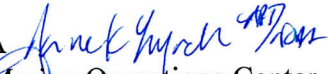




**UNITED STATES DEPARTMENT OF COMMERCE**

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 Jeffrey Shoup, NOAA  
Commanding Officer, NOAA Ship *Nancy Foster*

FROM: Captain Anne K. Lynch, NOAA   
Commanding Officer, NOAA Marine Operations Center-Atlantic

SUBJECT: Project Instruction for NF-14-06  
Port Everglades/Palm Beach ODMDS Trend Assessment/SPI Survey

Attached is the final Project Instruction for NF-14-06, Port Everglades/Palm Beach ODMDS Trend Assessment/SPI Survey, which is scheduled aboard NOAA Ship *Nancy Foster* during the period of September 1 to September 12, 2014. Of the 10 DAS scheduled for this project, 10 days are funded by EPA. This project is estimated to exhibit a Medium Operational Tempo. Acknowledge receipt of these instructions via e-mail to [OpsMgr.MOA@noaa.gov](mailto:OpsMgr.MOA@noaa.gov) at Marine Operations Center-Atlantic.

Attachment

cc:  
MOA1





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

## Survey Plan

**Date Submitted:** July 03, 2014  
**Platform:** NOAA Ship *Nancy Foster*  
**Project Number:** NF-14-06  
**Project Title:** Port Everglades/Palm Beach ODMDS Trend Assessment/SPI Survey  
**Project Dates:** September 1, 2014 to September 12, 2014

Prepared by:

Mel Parsons Dated: 7/31/14  
Mel Parsons  
Chief Scientist  
U.S. EPA Region 4, Science and Ecosystem Support Division

Approved by:

Stacey Box Dated: 7/31/14  
Stacey Box  
Chief, Water Quality Section  
U.S. EPA Region 4, Science and Ecosystem Support Division

Approved by:

Chris McArthur Dated: 7/31/14  
Chris McArthur  
Project Manager  
U.S. EPA Region 4, Water Protection Division

Approved by:

Jennifer Derby Dated: 7/31/14  
Jennifer Derby  
Chief, Coastal and Ocean Protection Section  
U.S. EPA Region 4, Water Protection Division

Approved by:

Captain Anne K. Lynch Dated: 8/12/2014  
Captain Anne K. Lynch, NOAA  
Commanding Officer  
Marine Operations Center - Atlantic

## **I. Overview**

### **A. Brief Summary and Project Period**

The Port Everglades Harbor ODMDS was designated by EPA in 2005. Baseline environmental data was collected in 1998. The ODMDS is located in approximately 650 feet of water 4 nm offshore Fort Lauderdale, FL. Issues raised during designation of the site included: 1) the size of the disposal mound (including apron) for routine maintenance projects and for larger projects; 2) burial of essential fish habitat, especially boulder/rubble areas found during site designation studies; and 3) effect on and recovery of benthic prey species for managed fisheries. The site was used for disposal of approximately 60,000 cubic yards of maintenance material in 2005. Post disposal Sediment Profile Imaging (SPI) monitoring was conducted in 2006 and showed an apron of dredged material extending beyond the site boundaries. The Site Management Monitoring Plan (SMMP) was subsequently modified to alter the release zone to attempt to keep future disposal mounds within the existing site. A larger maintenance project (300,000 cy) was completed in April 2013 using the new release zone.

The Palm Beach Harbor ODMDS was designated by EPA in 2005. Baseline environmental data was collected in 1998. The ODMDS is located in approximately 600 feet of water 5 nm offshore Palm Beach, FL. Issues raised during designation of the site included: 1) the size of the disposal mound (including apron) for routine maintenance projects and for larger projects; 2) burial of essential fish habitat, especially boulder/rubble areas found during site designation studies; and 3) effect on and recovery of benthic prey species for managed fisheries. The site was used for disposal of a small amount of maintenance material in 2013. The USACE just released a draft feasibility study for deepening/widening the Port of Palm Beach (Lake Worth Inlet). Under the proposed plan, 1.4 million cubic yards of new work material would be disposed at the ODMDS.

### **B. Service Level Agreements**

Of the 10 DAS scheduled for this project, 0 DAS are funded by an OMAO allocation, 0 DAS are funded by a Line Office Allocation, 10 DAS are Program Funded by EPA HQ through an Interagency Agreement. This project is estimated to exhibit a Medium Operational Tempo.

### **C. Operating Area (include optional map/figure showing op area)**

### **D. Summary of Objectives**

There are two primary objectives to this survey: 1) Conduct routine trend assessments at the Port Everglades and Palm Beach ODMDS consistent with the requirement of the SMMP and 40CFR228.13 by collecting and analyzing water, sediment and biota from each ODMDS; 2) Utilizing a SPI camera, map the Port Everglades disposal mound and apron of the 2013 disposal event to determine the effectiveness of the new release zone on keeping disposed material within the ODMDS boundaries and conduct pre-disposal mapping at the Palm Beach ODMDS.

Secondary objectives include limited SPI mapping and sediment sampling for Polychlorinated Biphenyl (PCB) analysis at the Miami ODMDS and multibeam bathymetry. Also, determine the feasibility of fish tissue collection for PCB analysis from the Miami ODMDS due to high levels of PCBs previously found in sediments from the Miami ODMDS.

Also, if time and weather permit, EPA R4 has been requested by NOAA Fisheries to conduct limited habitat (coral) assessments for evaluation of potential impacts from a future channel deepening project on reefs near the proposed Port Everglades channel extension.

E. Participating Institutions

US-EPA R4, R4 Public Health Service and US-EPA Gulf of Mexico Program Office personnel

Crew of NOAA Vessel Nancy Foster

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

<b>Name (Last, First)</b>	<b>Title</b>	<b>Date Aboard</b>	<b>Date Disembark</b>	<b>Gender</b>	<b>Affiliation</b>	<b>Nationality</b>
Blackburn, Steve	Life Scientist	9/2/14	9/11/14	M	EPA	USA
Bowers, Todd	Life Scientist	9/2/14	9/11/14	M	EPA	USA
Derby, Jennifer	Supervisory Life Scientist	9/2/14	9/11/14	F	EPA	USA
Hall, Rosemary	Ecologist	9/2/14	9/11/14	F	EPA	USA
Houda, Tara		9/2/14	9/11/14	F	Public Health Service	USA
Kendall, Drew	Life Scientist	9/2/14	9/11/14	M	EPA	USA
McArthur, Christopher	ODMDS Site Manager	9/2/14	9/11/14	M	EPA	USA
McGuire, Beth	Life Scientist	9/2/14	9/11/14	F	EPA	USA
Melgaard, Dave	Life Scientist	9/2/14	9/11/14	M	EPA	USA
Parsons, Mel	Chief Scientist	9/2/14	9/11/14	M	EPA	USA
Troy Pierce	Life Scientist	9/2/14	9/11/14	M	EPA	USA
Alex Mansfield	SPI Support	9/2/14	9/11/14	M	Contractor (Battelle)	USA

