen	Deck watch	July 10	July 26	F	SCDNR	USA
Kellison, Todd	Deck watch	July 11	July 26	M	NMFS	USA
Long, Stephen	Deck watch	July 10	July 26	M	SCDNR	USA
Noble, Brandi	Mapping lead	July 10	July 26	F	NMFS	USA
Proux, Zach	Mapping	July 10	July 26	M	COC	USA
Bachelor, Nathan	FPC	July 29	August 13	M	NMFS	USA
Berrane, David	Mapping lead	July 29	August 13	M	NMFS JHT	USA
Brooker, Zach	Deck watch	July 28	August 13	M	SCDNR	USA
Brusher, John	Deck watch	July 28	August 13	M	NMFS	USA
Cheshire, Robert	Deck watch	July 29	August 13	M	NMFS	USA
Falk, Michelle	Watch chief	July 28	August 13	F	SCDNR	USA
Hoke, David	Deck watch	July 28	August 13	M	NMFS	USA
Lombardo, Stephen	Deck watch	July 29	August 13	M	NCSU	USA
Schertz, Graham	Mapping	July 28	August 13	M	COC	USA
Schobernd, Christina	Video	July 29	August 13	F	NMFS	USA
Teer, Brad	Watch chief	July 29	August 13	M	NMFS JHT	USA

G. Administrative

1. Points of Contacts:

Chief Scientist / Field Party Chief (FPC) for Leg 1: Zeb Schobernd, NMFS SEFSC, 101 Pivers Island Road, Beaufort, NC 28516, W: 252.728.8736; C: 541.961.5491 (zeb.schobernd@noaa.gov)

Chief Scientist/ FPC for Leg 2: Nate Bachelor, NMFS SEFSC, 101 Pivers Island Road, Beaufort, NC 28516, W: 252.838.082; C: 252.269.1221 (nate.bachelor@noaa.gov)

Chief Scientist / FPC alternate: Todd Kellison, NMFS SEFSC, 101 Pivers Island Road, Beaufort, NC 28516, 252.838.0810 (todd.kellison@noaa.gov)

Project Operation Lead: Nate Bachelor, NMFS SEFSC, 101 Pivers Island Road, Beaufort, NC 28516, W: 252.838.082; C: 252.269.1221 (nate.bachelor@noaa.gov)

Operations Officer: Carl Noblitt, NOAA Corps, 151 Watts Ave, Pascagoula, MS, W:541.867.8917

2. Diplomatic Clearances

None Required.

3. Licenses and Permits

This project will be conducted under the Scientific Research Permit (U.S.) issued to Nate Bacheler by NMFS Southeast Region (U.S.) on June 16, 2015, to December 31, 2020.

II. Operations

The 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:

Operations will focus on continental shelf and shelf-break waters between North Carolina and St. Lucie Inlet, Florida, between 18–200 m. Leg 1 will take place July 11–July 26, 2017 (16 DAS), and leg 2 will take place July 29–August 14, 2017 (17 DAS).

B. Staging and Destaging:

Staging and de-staging will be conducted at the Port of Morehead City, NC.

Mobilization will take place July 10, 2017, and demobilization will take place August 13, 2017 at the Port of Morehead City, NC.

C. Operations to be conducted (including mitigation measures):

We deploy traps with attached video cameras at a variety of stations in the U.S. South Atlantic. Traps have a single line connected to two surface buoys. **Vessel operations will occur over a 24-hour workday.** Typically, multibeam (ME70) and XBT/CTD data collection operations will be carried out at night (~1800 to 0600), and all other operations (trapping with attached underwater video and CTD) during the day, with the exception of split-beam (EK60) surveys, which may occur during both day and night. At least three vessel crew members will be required on deck during the day (from 0700 to approximately 1700 each day, but perhaps as late as 1900 on some or most evenings) for deployment and recovery of fish traps and other gear. Both legs will focus on trap and video camera deployments coupled with acoustics (EK60 and ME70).

