

**Environmental Protection Agency  
National Dive Safety Program**

**2015 Annual Report**



**Jed Campbell, former Director, EPA National Diver Training Program**

**May 30, 2016**

## **Executive Summary**

The U.S. Environmental Protection Agency (EPA) conducts a wide range of diving activities for regional and national programs. Diving is conducted in rivers, lakes, harbors, and the open ocean to support monitoring, research, and emergency response efforts. The EPA administers diving activities under guidelines established through the EPA Diving Safety Management Program, and in compliance with the Occupational Safety and Health Administration (OSHA) regulations. This report has been developed in response to the requirements of EPA's Diving Safety Policy.

The EPA's National Diving Safety Program conducted 959 scientific, training and proficiency dives in FY2015, involving nine EPA dive units and 64 divers. This report describes how the program is administered nationally, and what activities each EPA dive unit undertakes.

Questions regarding this report or about the EPA Diving Safety Program should be directed to:

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EPA Diving Safety Program

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## **Introduction**

This report is provided to the Environmental Protection Agency's (EPA) Safety and Sustainability Division (formerly SHMED) in accordance with EPA's Dive Safety Policy. This policy and EPA's Diving Safety Manual (April, 2016 Version 1.3) can be viewed online at: <https://www.epa.gov/sites/production/files/2016-04/documents/epa-diving-safety-manual-2016.pdf>

This report is a summary of the EPA's National Diving Safety Program (NDSP) activities from October 1, 2014, through September 30, 2015. The annual reports from EPA Unit Dive Officers (UDOs) serve as the basis for the information contained in this report. Each UDO's Annual Report is available upon request.

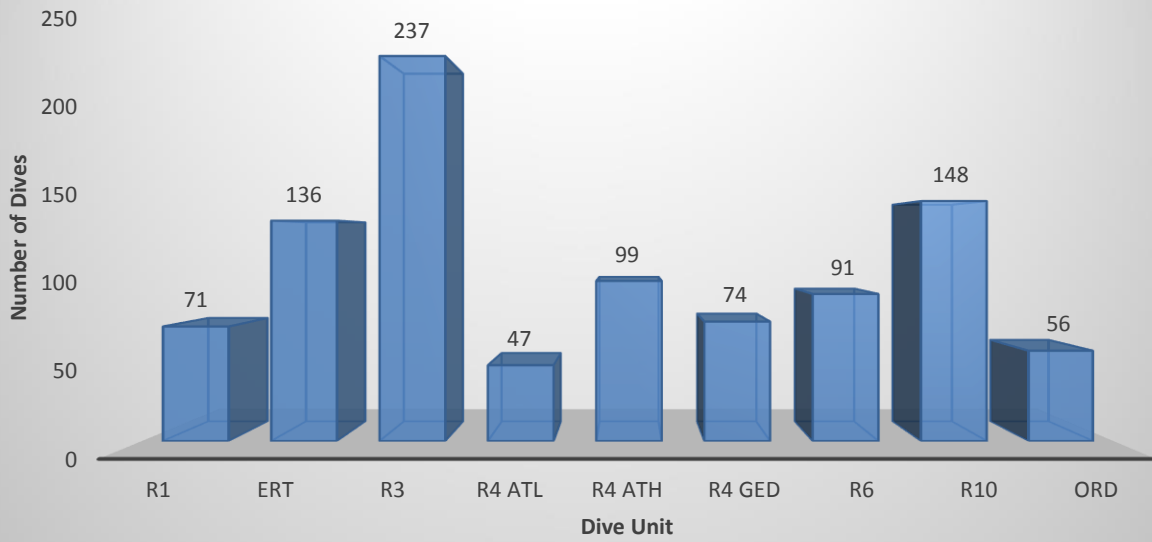
## **Overview**

The EPA's NDSP conducted 959 scientific, training and proficiency dives in FY 2015 (Figures 1 and 2), involving nine EPA dive units, and a total of 65 divers (Figure 3). These dives were conducted in a variety of water bodies that include lakes, rivers, harbors, and the open ocean. The population of qualified EPA divers fluctuates annually. Qualification is based on medical compliance, diving proficiency, and other regulatory requirements. No serious injuries or accidents were reported by the dive units for the FY2015 operational year.