G. Administrative

1. Points of Contacts:

*Survey Chief Scientist:* Mel Parsons

*Organization:* U.S. EPA Region 4, Science and Ecosystem Support Division

*Organization Address:* 980 College Station Rd., Athens, GA 30605

*Organization Telephone No.:* (706) 355-8714; personal cell (706) 202-5092

*FAX No.:* (706) 562-8726

*Email:* [parsons.mel@epa.gov](mailto:parsons.mel@epa.gov)

*ODMDS Site Manager:* Christopher J. McArthur

*Organization:* U.S. EPA Region 4, Water Protection Division

*Organization Address:* 61 Forsyth, S.W., Atlanta, GA 30306

*Organization Telephone No.:* (404) 562-9391; personal cell (404) 909-0347

*FAX No.:* (404) 562-9343

*Email:* [mcarthur.Christopher@epa.gov](mailto:mcarthur.Christopher@epa.gov)

NOAA Ship Nancy Foster

LT Colin Kliewer, Operations Officer

Ship's Cell: 843-991-6326

Iridium: 808-434-5653

*Email:* [colin.kliewer@noaa.gov](mailto:colin.kliewer@noaa.gov)

2. Diplomatic Clearances: N/A

3. Licenses and Permits: N/A

## II. Operations

### A. Project Itinerary

Table 1: Project Schedule

Date/Time	Activity
9/01/14: 0900 – 9/02/14: 19:00	Depart Charleston, Transit to Ft. Pierce, FL
9/02/14: 1930	Survey Team arrives at NOAA Ship <i>Nancy Foster</i> in Ft. Pierce, FL
9/03/14: 0800-0900	Load Equipment
9/03/14: 0900-1400	Depart Ft. Pierce: Transit to Palm Beach ODMDS
9/03/14: 1000	Welcome Aboard/Safety Briefings/Project Briefings
9/03/14: 1400 - 9/04/14: 0200	Sediment Grabs at Palm Beach ODMDS
9/04/14: 0200 - 0600	Multi-beam Operations at Palm Beach ODMDS
9/04/14: 0800 - 1200	Sediment Grabs at Palm Beach ODMDS
9/04/14: 1300 – 9/05/14: 0800	SPI Operations at the Palm Beach ODMDS
9/05/14: 0800 - 1300	Transit to Port Everglades ODMDS
9/05/14: 1300 – 9/06/14: 0600	Sediment Grabs at Port Everglades ODMDS
9/06/14: 0800 – 9/07/14: 2000	SPI Operations at Port Everglades ODMDS
9/07/14: 2000 - 2300	Transit to Miami ODMDS
9/07/14: 2300 – 9/08/14: 0700	Sediment Grabs and SPI Operations at Miami ODMDS
9/08/14: 0800 - 1800	Tile Fish Operations at Miami ODMDS
9/08/14: 1800 – 2400	Multi-beam Operations at Miami ODMDS
9/09/14: 0000 - 0200	Transit to Port Everglades ODMDS
9/09/14: 0800 - 1630	Dive Operations Port Everglades ODMDS
9/10/14: 0800 - 1200	Water Sampling Port Everglades ODMDS
9/10/14: 1200 - 1530	Transit to Palm Beach ODMDS
9/10/14: 1530 - 1930	Water Sampling Palm Beach ODMDS
9/10/14: 1930 – 9/10/14: 0030	Transit from Palm Beach to Ft. Pierce
9/11/14: 0800 - 0900	Demobilize and depart

### B. Staging and Destaging

Staging will occur at Ft. Pierce, FL. The survey team will arrive on 9/02/14 at approximately 1930 and room onboard NOAA Ship *Nancy Foster*. Equipment will be loaded on the morning of 9/03/14 and transit to the Palm Beach ODMDS immediately after. A crane will be required to load the SPI camera and Deep Ocean VanVeen Sediment Grab (~1,000 lbs). The survey will demobilize the morning of 9/11/14 in Ft. Pierce.

C. Operations to be Conducted

Sediment and Benthic Sampling at the Palm Beach and Port Everglades ODMDS

Twelve locations will be sampled for sediment chemistry and benthic macroinvertebrates at each ODMDS location. There will be six locations within each ODMDS and six outside (Tables 2, 3 and Figures 1, 2). An additional four locations will be sampled at the Miami ODMDS. Each sediment station will take approximately 1-1.5 hrs. to complete, due to the ODMDS depths. If currents are strong during sampling it will be necessary to utilize the large Deep Ocean VanVeen to collect samples, otherwise it may be possible to use the smaller Young grabs. All sediment grabs will be supplied by R4 EPA.

<b>Table 2: Palm Beach ODMDS Sediment Stations</b>					
Station	Lat		Long		Comments
PB14-1	26	49	-79	57.14	89 Sta 9 N O
PB14-2	26	47.25	-79	56.25	NE I
PB14-3	26	47.25	-79	57	NW I
PB14-4	26	47	-79	56.6	Center I
PB14-5	26	45	-79	57.14	89 sta 2 S O
PB14-6	26	46.8	-79	56.4	SE Disp Zone I
PB14-7	26	46.8	-79	56.8	SW Disp Zone I
PB14-8	26	47.375	-79	56.6	Top Center I
PB14-9	26	45.75	-79	55.8	SE Corner O
PB14-10	26	47.5	-79	57.86	NW Corner O
PB14-11	26	47	-79	57.6	W Center O
PB14-12	26	47	-79	55.6	E Center O

<b>Table 3: Port Everglades ODMDS Sediment Stations</b>					
Station	Lat		Long		Comments
PE14-1	26	7.316	-80	1.51	I
PE14-2	26	7	-80	2.3	O
PE14-3	26	6.9	-80	0.6	84 E Sta 22 O
PE14-4	26	9.01	-80	2.3	O
PE14-5	26	5.01	-80	2.3	O
PE14-6	26	9	-80	1.5	98 sta 13 O
PE14-7	26	5	-80	1.5	98 sta 15 O
PE14-8	26	7	-80	1.5	98 sta 14 I
PE14-9	26	6.8	-80	1.41	E edge of release I
PE14-10	26	6.8	-80	1.68	W edge of release I
PE14-11	26	7.15	-80	1.3	NE I
PE14-12	26	7.15	-80	1.8	NW I