The FPC will supply the ship with GPS points of most trap/video sampling locations before leg 1 (likely in May), and **trap sampling will commence at approximately 0700 each morning.** We expect that six traps will be deployed off the stern of *Pisces* (down the stern ramp while the vessel is traveling at approximately 4 kt) over the course of

approximately 30 min, one trap being deployed at a time and no closer than 200 m from another trap. After a group of six traps are deployed in an area, a single CTD cast will be conducted, and then traps will be retrieved after each trap has soaked for approximately 90 min (but no more than 150 min). Trap retrieval will take place at the side sampling station using the pot hauler, and then the scientists will move traps to the back deck for another deployment. Typically three to four trap sets (set = 6 simultaneously deployed traps) will be conducted each day. **The biggest key to successful sampling on *Pisces* is picking up traps as quickly as possible so trap samples do not need to be thrown out of our analyses and more samples can be collected in a day.**

We request that the Senior Survey Technician work a modified day shift (0730 to 1930) to assist with CTD casts and EK60 data collection during the day, and assist with the commencement of ME70, ADCP, and other technical nighttime operations. As during previous cruises (e.g., PC1503, PC1603), the science party can be trained to operate the CTD computer system between 2000 and 0700 should the XBT system become unavailable during overnight mapping (details below).

a. Multibeam Sonar Mapping: Mapping surveys will be conducted primarily at night using the Simrad ME70 multibeam sonar unit. Instead of conducting CTD casts during overnight mapping, the scientific party plans to bring XBTs that can be used to profile water temperature without the need to stop mapping operations or stop the ship, to increase overnight efficiency. **The science party will use the cabled XBT hand launcher located at the side sampling station and XBT software program resident in the Toughbook computer (or networked computer) in the Dry Lab.** Files will be transferred from the Toughbook to the ME-70 computer system after each XBT deployment. If the XBT system malfunctions, the science party would request vessel crew assistance with two CTD casts during the overnight hours (1800 – 0730, most likely at deck shift changes at 2000 and 0400). We have been previously advised that vessel crew shift changes are an appropriate time for such efforts, and would plan on that unless advised otherwise. **Mapping survey staff anticipates requesting 2-6 patch tests during PC-17-03 (anticipated maximum of three during each leg). At least one attempt is requested at the site of a successful 2014 *Pisces* patch test, over the cargo ship wreck “Yancey” (34°10’ N, 76°13’ W).** Additionally, at least one effort is requested to achieve successful GPS Azimuth Measurement Subsystem (GAMS) calibration for *Pisces*’ Applanix Pos MV. We would seek vessel pilot assistance in the planning for these operations. **We also hope to use the NMFS-Pascagoula towed side-scan sonar system if the ME-70 is unavailable for our cruise.**

b. Fisheries Acoustic Surveys: Split-beam acoustic surveys using *Pisces* Simrad EK60 scientific echosounder (18 kHz, 38 kHz, 120 kHz, 200 kHz) may be conducted during the day while other gear (trap-camera units) is also deployed, for the purpose of comparative

gear sampling, as well as at night. The science party is familiar with EK60 operation and will be capable of self-operation following orientation to the vessel's computer network and data storage procedures. The science party requests that gear necessary to calibrate the EK60 (e.g., downriggers, calibration spheres) be available for our cruise.

c. Trap-camera arrays: Baited chevron traps mounted with two high-definition video cameras will be utilized for (1) hardbottom reef fish community assessments, (2) reef fish biological sample collection (i.e., otoliths and gonads), and (3) comparative gear sampling (e.g., cameras versus traps versus split-beam sonar). We plan to deploy and retrieve up to 24 traps per day (sunrise to sunset); six traps will be deployed and retrieved in a set, and three to four sets will be sampled in a day. Individual trap soak times are targeted to be 80-100 min. **It is imperative that traps are hauled back in a timely fashion, because traps soaking longer than 150 min are excluded from any future analyses.** A hydraulic pot hauler will be required for trap retrieval, and traps will be deployed off the stern, down the trawl ramp. **The science party requests that the grate over the trawl ramp be removed for our cruise.**

d. Drop-cameras (weighted video cameras with tether line to deck; max weight = 100 lb) may be used to collect fish and habitat data. A hydraulic pot hauler or winch may be required for camera retrieval.

e. Hook-and-line fishing gear for collection of reef fish for otoliths, gonad, and diet collection. Reels will be hand cranked and will not require power.

f. CTD Operations: CTD casts will typically be performed in conjunction with trap-camera operations during daytime operations, generally one CTD cast for each deployment of six traps/one set (i.e., 3-4 CTD casts during the day). Instead of conducting CTD casts during overnight mapping, the scientific party has acquired XBTs that can be used to profile water temperature without the need to stop mapping operations or stop the ship, to increase overnight efficiency. If the XBT system malfunctions, at least two CTD casts are requested during the overnight hours (1800 – 0730).