EPA's NDSP represents nine regional dive units, each under the supervision of a UDO (Figure 3). The dive units are located in:

- (1) Region 1- Headquarters Boston, MA, and the Narragansett, RI Lab (R1)
- (2) Environmental Response Dive Team - Edison, NJ (ERT)
- (3) Region 3 Headquarters - Philadelphia, PA (R3)
- (4) Region 4 - Headquarters, Atlanta, GA (ATL)
- (5) Region 4 - Athens Lab, Athens, GA (ATH)
- (6) Gulf Ecology Division - Gulf Breeze, FL. (GED)
- (7) Region 6 – Headquarters Dallas, TX (R6)
- (8) Region 10 Headquarters - Seattle, WA. (R10)
- (9) Western Ecology Division, Corvallis, OR (WED)

**Figure 1. Number of Dives by EPA Diving Unit for FY 2015**



**Figure 2. Type of Dives by EPA Diving Unit for FY 2015**

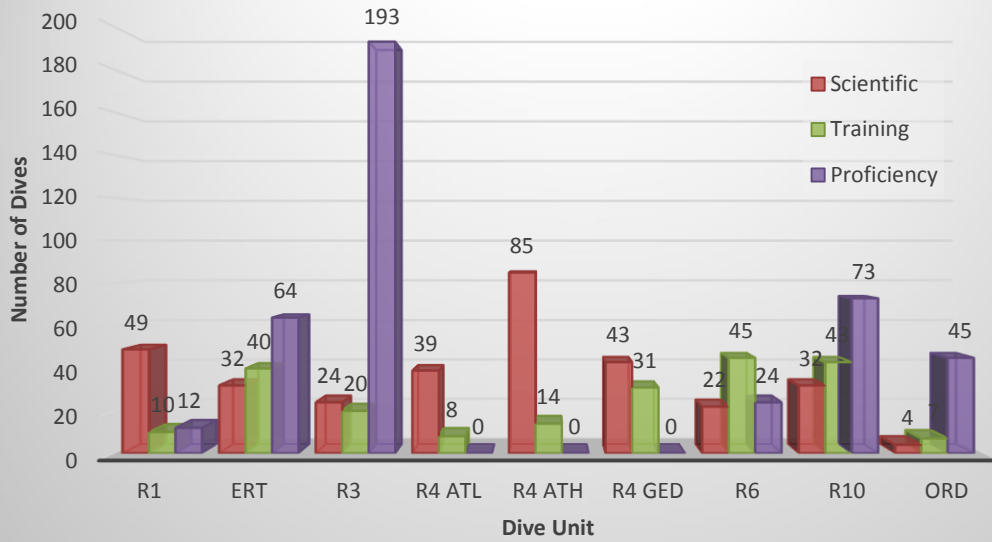
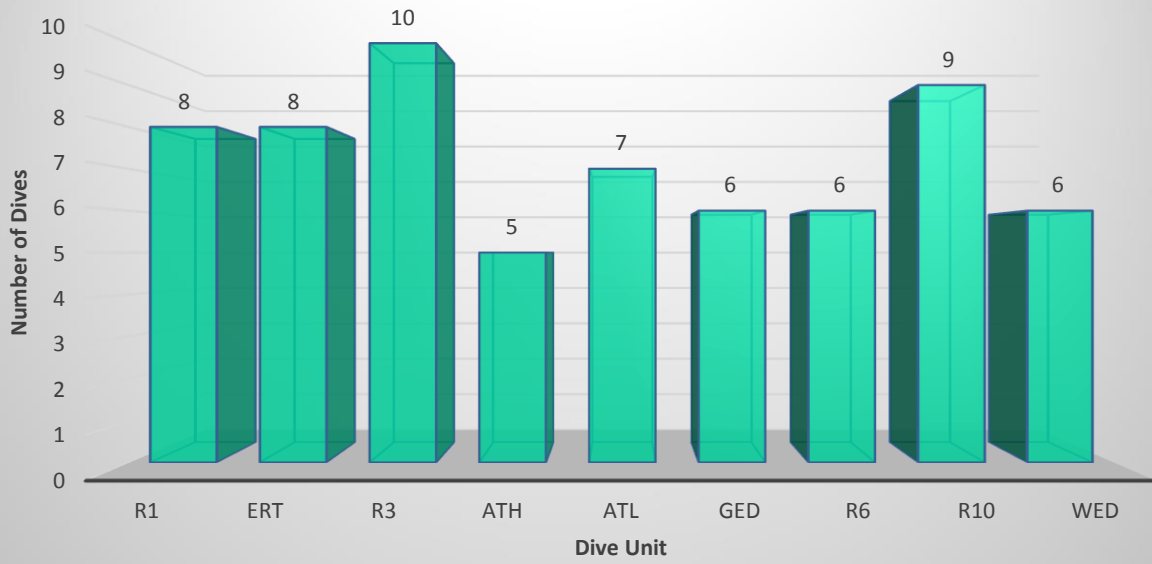
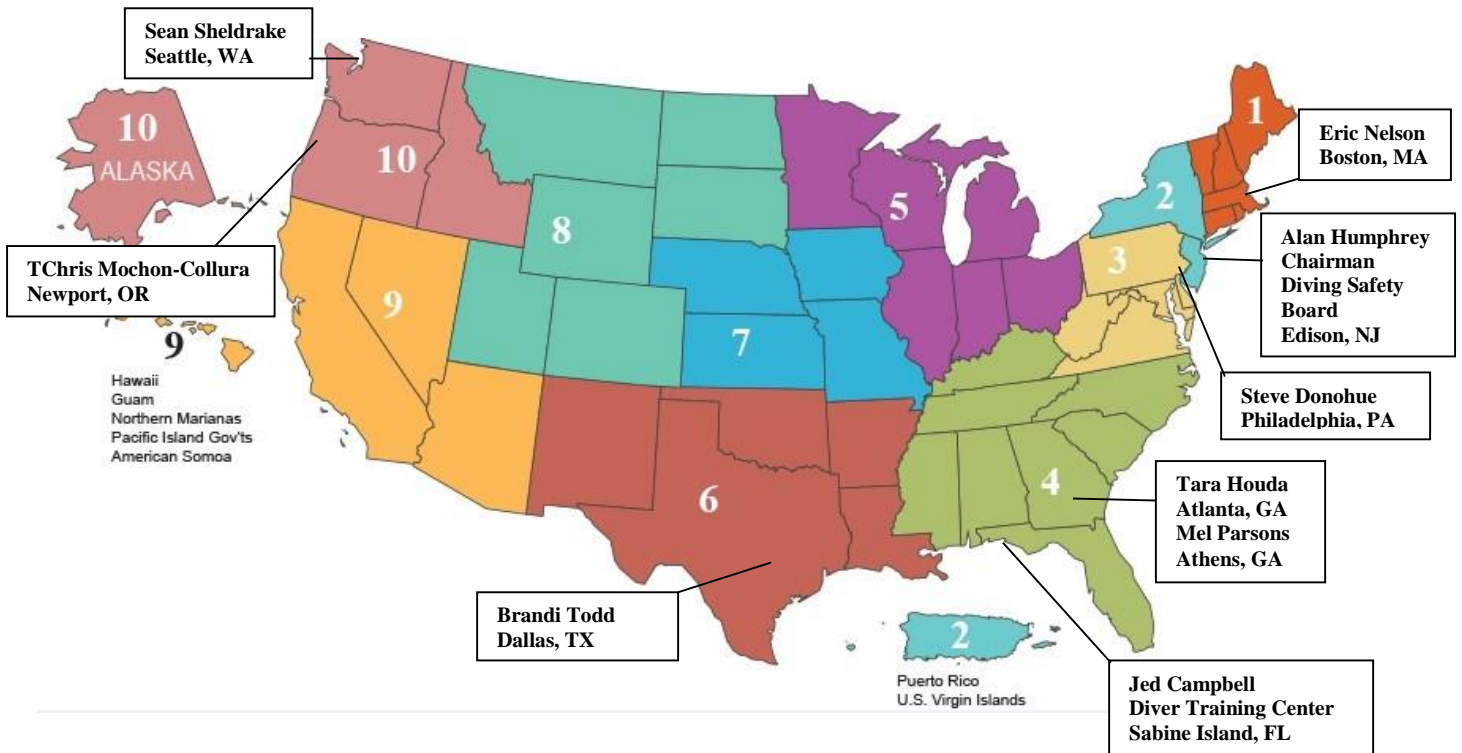