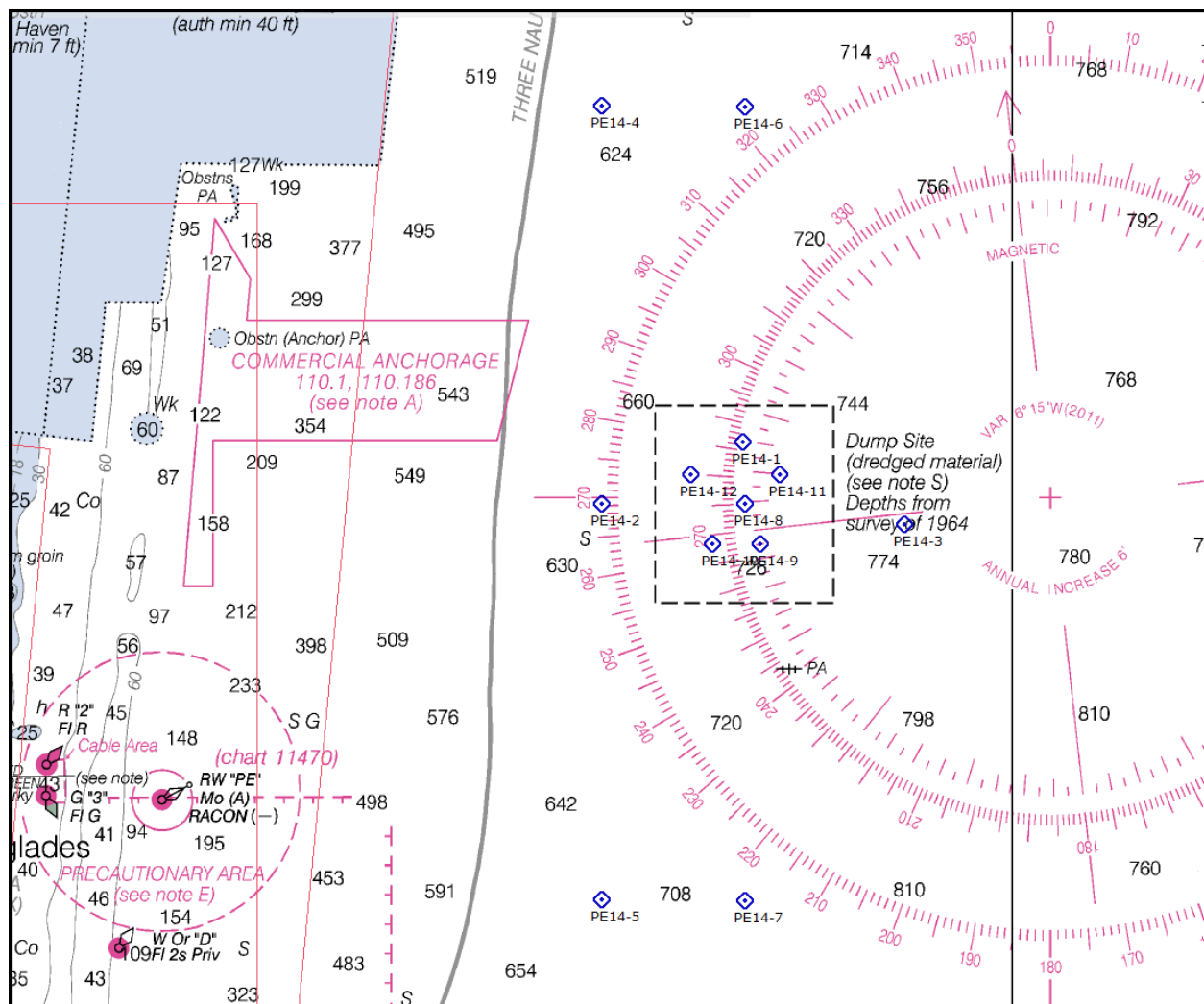
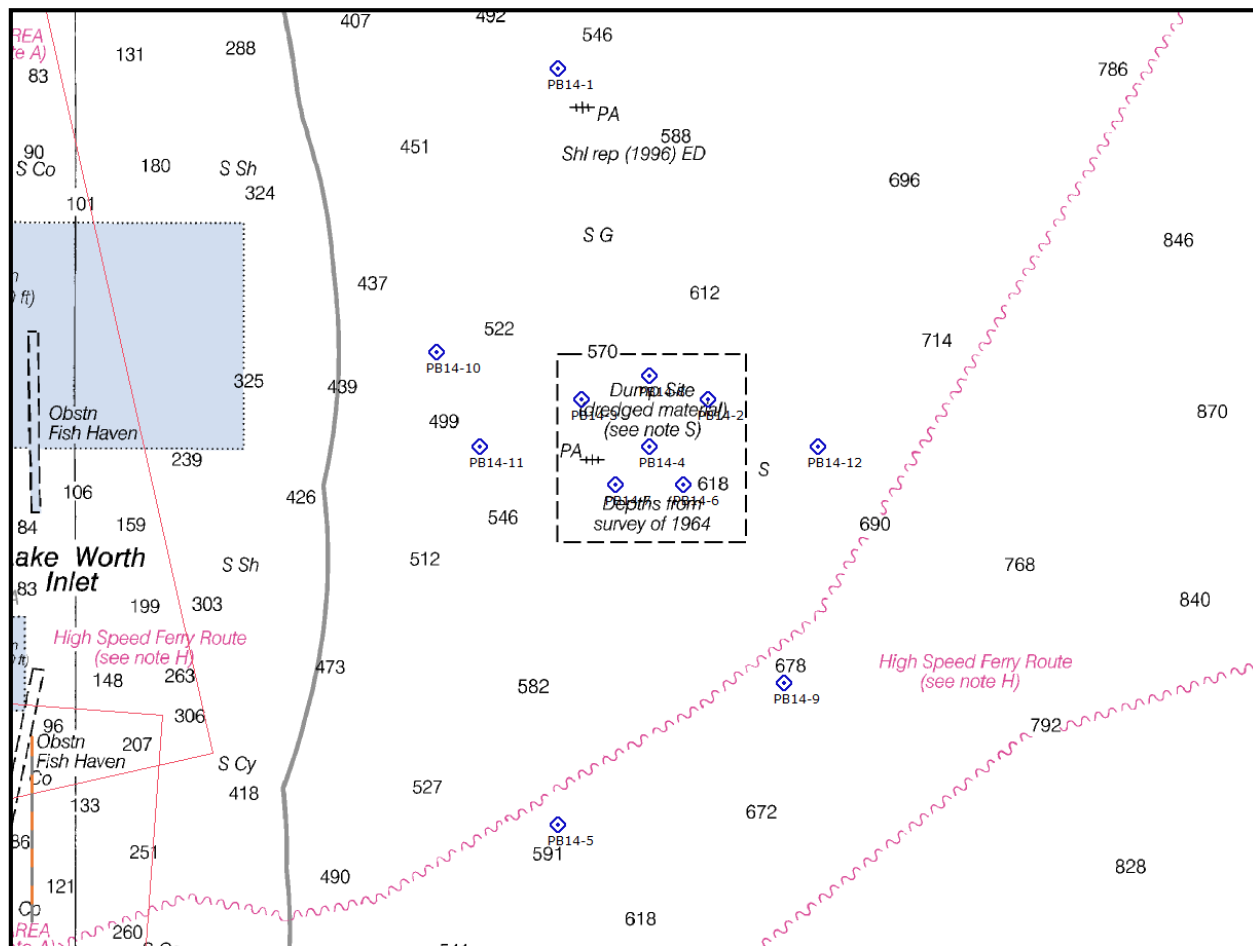


Figure 1: Palm Beach ODMDS Sediment Stations





### Sediment Profile Camera-Palm Beach and Port Everglades ODMDS

24 stations will be sampled at the Palm Beach ODMDS and 50 stations will be sampled at the Port Everglades ODMDS. An additional 5 locations will be sampled at the Miami ODMDS (Tables 4, 5, 6 and Figures 3, 4, 5). Due to the depths at the South Florida ODMDS sites, each SPI station will take approximately 45 minutes to complete.