Mitigation Measure for Protected Species

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 FPC (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 FPC (Chief Scientist) and Scientific Watch Leader.

The SEFSC will initiate a process for its FPC (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.

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

For **hook-and-line gear**, 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 FPC/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. Soak time is reduced and standardized to 5-10 min per gear deployment. If marine mammals, sea turtles or other protected species are detected during setting operations and are considered to be at risk, immediate retrieval or halting the setting operations may be warranted. If setting operations have been halted due to the presence of these species, setting may or may not resume. In some cases the animal is monitored to see if it moves out of the area, if so then setting resumes. The vessel may also move to the next station or choose an alternate station. The best course of action is determined by the judgment of the FPC/Scientific Watch Leader (Chief Scientist).

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 ops while at sea the CO will confer with the FPC as to when the dive ops will occur so the dive will have the least impact on the scientific work.

E. Applicable Restrictions

Conditions which preclude normal operations: Conditions that preclude normal operations are rough seas (> 8') and major equipment failure, such as the Controlled Environment Room and

wet lab ice machine or Walk-in Freezer in the wet lab.

III. Equipment

- A. Equipment and Capabilities provided by the ship (itemized)
1. Scientific computer system (SCS). The scientists will work with the ET and/or survey tech to derive depth and GPS sensors in the ship's SCS configuration file to provide true depth in meters and latitude/longitude coordinates in decimal degrees for SCS events. **The SEFIS program is familiar with acquiring data from the SCS system, and will be bringing SCS event templates to the vessel for 2017 testing, implementation on the ship's network, and incorporation in daily operations.**
 2. Hydraulic pot hauler
 3. Seabird CTD (max depth = 200 m) with sensors to collect the following variables [units]:
 - a. Pressure, Digiquartz [psi]
 - b. Oxygen, SBE 43 [mg/l]
 - c. Temperature [ITS-90, deg C]
 - d. Beam Transmission, WET Labs C-Star [%]
 - e. Sound Velocity [Chen-Millero, m/s]
 - f. Depth [salt water, m]
 - g. Fluorescence, WET Labs WETstar [mg/m³]
 - h. Salinity, Practical [PSU]
 - i. Beam Attenuation, WET Labs C-Star [1/m]
 - j. Depth [salt water, m]
 - k. Density [density, Kg/m³]
 4. Winch to deploy and retrieve CTD
 5. ME70 multibeam mapping system. **The science staff requests hard copies of the most recent calibration reports, changes to related instrumentation, transducer head cleaning efforts, and updated ship survey documents, where available.**
 6. Simrad EK-series fisheries acoustic system (18, 38, 120, and 200 kHz)
 7. Survey technician and technical support to operate multibeam and fisheries acoustic systems
 8. Freezer space to store up to 80 (50 lb) boxes of menhaden for bait (note that the walk-in freezer in *Pisces* wet lab accommodated this amount of bait in 2016 quite easily).
 9. Dry Storage Area for the scientific party's supplies
 10. Like last year, we will be working up many more fish than cruises before 2015, and as such, **require** that the new ice machine in *Pisces* wet lab is operational. If not, the

Controlled Environment Room will be absolutely critical. *Without a reliable way to refrigerate samples, we would be unable to continue sampling fish and would need to return to port.* We would need enough space in the walk-in refrigerator in the wet lab for tissue sample storage and storage of up to 15 (2' x 3' x 1') bins of fish collected during the day to be worked up during the night.