Figure 3. Number of Divers by Unit



## US EPA Regions-Unit Dive Officers



### **2015 EPA Diving Safety Board Meeting**

The EPA Diving Safety Board conducted the 2015 annual meeting at the EPA Chesapeake Bay Program Office, Annapolis, MD during October, 2015.

Agenda items included:

- Diving Safety Manual Final Revision, with Final Concurrence April, 2016
- Physical Fitness Standards for Diving and Medical Surveillance Testing
- SHEMD Input, Safety Audits
- Reports from Annual AAUS Workshop
- Instructor Training for UDOs Oxygen Administration
- Equipment, Safety/Technical Issues
- Election of Tara Houda as Unit Dive Officer in Region IV, Atlanta
- Election of Brandi Todd as Unit Dive Office in Region VI, Dallas
- Discussions/Reports from Regional Dive Units

- Recognition of Gary Collins, former UDO, Atlanta, for many years of diving leadership
- Recognition of Bill Luthans, former UDO, Dallas, for growing their Dive Team.

### **Training**

The EPA National Diver Training Program conducted training during October, 2014 at the EPA Diver Training Center, Sabine Island, FL, under the direction of the EPA National Training Director, Jed Campbell. (See attached training report).

### **Reciprocity:**

EPA participates in joint diving activities with a variety of organizations, including other federal and state agencies, universities, and private sector groups. To facilitate these operations and ensure safety, formal reciprocity agreements are established with these entities, based upon approved standards. These agreements are maintained for the calendar year and can be renewed annually, as needed. In 2015, EPA established/renewed reciprocity agreements or shared letters of reciprocity (LOR) with:

- U. S. Department of Commerce, National Oceanic and Atmospheric Administration
- U. S. Geological Survey
- Alaska Department of Fish and Game
- U.S. Fish and Wildlife Service
- Scientific Diving International
- Massachusetts Division of Marine Fisheries
- Oregon Coast Aquarium
- University of Washington
- Lower Elwha Klallam Tribe
- National Park Service
- University of the Virgin Islands
- Mote Marine Laboratory
- Tennessee Wildlife Resources Agency

## **New England Dive Unit**



**ANNUAL REPORT OF DIVE TRAINING AND OPERATIONS**  
**October 1, 2014 - September 30, 2015 (FY-15)**  
**Prepared by Eric Nelson, Unit Dive Officer**



The US EPA's New England Dive Unit is comprised of divers from the Atlantic Ecology Division (AED) Laboratory in Narragansett, RI, and the Region 1 Regional Office in Boston, MA. The following is a summary of dive operations and training in FY-15.

## **A: DIVING ACTIVITIES**

### 1. Diving Operations and Locations

- **October 2014** – Assisted with EPA Diver Training in Gulf Breeze, FL. Pollutant exposure: none expected.
- Recovered Hobo and took sediment cores in Pirate's Cove, Nahant, MA in support of Blue Carbon Initiative. Pollutant exposure: none expected.
- **December 2014** – Collected marine invasive species in Gloucester Harbor, MA in support of the Northeast Aquatic Nuisance Species Panel Annual Meeting. Pollutant exposure: none expected.
- Searched for missing sediment traps and remote releases deployed by EPA's Narragansett Lab, Atlantic Ecology Division, in Narragansett Bay. Pollutant exposure: none expected.
- Searched for missing fluorimeter deployed by R1 Chelmsford Lab in Mount Hope Bay, MA. Pollutant exposure: none expected.
- **May 2015** - Conducted requalifying dives, diver fitness assessments, and dive accident scenario in Narragansett Bay, RI following the suspension of diving activities during the months of January through April. Pollutant exposure: none expected.
- Deployed temperature and light sensors (Hobos) in Pirate's Cove, Nahant, MA. Data supports comprehensive latitudinal study of invasive tunicates and eelgrass in the Northwestern Atlantic Region. Pollutant exposure: none expected.
- **July 2015** - Collected sediment cores and eelgrass samples at Town Neck Beach, Cape Cod Bay, Sandwich, MA in support of Blue Carbon Initiative. Pollutant exposure: none expected.
- **August 2015** - Collected sediment cores and eelgrass samples in Pirate's Cove, Nahant, Gloucester Harbor, and Cohasset Harbor, MA in support of Blue Carbon Initiative. These dives were conducted jointly with MA Division of Marine Fisheries under EPA's existing reciprocity agreement. Pollutant exposure: none expected.
- Collected eelgrass samples as part of monitoring plan in Portsmouth Harbor, NH in collaboration with the University of New Hampshire. Pollutant exposure: none expected.
- **September 2015** – Assessed benthic recovery of eelgrass beds and bio-fouling community following construction of storm water outfall structure at Pavilion Beach, Gloucester Harbor, MA. Pollutant exposure: none expected.

## 2. Diving Statistics

<u>Number of Dives</u>		<u>Number of Exposure Days</u>	
Work:	49	Work:	40
Training:	10	Training:	7
Proficiency/off duty:	<u>12</u>	Proficiency/off duty:	<u>10</u>
Total:	71		57

### **B. DIVING ACCIDENTS, INJURIES, OR INCIDENTS**

None reported.