<b>Table 4: Palm Beach ODMDS SPI Stations</b>				
Station	Lat		Long	
PB-SP14-1	26	49	-79	57.14
PB-SP14-2	26	47.25	-79	56.25
PB-SP14-3	26	47.25	-79	57
PB-SP14-4	26	47	-79	56.6
PB-SP14-5	26	45	-79	57.14
PB-SP14-6	26	46.8	-79	56.4
PB-SP14-7	26	46.8	-79	56.8
PB-SP14-8	26	47.375	-79	56.6
PB-SP14-9	26	46	-79	55.8
PB-SP14-10	26	47.5	-79	57.86
PB-SP14-11	26	47	-79	57.6
PB-SP14-12	26	47	-79	55.6
PB-SP14-13	26	47.55	-79	57.21
PB-SP14-14	26	47.55	-79	56.796
PB-SP14-15	26	47.55	-79	56.382
PB-SP14-16	26	47.55	-79	55.968
PB-SP14-17	26	47.184	-79	57.21
PB-SP14-18	26	47.184	-79	55.968
PB-SP14-19	26	46.812	-79	57.21
PB-SP14-20	26	46.812	-79	55.968
PB-SP14-21	26	46.446	-79	57.21
PB-SP14-22	26	46.446	-79	56.796
PB-SP14-23	26	46.446	-79	56.382
PB-SP14-24	26	46.446	-79	55.968

Table 5: Port Everglades SPI Stations							
Station	Lat	Long	Comments	Station	Lat	Long	Comments
PE-SP14-1	26	7.316	1.51 same as Trend Assessment	PE-SP14-26	26	7.7507	-80 1.5 06 J11
PE-SP14-2	26	7	2.3 same as Trend Assessment	PE-SP14-27	26	7.5869	-80 1.5 06 J12
PE-SP14-3	26	6.9	0.6 same as Trend Assessment	PE-SP14-28	26	7.4254	-80 1.5 06 J13
PE-SP14-4	26	9.01	2.3 same as Trend Assessment	PE-SP14-29	26	7.1267	-80 1.5 06 J15
PE-SP14-5	26	5.01	2.3 same as Trend Assessment	PE-SP14-30	26	6.8249	-80 1.5 06 J17
PE-SP14-6	26	9	1.5 same as Trend Assessment	PE-SP14-31	26	6.6834	-80 1.5 06 J18
PE-SP14-7	26	5	1.5 same as Trend Assessment	PE-SP14-32	26	7.7523	-80 1.75 06 H11
PE-SP14-8	26	7	1.5 same as Trend Assessment	PE-SP14-33	26	7.5912	-80 1.75 06 H12
PE-SP14-9	26	6.8	1.41 same as Trend Assessment	PE-SP14-34	26	7.4388	-80 1.75 06 H13
PE-SP14-10	26	6.8	1.68 same as Trend Assessment	PE-SP14-35	26	7.2753	-80 1.75 06 H14
PE-SP14-11	26	7.15	1.3 same as Trend Assessment	PE-SP14-36	26	6.9603	-80 1.75 06 H16
PE-SP14-12	26	7.15	1.8 same as Trend Assessment	PE-SP14-37	26	7.9018	-80 1.2182 06 L10
PE-SP14-13	26	7.55	2.05 Permiter Stations	PE-SP14-38	26	7.7629	-80 1.2156 06 L11
PE-SP14-14	26	7.55	1.683 Permiter Stations	PE-SP14-39	26	7.5925	-80 1.2231 06 L12
PE-SP14-15	26	7.55	1.3167 Permiter Stations	PE-SP14-40	26	7.4247	-80 1.2192 06 L13
PE-SP14-16	26	7.55	0.95 Permiter Stations	PE-SP14-41	26	7.2743	-80 1.2102 06 L14
PE-SP14-17	26	7.1833	2.05 Permiter Stations	PE-SP14-42	26	7.1236	-80 1.211 06 L15
PE-SP14-18	26	7.1833	0.95 Permiter Stations	PE-SP14-43	26	6.9589	-80 1.2181 06 L16
PE-SP14-19	26	6.8167	2.05 Permiter Stations	PE-SP14-44	26	6.7957	-80 1.2171 06 L17
PE-SP14-20	26	6.8167	0.95 Permiter Stations	PE-SP14-45	26	6.6834	-80 1.75
PE-SP14-21	26	6.45	2.05 Permiter Stations	PE-SP14-46	26	6.6834	-80 1.2171
PE-SP14-22	26	6.45	1.683 Permiter Stations	PE-SP14-47	26	6.5665	-80 1.75
PE-SP14-23	26	6.45	1.3167 Permiter Stations	PE-SP14-48	26	6.5665	-80 1.2171
PE-SP14-24	26	6.45	0.95 Permiter Stations	PE-SP14-49	26	6.5665	-80 1.5
PE-SP14-25	26	7.909	1.5 06 J10	PE-SP14-50	26	6.25	-80 1.5

Table 6: Miami ODMDS Sampling Locations					
Name	Latitude		Longitude		Comments
M14-14	25	44.973	-80	3.082	Sediment PCB Grab
M14-19	25	45.115	-80	3.201	Sediment PCB Grab
M14-20	25	45.111	-80	2.998	Sediment PCB Grab
M14-38	25	45.888	-80	3.245	Sediment PCB Grab
M-SPI-1	25	45.5538	-80	3.96	SPI
M-SPI-2	25	45.186	-80	3.96	SPI
M-SPI-3	25	44.82	-80	3.96	SPI
M-SPI-4	25	44.46	-80	3.96	SPI
M-SPI-5	25	45	-80	3.96	SPI
M14-F1	25	45.057	-80	3.333	Fishing Location - Mound
M14-F2	25	46.11	-80	2.53	Fishing Location - Tilefish Habitat
M14-F3	25	47.1	-80	2.73	Fishing Location - Tilefish Habitat