11. Wet Lab and Dry Lab work space
12. Small Storage Space for Hazardous Chemicals in wet lab fume hood
13. Handheld radios (N=2) outfitted with speaker mics for communication between bridge, deck, and dry lab, and acoustics lab. As a safety concern, cabled speaker mics are specifically desired for radios to be worn by scientists on deck, especially during overnight XBT deployments.
14. Cabled XBT hand launcher located at the side sampling station, and XBT software program. We hope the XBT system can be tested before our arrival to verify it is working.
15. ADCP and support from survey tech on its use, so that traps are never deployed in water with currents greater than 2 kts. Science staff request hard copies of the most recent calibration reports, where available.
16. Seasave software with .CON files for calibrated CTD sensors.
17. GPS feed via hardwired serial port for one laptop computer in the Acoustics Lab, and another GPS feed via serial port available in the Dry Lab. GPS feeds were provided in 2011- 2016, so we hope that they are still available for use.
18. Hard hats for deck operations.
19. Gear necessary to calibrate the EK60 (e.g., downriggers, calibration spheres)

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

1. Permits for conducting otherwise prohibited activities in appropriate waters (we will be bringing a valid Scientific Research Permit).
2. Chevron traps (N = 11; 5' wide, 6' long, and 2' high, weighing approximately 60 lb each)
3. Buoys, float balls, and lengths of buoy line.
4. Bait (up to 80 boxes, to be stored in walk-in freezer)

5. HD camera equipment (all GoPros), underwater housings, and related accessories (transported in four plastic totes, each approximately 50 lb).
6. Scales for weighing fish
7. Coolers and several large ice bins (~ 5' x 5' x 5')
8. Computers (6-10 laptops) to download and edit HD video and process acoustic data
9. Fishing rods and reels (N = 4) for opportunistic hook-and-line sampling for diet analysis and/or biological samples. No electric outlets are needed for hook-and-line sampling.
10. Portable hard drives, digital media (discs)
11. Fish sampling equipment and supplies (knives, scalpels, jars, bags, labels)
12. Aluminum foil, Ziploc bags, sharpie markers
13. Other miscellaneous sampling supplies (small tools, hardware, tape, etc.)
14. 3 dozen Deep Blue XBTs
15. PFDs
16. We also hope to bring the NMFS-Pascagoula towed side-scan sonar system and winch if the ME-70 is unavailable for our cruise.

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
Formaldehyde solution (11%)	4 x 2-L	Alkalinity; double stored in coolers and individual 2-L containers	David Berrane, Nate Bacheler, Zeb Schobernd	T
Formaldehyde solution (100%)	2 x 0.6-L	Alkalinity; double stored in coolers and individual 1-L containers	David Berrane, Nate Bacheler, Zeb Schobernd	T

C. Chemical safety and spill response procedures

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.

Inventory of Spill Kit supplies

Product Name	Amount	Chemicals it is useful against	Amount it can clean up
Safetec FSC 1 carbamidic compound and polyacrylate polymer. Kit also includes nitrile gloves, vented goggles, scoop/scrapper, respirator, wiper pads, gown, and 4 × 30-gal bags	13 x 11 oz	Formalin/formaldehyde solution	8.0 L of 11% formaldehyde solution and 1.2 L of 100% formaldehyde solution

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 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 conducted a meeting no earlier than 24 hrs before or 7 days after the completion of a project to discuss the overall success and short comings of the project. Concerns regarding safety, efficiency, and suggestions for future improvements shall be discussed and mitigations for future projects will be documented for future use. This meeting shall be attended by the ship's officers, applicable crew, the FPC, and members of the scientific party and is normally arranged by the Operations Officer and FPC.
- D. Project Evaluation Report
Within seven days of the completion of the project, a Customer Satisfaction Survey is to be completed by the FPC. 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 makeup 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 FPC or the NOAA website <http://www.corporateservices.noaa.gov/noaforms/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 four 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 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 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 email and the Very Small Aperture Terminal (VSAT) link. Standard VSAT bandwidth at 128kbs is shared by all vessels staff and the science team at no charge. Increased bandwidth in 30 day increments is available on the VSAT systems at increased cost to the scientific party. If increased bandwidth is being considered, program accounting is required and it must be arranged through the ship's Commanding Officer at least 30 days in advance.

E. IT Security

Any computer that will be hooked into the ship's network must comply with the *OMAO Fleet IT Security Policy* 1.1 (November 4, 2005) prior to establishing a direct connection to the NOAA WAN. Requirements include, but are not limited to:

- (1) Installation of the latest virus definition (.DAT) file on all systems and performance of a virus scan on each system.
- (2) Installation of the latest critical operating system security patches.
- (3) No external public Internet Service Provider (ISP) connections.

Completion of the above requirements prior to boarding the ship is required. Non-NOAA personnel using the ship's computers or connecting their own computers to the ship's network must complete NOAA's IT Security Awareness Course within 3 days of embarking.