### **C. DIVE TRAINING**

<u>1. Training Received:</u>	<u>Region 1</u>	<u>AED</u>
CPR/AED	5 divers	1 diver
First Aid	5 divers	1 diver
EPA Divemaster training	0 divers	0 divers
Advanced ops:	1 diver	0 divers
Emergency O2 Administration	5 divers	0 divers
Nitrox	1 diver	0 divers

<u>2. Training Needed in FY16</u>		
CPR/AED	0 divers	0 divers
First Aid	0 divers	0 divers
Advanced ops:	1 diver	0 divers
Emergency O2 Administration	0 divers	0 divers
Nitrox	0 divers	0 divers

### **D. DIVE EQUIPMENT**

1. Same as last year? No (Region 1) Yes (AED)
2. New: GoPro camera package, MTV-100 O2 regulator, cargo net (diver recovery)
3. Equipment problems: torn hood and cuffs on Viking dry suit, leaky valve on Viking
4. Equipment needed: 1 dry suit, 1 buoyancy control vest, dive computers (2+)

**E. REVIEW OF UNIT DIVING PERSONNEL**

<b>Diver</b>	<b>EPA Certification</b>
Region 1: 1. Dan Arsenaault	Scientific Diver
2. Jean Brochi	Divemaster
3. Phil Colarusso	Alternate UDO, Divemaster
4. Eric Nelson	Unit Dive Officer, Divemaster
5. Chuck Protzmann	Scientific Diver*
AED: 1. Barbara Bergen**	Scientific Diver
2. Marty Chintala**	Alternate UDO, Divemaster
3. David Katz**	Scientific Diver

\* Chuck successfully completed EPA Divemaster training, but needs additional working dives to meet Divemaster certification requirements.

\*\* AED divers are currently in inactive status

**F. TIME SPENT ON THE NATIONAL DIVE PROGRAM**

1. Time expenditures	<u>Hours</u>	
Assistance with Diver Training Course		30
Review of documents		16
Performing action items		0
Preparation for and attendance at meetings		0
Technical assistance to other units		0
Annual meetings		<u>35</u>
		81
2. Fiscal (monetary) Expenditures		
Equipment maintenance and repair		\$1,000
New equipment		\$1,691
Supplies (including fill cards)		<u>\$ 887</u>
		\$3,578
<u>Cost of Travel Spent on National Program</u>		
• Attend Dive Safety Board Meeting and assist at dive training in Gulf Breeze, October 2014		\$2,145

**G. NOTEWORTHY ITEMS**

The AED laboratory’s dive team which is comprised of three divers has been placed in an inactive status due to a continued lack of dive-required work and no expressed needs in the foreseeable future.

Region 1 again renewed its diving reciprocity agreement with Massachusetts Division of Marine Fisheries. This agreement allowed for four days of joint operations in 2015. Region 1 expects additional coordination on projects of mutual interest to our agencies in 2016.



## ANNUAL REPORT OF DIVE TRAINING AND OPERATIONS

**Diving Unit: Environmental Response Dive Team  
Office of Land and Emergency Management  
Edison, New Jersey**

**October 1, 2014 – September 30, 2015 (FY15)**

### **A. DIVING ACTIVITIES**

The Environmental Response Dive Team (ERDT) conducted scientific dives at EPA projects around the country during the Fiscal Year 2015. For the year, the ERDT conducted 32 scientific dives, 40 training dives, and 64 proficiency dives, for a total of 146 dives and 76 exposure days.

#### Diving Operations

Donna Canal NPL Site Investigation- ERT Support of EPA Region 6 Dive Team

Donna Canal and Reservoir Site, Donna, TX- During Spring of 2014 the ERT conducted high resolution imaging sonar searches and assisted the Region 6 Dive Team to investigate sonar targets for possible PCB containers. Multiple man-made objects were located and identified, but none were PCB containers. Divers also collected mussels for tissue analysis, PCBs were detected but with no discernable pattern. In 2015, divers deployed passive samplers at 10 locations in surface and sediment pore water to better determine the dissolved concentrations of PCBs in the two media, left in place for about 6 weeks, and analyzed to determine PCB fate and transport and ecological risk. ERT provided a schematic and a written procedure for the diver installation of sampling gear to streamline the process and try to minimize loss of equipment due to vandalism.

Despite losing steering on the vessel provided by USF&W, the Region 6 Dive Team, with ERT, managed to complete installation of all 10 stations in less than two days. The ERT is mentoring the R6 Dive Team as they develop their dive team capability, including polluted water procedures. The R6 team did the work safely with their own equipment, using tethered diving techniques (diver worn SCUBA tank, with communications rope attached to diver harness), and wearing polluted water gear (dry suit, full face mask, a buoyancy control device for polluted water, and dry gloves). A decon rinse was done on the diver on the ladder before they entered the vessel. Despite precautions, vandalism occurred in shallow water and only 6 of 10 samplers were recovered.