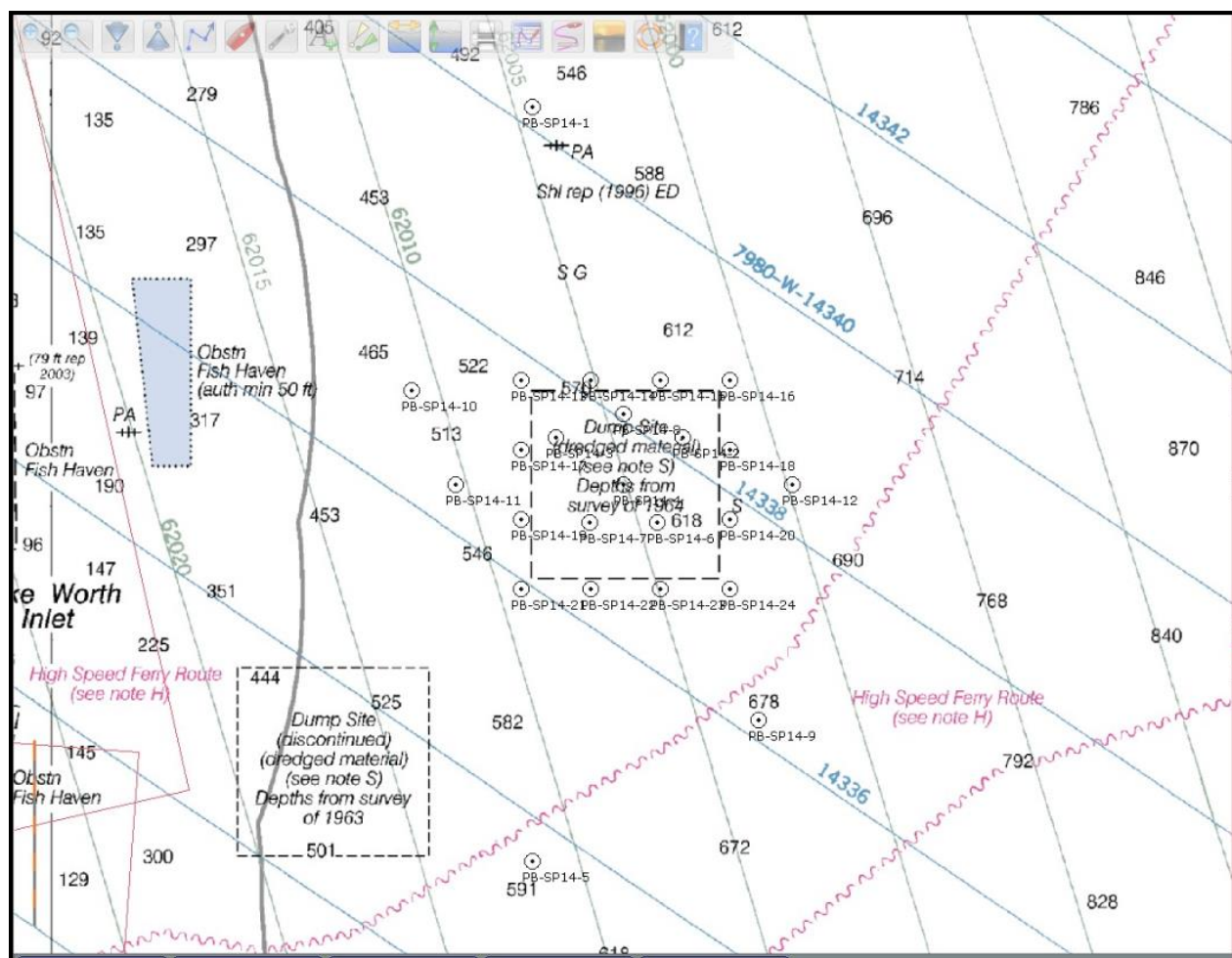


Figure 3: Palm Beach ODMDS SPI Stations

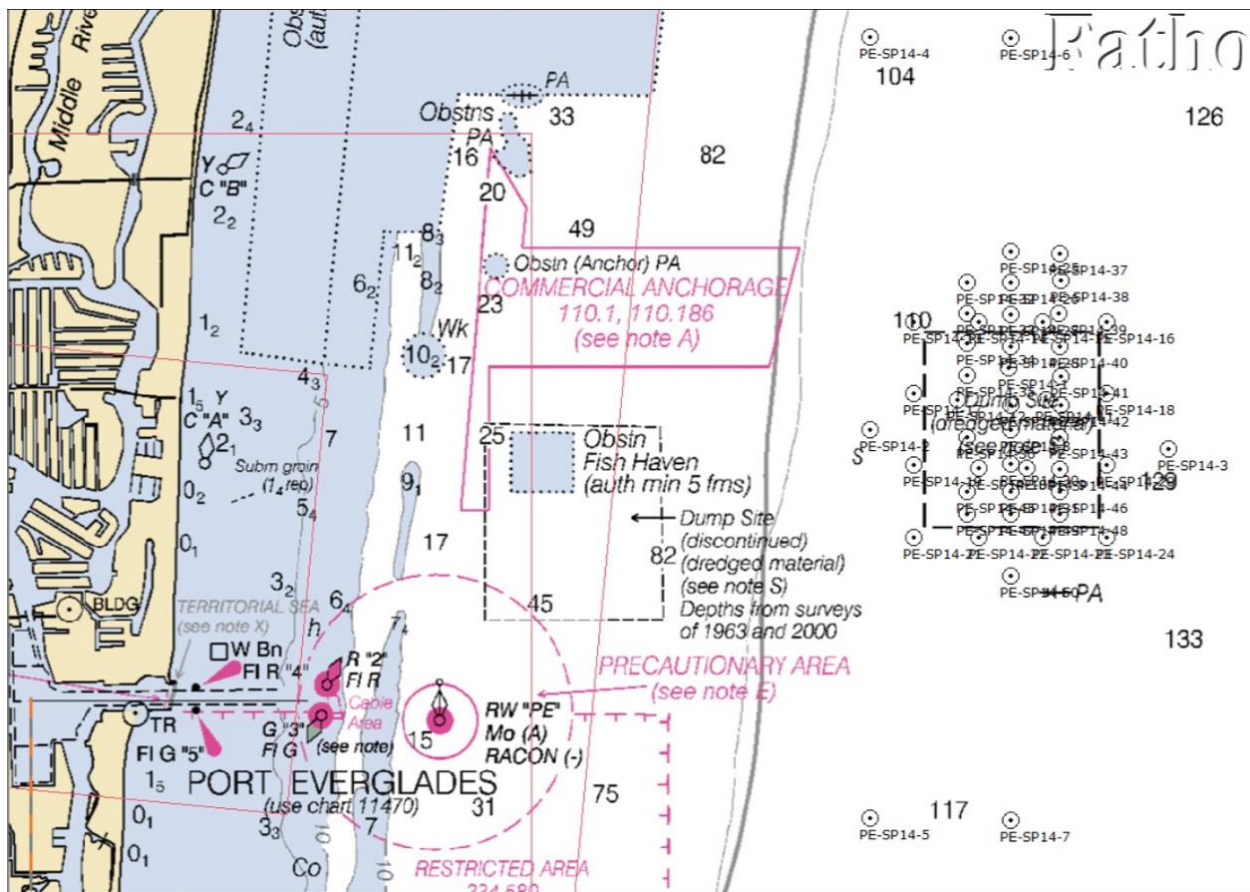


Figure 4: Port Everglades ODMDS SPI Stations

**Method Description:** The SPI images will be acquired using a sediment-profile camera system (Ocean Imaging Systems, North Falmouth, MA). The SPI camera consists of a wedge-shaped prism with a Plexiglas faceplate; light is provided by an internal strobe. The back of the prism has a mirror mounted at a 45-degree angle to reflect the profile of the sediment-water interface toward the camera, which is mounted horizontally on the top of the prism. The prism is filled with distilled water, through which the photographs are obtained. Because the object (sediment) to be photographed is directly against the clear window (faceplate) comprising the front of the prism, turbidity of the ambient seawater is not a limiting factor.

To collect SPI data, the survey vessel will be piloted to each target sampling location. Once within a pre-determined distance of the target location, the SPI camera will be deployed. For the present survey, 50 m will be established as the initial goal, but the EPA Chief Scientist in consultation with the Commanding Officer (CO) will have the flexibility to change this as necessary or desirable depending on the conditions actually encountered in the field.