F. Foreign National Guests Access to OMAO Facilities and Platforms

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

IX. Appendices

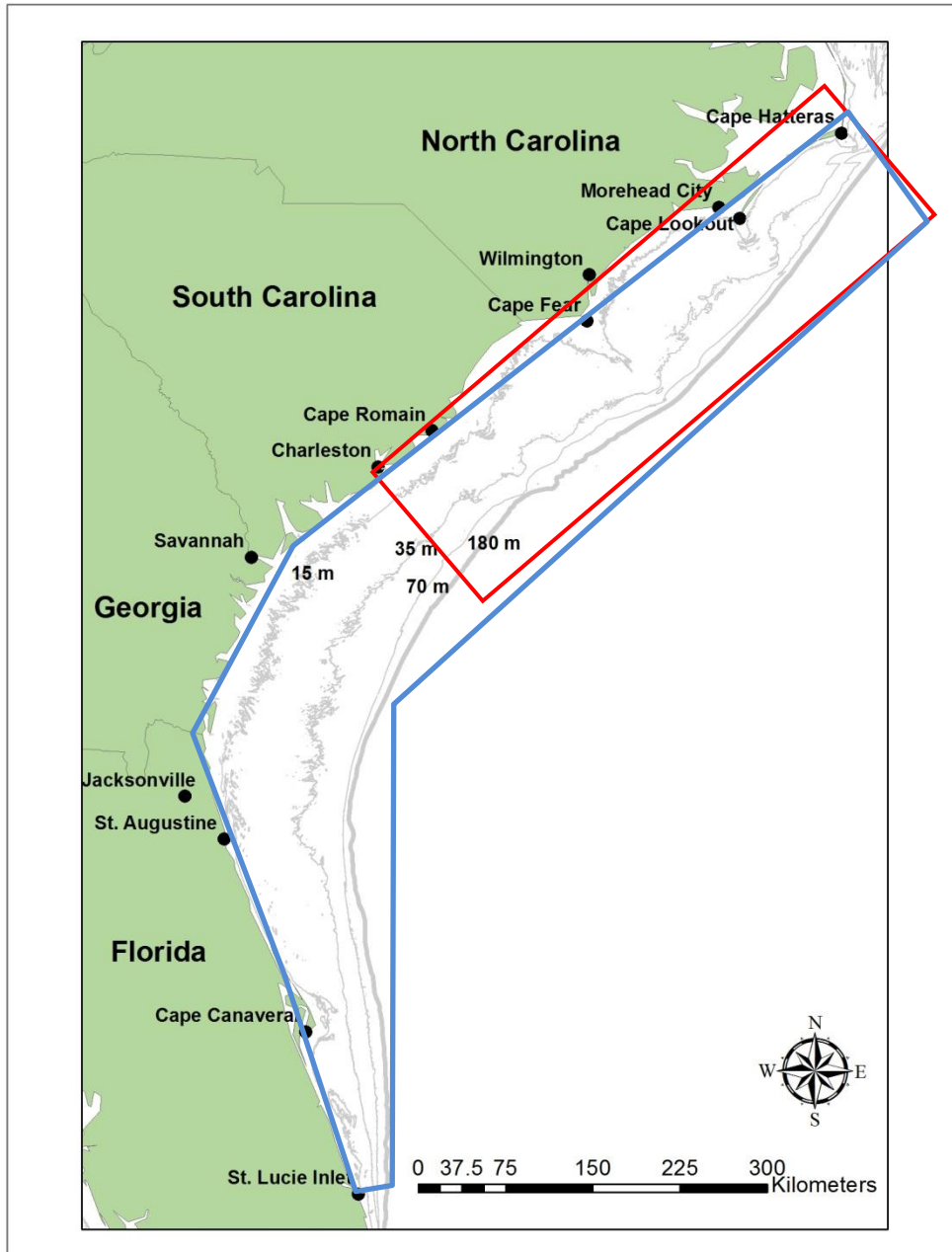


Figure 1: Possible operating areas of PC-17-03 cruise in southeast US continental shelf waters (18 – 200 m), with most sampling likely occurring inside of the red box for leg 1 and inside blue box on leg 2.

2. Station/Waypoint List and potential mapping boxes was sent directly to the Operations Officer, CO, and XO on May 4, 2017.