*Environmental Security Technology Certification Program (ESTCP), Quantico, Virginia.*

The dive operations were for the purpose of demonstrating and promoting the Sediment Ecotoxicity Assessment (SEA) Ring, an in-situ ecological risk assessment approach for sediment characterization and remedy effectiveness. Prior ERT dive ops and testing occurred prior to cap

placement. In early 2014 a thin layer cap (6-12 inches of sand/silt) was applied over a 10 acre area to minimize benthic exposure to site contaminants (primarily DDT) and enhance the sediment habitat. The SEA Ring has 10 separate chambers containing two species of worms and clams; the diver pushes the chamber into the sediment, releases the organisms into the sediments and activates the air pump to enhance survival over the two week exposure period. Deployment and recovery was challenging on the uneven sand cap plus no anchoring was allowed to avoid damaging the sand cap. ERT used vector scanning sonar to precisely locate the Sea Rings and sediment traps. Additional work off the ERT pontoon vessel is diver collection of sediment cores for chemical/physical profiling, diver installation of passive samplers (SPMEs) to measure bioavailability of contaminants, measuring cap thickness and grain size using a friction sound probe, and using a sediment profiling camera to collect cross sectional vertical images of cap material/sediments. Diving is conducted in less than 10 feet of water with low visibility, using contaminated water PPE and a hard wired tether for single diver safety and communications. ERT is working with the U.S. Navy and the Space and Warfare (SPAWAR) Systems Command at this DOD DDT site.

#### EX USS Radford Diver Survey

Two ERT Scientific Divers collaborated with the R3 Dive Unit to conduct the third of five annual biological surveys of the EX USS Radford Artificial Reef (AR) on June 23, 2015. See R3 Annual Report for more details.

#### Diver Survey, Historic Area Remediation Site

In 1997, the Mud Dump Site (MDS) was designated as a dredged material disposal site, and the MDS and surrounding contaminated areas were designated the Historic Area Remediation Site (HARS). The HARS was designated for placement of dredged material determined to be suitable for use as Remediation Material to improve benthic conditions.

The HARS, which is 15.7 nmi<sup>2</sup> in area is located in the New York Bight Apex, approximately 3.5 nautical miles (nmi) east of Highlands New Jersey and 7.7 nmi south of Rockaway, New York. Since the 1800s, this area has been used for disposal of dredged material and a variety of other waste products including municipal garbage, building materials, sewage sludge and industrial waste. The diver surveys were done on those areas capped with concrete and glacial materials to help determine if the capped areas are supporting recovery of the epifaunal community.

A two diver team was led by a videographer, with his buddy close behind as the transect tape operator. At most stations four transects from center (N-S-E-W) were run out 25 m and documented with a compass-mounted GoPro video/lighting setup. Placards were used at the station marker to identify each transect. Video was collected in both directions, covering about a 2 m swath in total. The transect tape was reeled in on the way back to center point or origin.

Dives were conducted off the NOAA Research Vessel Nancy Foster, with diver assistance from Region 3. Dives were conducted in 60-80 feet of water using Nitrox II mix. Visibility was poor to good, ranging from 2 to 8 feet, with water temperatures about 55 degrees.

McCormick and Baxter Site, Portland, OR

ERT supported R10 divers with installation and recovery of passive samplers as part of a five year review of the cap condition, installed as a remedy at this former wood treating site. See R10 annual report for more details.

## **B. DIVE STATISTICS**

<b>Dive</b>	<b>Total No. of dives</b>	<b>No of exposure days</b>
Scientific dives	<b>32</b>	<b>26</b>
Training dives	<b>40</b>	<b>25</b>
Proficiency dives	<b>64</b>	<b>25</b>
<b>Total</b>	<b>136</b>	<b>76</b>

## **C. DIVING INJURIES**

There were no diving injuries during 2015.

## **D. DIVE TRAINING**

EPA diver training was held in Gulf Breeze in October, 2014. Scientific training was provided for trainee divers. ERT and other EPA UDOs participated with lectures, in-water exercises, decon exercise, and deployment and recovery of in-water training equipment. Some UDOs were also able to participate in advanced diver training.

Internal dive unit training sessions were held at the Raritan Bay (New Jersey) and Denver (Colorado). The primary hands-on training focused on the following: Dry Suit and Full Face Mask Training, Proficiency; Dive/Navigation/Compass Course; Zero visibility Search; Surface Supply and Tethered diving, and video transect exercises.

## **E. DIVING EQUIPMENT**

### Current Equipment Inventory

Primary equipment are Scuba tanks (16), Pony bottles (11), Regulators (11), BCDs (11), Dry Suits (12), Comm ropes with Box, KM Surface Supply Control box with 2 umbilicals, Superlight 17 Helmets (2), XLDS-RDC Portable Surface Supply System with 300 ft Umbilical, MS 1000

Vector Scanning Sonar, Outland 1000 ROV, and Didson Dual-Frequency Identification Sonar (on loan).

During FY 2015, ERT did annual maintenance on dive equipment (regulators, BCs, surface supplied, AGAs, computers), and the 41-foot Biglane dive/survey vessel. Primary purchases were GoPro equipment.