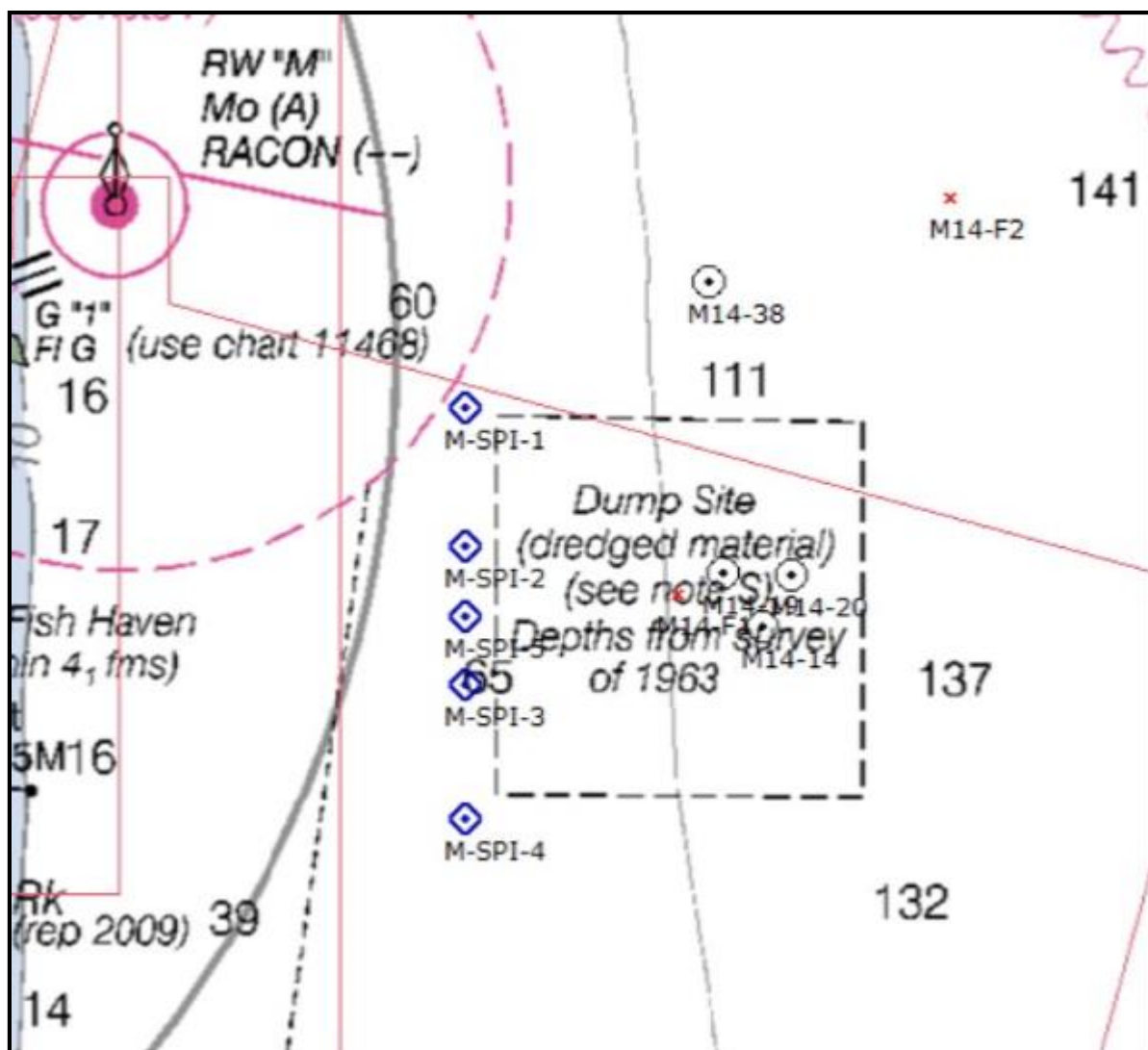


Figure 5: Miami ODMDS Sampling Locations

For deployment of the SPI camera system, it is first attached to the survey vessel's hydrowire. The camera prism is mounted on an assembly that can be moved up and down by producing tension or slack on the winch wire. As the camera is lowered through the water, tension on the wire keeps the prism in the "up" position. Once the camera frame contacts the bottom, slack on the wire allows the prism to vertically descend into the seafloor.

The rate at which the optical prism penetrates into the sediments is controlled by a passive hydraulic piston. This allows the optical prism to descend at approximately 6 cm per second and minimizes disturbance to the sediment column. As the SPI prism penetrates into the seafloor, a magnetic switch is triggered, and a photograph of the sediment column is taken 15 seconds from the time of switch contact. This time delay allows for optimal penetration of the prism into the sediment.

As the camera is raised off the bottom, a wiper blade automatically cleans any sediment off of the prism faceplate. The digital camera is automatically ready to take another photograph, the strobes are recharged, and the camera can be lowered for another replicate image. Three replicates will be taken at each station. The instrument will be

raised slightly off the bottom between replicates and will be retrieved and brought on deck between stations.

When the camera is brought to the surface, the frame count is verified and the camera prism penetration is estimated from a penetration indicator that measures the distance the prism fell relative to the camera base. If penetration is minimal, weight packs can be loaded to give the assembly increased penetration. If penetration is too great, adjustable stops (which control the distance the prism descends) can be lowered, and "mud" doors can be attached to each side of the frame to increase the bearing surface.

At the beginning of the survey, the times on the SPI and plan-view digital cameras will be synchronized with the time on the EPA Region 4's navigation system. Each replicate SPI and plan-view image then can be identified by matching the "time stamp" recorded upon creation on each digital image file with the corresponding time and position recorded in the navigation system and/or in the written logbook. The EPA Watch Chief or his/her designee will record a position fix in the navigation system for each of the three replicate camera drops at each SPI sampling station. As a back-up for the position fixes recorded electronically by the navigation system, the written sample log will be kept by the watch chief. Information recorded in the SPI field logbook includes:

At each sampling station:

- Time of each camera drop
- Latitude and Longitude of each replicate
- Replicate ID
- Frame Count
- Water Depth
- Penetration
- Weight

EPA will establish a GPS antenna on the vessel near the location of the camera deployment. At the end of each field day, the digital image files on the hard drive of the EPA laptop computer are copied to removable storage media (external hard drive) to provide a "working" electronic back-up. Navigation files from EPA's navigation system will also be backed up every 6 hours.

D. Dive Plan

All dives are to be conducted in accordance with the requirements and regulations of the EPA Diving Program pursuant to the January 8, 2014 Diving Reciprocity Agreement with the NOAA Diving Program (<http://www.ndc.noaa.gov/dr.html>) and require the approval of the ship's Commanding Officer.

The Dive Plan encompassing all legs of the survey is presented in Appendix A.

E. Applicable Restrictions

Conditions which preclude normal operations:

- Diving operations require good sea and weather conditions and good bottom visibility. Dive operations will only be undertaken when the CO, the Chief Scientist and the Dive Master all agree that conditions are safe. Dive operations should not be undertaken during a small craft advisory issued by the National Weather Service.
- SPI operations can be undertaken under a wider array of sea conditions. Operations should be suspended in the case of severe weather such as lightening. High seas can cause the camera to trigger prematurely and can make the camera dangerous to deploy and/or recover. Images will be reviewed to determine if seas conditions are not conducive to quality data. Operations should be suspended if the CO and/or Chief Scientist determine conditions are unsafe.
- The SPI system contains numerous electronics that can fail. The operations will be suspended if the camera malfunctions. A SPI technician will be on board to troubleshoot instrument failures.

III. Equipment

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

Equipment	Activity
Main Deck Crane	Loading/Unloading SPI Camera
A-Frame or J-Frame	Sediment Grabs/SPI Camera Deployment
Winch	Sediment Grabs/SPI Camera Deployment
Shallow water multi-beam echo sounder: Reson 7125 System (400 kHz and 200 kHz, 250m max)	Multi-beam mapping at the Palm Beach and Miami ODMS
Seabird CTD/Rosette	Water Sampling/Profiling S. Florida ODMS Sites
Refrigerator Space	50 Sediment Samples/90 Water Samples
Nitrox Dive Compressor (36%)	Dive Operations, Port Everglades Offshore
Dive Boat – 6 divers NF3 or NF4- Dive Boat	Dive Operations, Port Everglades Offshore
Dive Tanks	Dive Operations, Port Everglades offshore
Dynamic Position	May be required for SPI deployment dependent on sea conditions.



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

Equipment	Activity
SPI Camera and Frame	Sediment Profile Images
GPS and antennae	Sediment Profile Images
HYPACK data acquisition and navigation software	SPI Camera Position Recording
Sediment Grabs	Sediment Sampling S. Florida ODMD Sites
Sample Containers	Sediment and Water Sampling
Dive Tanks (12 steel 100s - DIN; 16 aluminum 80s)	Dive Operations, Port Everglades offshore
Dive Equipment	Dive Operations, Port Everglades offshore
Dive Buoys (2)	Mark station locations and provide down lines, Port Everglades offshore

IV. Hazardous Materials

A. Policy and Compliance

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

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

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

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

- An inventory list showing actual amount of hazardous material brought aboard
- An MSDS for each material

- Confirmation that neutralizing agents and spill equipment were brought aboard sufficient to contain and cleanup all of the hazardous material brought aboard by the program.

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

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

#### **B. Inventory**

<b>Chemical</b>	<b>Quantity</b>	<b>Use</b>
<b>NOTOXHisto</b>	<b>2x5 gallons</b>	<b>Macroinvertebrate tissue preservative</b>
<b>Hydrochloric acid – 10%</b>	<b>40x5 ml</b>	<b>Water sample metals preservative</b>

#### **C. Chemical safety and spill response procedures**

D. Radioactive Isotopes

N/A

#### **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

All samples and data collected are the responsibility of the Chief Scientist. All SPI data is the responsibility of the ODMDS Program Manager. Images will be downloaded from the camera periodically and stored on a laptop and backed up on an external hard drive. An operational survey report will be developed and provided to EPA HQ within 21 days of survey completion. A Site Monitoring and Assessment Report for each ODMDS will be written and provided to EPA HQ by 6/1/14. Multibeam bathymetry data will be collected and archived by NOAA personnel in accordance with NOAA policies. Copies of the data will be provided to EPA at the conclusion of the survey.

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. Meeting, Vessel Familiarization, and Project Evaluations

- A. Pre-Project Meeting: The Chief Scientist and Commanding Officer will conduct a meeting of pertinent members of the scientific party and ship's crew to discuss required equipment, planned operations, concerns, and establish mitigation strategies for all concerns. This meeting shall be conducted before the beginning of the project with sufficient time to allow for preparation of the ship and project personnel. The ship's Operations Officer usually is delegated to assist the Chief Scientist in arranging this meeting.
- B. Vessel Familiarization Meeting: The Commanding Officer is responsible for ensuring scientific personnel are familiarized with applicable sections of the standing orders and vessel protocols, e.g., meals, watches, etiquette, drills, etc. A vessel familiarization meeting shall be conducted in the first 24 hours of the project's start and is normally presented by the ship's Operations Officer.
- C. Post-Project Meeting: The Commanding Officer is responsible for conducted a meeting no earlier than 24 hrs before or 7 days after the completion of a project to discuss the overall success and 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 Chief Scientist, and members of the scientific party and is normally arranged by the Operations Officer and Chief Scientist.

#### D. Project Evaluation Report

Within seven days of the completion of the project, a Customer Satisfaction Survey is to be completed by the Chief Scientist. The form is available at <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 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. One scientist will require vegetarian meals.

Berthing requirements, including number and gender of the scientific party, will be provided to the ship by the Chief Scientist. The Chief Scientist and Commanding Officer will work together on a detailed berthing plan to accommodate the gender mix of the scientific party taking into consideration the current make-up of the ship’s complement. The Chief Scientist is responsible for ensuring the scientific berthing spaces are left in the condition in which they were received; for stripping bedding and linen return; and for the return of any room keys which were issued. The Chief Scientist is also responsible for the cleanliness of the laboratory spaces and the storage areas utilized by the scientific party, both during the project and at its conclusion prior to departing the ship.

All NOAA scientists will have proper travel orders when assigned to any NOAA ship. The Chief Scientist will ensure that all non NOAA or non-Federal scientists aboard also have proper orders. It is the responsibility of the Chief Scientist to ensure that the entire scientific party has a mechanism in place to provide lodging and food and to be reimbursed for these costs in the event that the ship becomes uninhabitable and/or the galley is closed during any part of the scheduled project.

All persons boarding NOAA vessels give implied consent to comply with all safety and security policies and regulations which are administered by the Commanding Officer. All spaces and equipment on the vessel are subject to inspection or search at any time. All personnel must comply with OMAO's Drug and Alcohol Policy dated May 7, 1999 which forbids the possession and/or use of illegal drugs and alcohol aboard NOAA Vessels.

## B. Medical Forms and Emergency Contacts

The NOAA Health Services Questionnaire (NHSQ, 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](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](mailto: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](mailto:MOA.Health.Services@noaa.gov)

Prior to departure, the Chief Scientist must provide an electronic listing of emergency contacts to the Executive Officer for all members of the scientific party, with the following information: contact name, address, relationship to member, and telephone number.

## C. Shipboard Safety

Hard hats are required when working with suspended loads. Work vests are required when working near open railings and during small boat launch and recovery operations. Hard hats and work vests will be provided by the ship when required.

Wearing open-toed footwear or shoes that do not completely enclose the foot (such as sandals or clogs) outside of private berthing areas is not permitted. At the discretion of the ship CO, safety shoes (i.e. steel or composite toe protection) may be required to participate in any work dealing with suspended loads, including CTD deployment and recovery. The ship does not provide safety-toed shoes/boots. The ship's Operations Officer should be consulted by the Chief Scientist to ensure members of the scientific party report aboard with the proper attire.