**F. REVIEW OF DIVING PERSONNEL**

Presently, the ERT Dive Team has eight full-time members, including six divemasters:

Dave Adams	Scientific Diver
Steve Blaze	Dive master
Chris Gallo	Scientific Diver
Scott Grossman	Dive master, Alternate UDO
Rich Henry	Dive master, US F&WS
Alan Humphrey	Dive master/UDO
Buddy LoBue	Dive master
Jon McBurney	Dive master

Several EPA divers, including Scott Faller (Scientific Diver, RERT), Pete Stevenson (Dive master, Region 8), Jeff McPherson (Scientific Diver, Region 8), and Daniel Rodriguez, (Scientific Diver, Region 2, Vieques) have conducted scientific or training dives with the ERT and other EPA dive units.

**G. TIME SPENT ON THE NATIONAL DIVE PROGRAM AND RELATED COSTS**

Assistance with EPA Diver Training Course	none
Comments on EPA Diving Activities	Three days
Updates to EPA Diving Safety Manual	Five days
Dive Plan Review	Five Days
Cost of travel related to diving projects	\$4,000
Attendance at EPA Diver Training Course	\$2000
Attendance at Diving Workshops or Conferences	\$2000
Attendance at the EPA Diving Safety Board Mtg	\$1000

ERT attended the 2015 AAUS Conference in Key West, FL during Sept 28-Oct 2 and obtained in-water dive training as well as two days of technical scientific papers.



**US EPA MID-ATLANTIC REGION 3  
SCIENTIFIC DIVE UNIT  
ANNUAL REPORT OF DIVE OPERATIONS**

**Fiscal Year 2015 - October 2014 through September 2015  
Prepared by: Steven J. Donohue, Unit Dive Officer (UDO)**

**A. DIVING ACTIVITIES**

This Annual Report of Dive Operations describes and summarizes the US EPA Mid-Atlantic Region 3 Scientific Dive Unit (SDU) activities for Fiscal Year 2015. The SDU is a program within the Oceans & Dredged Disposal Team in Environmental Assessment and Innovation Division's (EAID) Office of Monitoring and Assessment. SDU scientists and engineers include representatives from EAID, Hazardous Site Cleanup Division, Land and Chemical Division and Office of Policy and Management.

Below is a narrative summary with a brief description of each operation the SDU engaged in during this fiscal year. Table 1 provides a summary of data for each operation including the location, purpose, and depth, conditions, breathing gas, divers and number of exposure days. Additional detail on each SDU operation is available in specific Dive and Safety Plans, completed prior to each operation, and Operation Reports, completed following the operation. Figures 1 and 2 show the number and percentage of Operation, Training and Personal Proficiency Dives and Hyperbaric Exposure Days. Figure 3 shows the SDU annual operating costs over the last several years.