#### D. Communications

A progress report on operations prepared by the Chief Scientist may be relayed to the program office. Sometimes it is necessary for the Chief Scientist to communicate with another vessel, aircraft, or shore facility. Through various means of communications, the ship can usually accommodate the Chief Scientist. Special radio voice communications requirements should be listed in the project instructions. The ship's primary means of communication with the Marine Operations Center is via e-mail and the Very Small Aperture Terminal (VSAT) link. Standard VSAT bandwidth at 128kbs is shared by all vessels staff and the science team at no charge. Increased bandwidth in 30 day increments is available on the VSAT systems at increased cost to the scientific party. If increased bandwidth is being considered, program accounting is required it must be arranged at least 30 days in advance.

#### E. IT Security

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

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

Completion of these requirements prior to boarding the ship is required and applies to any operating system.

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

#### F. Foreign National Guests Access to OMAO Facilities and Platforms

##### No Foreign Nationals

Appendix A: Port Everglades ODMDS Dive Plan

US-EPA REGION 4 DIVE PLAN

DATE OF REQUEST: JULY 01, 2014

APPROVAL: *Mel Parsons*

DATE: 8/14/14

LOCATION: OFF SHORE, PORT EVERGLADES, FL

DIVE DATES: SEPT. 9, 2014

SURVEY OBJECTIVES: CONDUCT HABITAT ASSESSMENTS NEAR THE PORT EVERGLADES ENTRANCE CHANNEL

DIVEMASTER: TARA HOUDA/MEL PARSONS

TENDER(s): ANY DIVERS LISTED BELOW

DIVERS: MEL PARSONS, CHRIS McARTHUR, DREW KENDALL, STEVE BLACKBURN, TARA HOUDA, ROSEMARY HALL, NOAA DIVERS

LAUNCH SITE/PLATFORM: R/V NANCY FOSTER

EMERGENCY ASSISTANCE - 911, COAST GUARD CH-16, DAN (919) 684 8111

HOSPITAL: Mercy Hospital, 3663 S. Miami Ave, Miami, FL 33133 305.854.0400.

Chamber Direct Number: 305.285.2172 - Otto Ramirez.

CHAMBER LOCATION: S. Florida Hyperbaric Medical Center at Mercy (see above)

\*\*\*\*\* OXYGEN WILL BE ON SITE \*\*\*\*\*

ANTICIPATED CONDITIONS: MAX DEPTH: 70' AIR/H2O TEMP: 90/85 MAX CURRENT: < 1kt. to 2kts.

TIDAL INFLUENCES: MODERATE

VESSEL TRAFFIC: MODERATE

POLLUTION SOURCES: N/A

BIOLOG. HAZARDS: JELLYFISH STINGS

VISIBILITY: 0-2'

OTHER: N/A

EQUIPMENT: VIKING DRY SUIT \_\_\_\_\_ AGA \_\_\_\_\_ SURFACE SUPPLY \_\_\_\_\_

STANDARD SCUBA X OTHER \_\_\_\_\_

SPECIAL INFORMATION: DIVING WILL BE CONDUCTED UTILIZING NITROX II (36%)

POST DIVE REPORT

WATER TEMP

AIR TEMP/WEATHER

CURRENTS

VISIBILITY

BIOLOG. HAZARD

OTHER (TIDES, POLLUTION, VESSEL TRAFFIC, ETC)

PROCEDURAL NOTES

EQUIP. NOTES (REPAIRS?, ETC)

DIVEMASTER SIGN. \_\_\_\_\_ DATE \_\_\_\_\_

Reviewed October 2011

## Section 1. Identity

 Product Name: **NOTOXhisto**

Cat#	Description	SDL Prod ID
614-01	NOTOXhisto 1 gallon/pkg	00344
614-05	NOTOXhisto 5 gallon	00345
614-15	NOTOXhisto 15 ML Containers	00347
614-30	NOTOXhisto 30 ML Containers	00351
614-60	NOTOXhisto 60 ML Containers	00353
614-90	NOTOXhisto 90 ML Containers	00354

 Manufacturer/Supplier: Scientific Device Laboratory, 411 Jarvis Avenue, Des Plaines, IL 60018  
 Phone 847-803-9495

Emergency Information: In case of a chemical emergency, spill, fire, exposure or accident contact Scientific Device Laboratory (847) 803-9495 or CHEMTREC 1-800-424-9300 or 703-527-3887

## Section 2. Hazardous Ingredients/Identity Information

 Components: Aqueous alcoholic solution with other hydroxylated compounds. (90% non aromatic alcohols)  
 Product consists of an aqueous solution of stabilizing chemicals.

## Section 3. Physical/Chemical Characteristics

 Boiling Point: 165°F  
 Flash Point 118°F  
 Specific Gravity: 1.044  
 Vapor Pressure (mmHg): N/A  
 Vapor Density (AIR=1): N/A  
 Melting Point: N/A  
 Evaporation Rate: vd >1  
 Solubility in H<sub>2</sub>O: soluble  
 Appearance: clear  
 Odor: none  
 Consists of: aqueous solution of stabilizing chemicals

## Section 4. Fire and Explosion Hazard Data

 Flash point: 118°F  
 Flammable limits: unknown  
 LEL/UEL: N/A  
 Extinguishing medium: water  
 Special Fire Fighting Procedures: none found  
 Unusual Fire and Explosion Hazards: none known

## Section 5. Reactivity Data

 Stability: stable  
 Condition to avoid: swallowing  
 Reagent incompatibility: not known  
 Hazardous decomposition or By-products: none known



Hazardous polymerization: does not occur  
 Conditions to avoid: freezing or mixing with organic solvents

## Section 6. Health Hazard Data

Routes of entry: ingestion: unknown  
 Inhalation unknown  
 Skin: unknown  
 Ingestion: avoid ingestion  
 Health Hazards: none known in final concentration  
 Carcinogenicity: none known  
 Signs and symptoms of exposure: unknown  
 Medical conditions aggravated by exposure: unknown  
 Emergency First Aid Procedures: skin contact: wash hands or area thoroughly for 15 minutes with water and soap. Respiratory: Wash with water

## Section 7. Precautions for Safe Handling and Use

Steps to be taken if material is spilled: clean with cloth - Discard in flame retardant receptacle.  
 Waste Disposal Method: no special treatment, can be discarded down drain barring any local restrictions for alcohol  
 Precautions to be taken in Handling and Storage: store at room temperature  
 Other Precautions: none

## Section 8. Control Measures

Respiratory Protection: mask preferred  
 Ventilation: respiratory mask suggested  
 Protective Gloves: chemical resistant gloves  
 Protective Clothing: Chemical resistant  
 Work/Hygiene Practices: good general microbiology techniques  
 Eye Protection: chemical safety goggles

## Section 9. Transportation

UN 1987 Alcohol N.O.S. (Aqueous Ethanol Solutions) Class 3 Group III

Scientific Device Laboratory (SDL) will not be responsible for damages of any kind resulting from the use or reliance upon such information. No representations, or warranties either express or implied of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to the information set forth herein or to the product to which the information refers. All statements made hereinto are provided in good faith and is believed to be correct as of the date hereof. However SDL makes no representation to the comprehensiveness of such information. It is expected that individuals receiving the information will exercise their independent judgment in determining it appropriate use.

### Revision History

CR NUMBER	REVISION
0908-001	00
0211-001	01
0511-001	02
0911-007	03