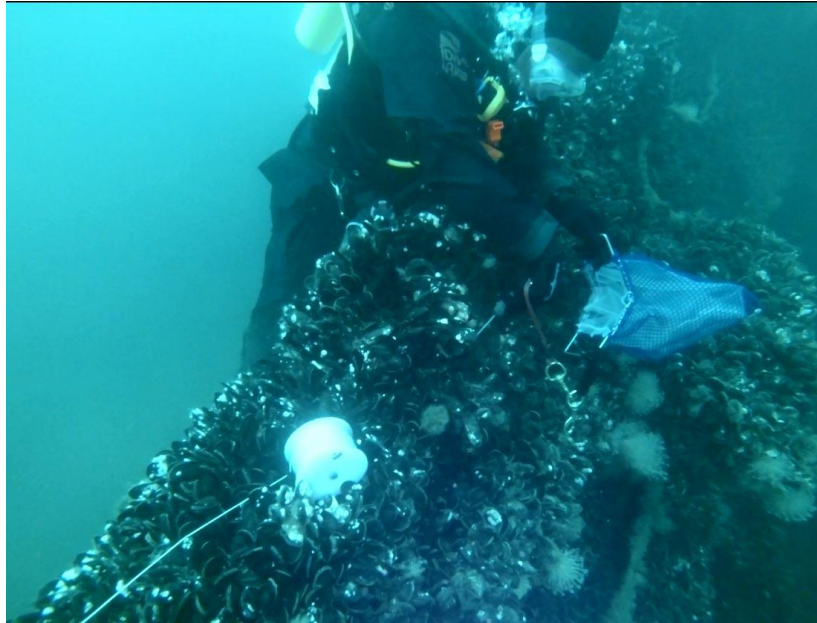


### EPA R3 SDU –FY-2015-01

On May 27, 2015, seven members of the SDU participated in a training operation at a local quarry. All planned objectives outlined in the Dive and Safety Plan were accomplished including; testing recently serviced SCUBA regulators and Aga masks, re-qualifying any diver who had not logged a dive in the last three to six months, and practicing use of sampling and safety equipment. On the first dive all recently serviced primary and secondary regulators were tested and confirmed to be operating correctly. Buddy pairs practiced use of the scrape sampling device and mesh sample bags that were to be used in the survey to collect epibenthic samples from artificial reef off the coast of Delaware scheduled for the week of June 22. For the second dive, divers switched over to and set up their positive pressure Aga masks with hardline and wireless communication. The EPA Dive Safety Manual (DSM) requires periodic diving to enhance and retain diver proficiency. The UDO is required to establish re-qualification criteria for divers who have not completed a dive in the last three months.

### EPA R3 SDU –FY-2015-02

At the request of, and in collaboration with, the Delaware Department of Natural Resources and Environmental Control (DNREC), four members of the SDU and two Scientific Divers from the ERT Unit conducted the third of five annual biological surveys of the EX USS Radford Artificial Reef (AR) on June 23, 2015. The EX USS Radford Artificial Reef is a retired US Navy Destroyer over 550 feet long that was sunk 26 NM off the coast of Delaware to provide habitat and recreational opportunities. SDU divers obtained scrape samples of the epifauna on vertical and horizontal surfaces of the ship as well as high definition video. The survey showed that the reef continues to develop with large mature blue mussels and small blue mussels present, as well as large hydroids. DNREC provided sampling supplies and a chartered vessel for the sampling. Although not definitive it appears that changes to the structure and orientation of the AR may have occurred since the 2014 survey. The University of Delaware (UDEL) provided sidescan images of the entire AR and we will discuss the results of this survey with them. This was the third year the SDU assisted the Delaware Department of Natural Resources and Environmental Control (DNREC) with scientific diving on the biological sampling of the EX USS Radford. The SDU helped facilitate networking and communication between UDEL and DNREC to the benefit of all parties by sharing data and resources related to the Radford, Poole, and Redbird Reefs.



### EPA R3 SDU –FY-2015-03

In conjunction with Region III's RARE Water Quality Study of Delaware Bay and in collaboration with the UDEL, the SDU conducted a biological survey of selected sites in the Broadkill Slough on September 16, 2015 from EPA's Research Vessel *Lear*. This biological survey in the Broadkill Slough, which is located approximately 10 NM North of the UDEL facility in Lewes, DE, was a follow up to a survey done in 2011, when UDEL documented the presence of a unique and diverse community of epibenthic organisms including sponges and tube-forming worms at specific coordinates in the Slough. During a window of one hour before and after slack high tide the SDU conducted a total of four dives at three locations. Visibility during this survey was very poor and this reduced the amount of bottom that could be surveyed and eliminated the ability to obtain video for additional topside study. Divers conducted a tactile search by performing hand sweeps during their search patterns. Despite searching approximately 100 square meters of the bottom, SDU divers obtained limited samples of the epifauna from the bottom for identification by UDEL. A planned second day of study was postponed due to the conditions.

### Environmental Response Team/Region 2

The EPA Mid-Atlantic SDU provided equipment, expertise and a diver to support a Region 2 Environmental Response Team (ERT) post-remediation monitoring survey of glacial till that was used to cap and enhance habitat at the New York Harbor Historic Area Remediation Site (HARS). The 2010 HARS Site Management and Monitoring Plan (SMMP) describes a monitoring plan that focuses on the overall effects of placement of Remediation Material on the entire HARS and each of the nine priority remediation areas. The HARS is located in the New York Bight Apex, approximately 3.5 nautical miles (NM) east of Highlands New Jersey and 7.7 NM south of Rockaway, New York. Since the 1800s, this area has been used for disposal of dredged material and a variety of other waste products including municipal garbage, building

materials, sewage sludge and industrial waste. Video transects were conducted to record conditions for detailed study at select target locations identified by remote sensing. Diving was conducted from September 8-10, 2015 by divers deployed from the NOAA Research Vessel *Nancy Foster*. This is the second survey where the SDU and ERT have shared resources in 2015. While conducting one video transect, an EPA diver found and cut loose a lobster that was caught in derelict fishing line on the bottom.

#### US Fish and Wildlife Service and West Virginia

Wheeling based SDU divers continued a long term partnership in support of our sister agency, the US Fish and Wildlife Service by participating in training as well as scientific dives in FY 2015. Very wet weather in the western part of our Region limited freshwater mussel surveys this year. However, the SDU did assist with restoration of freshwater mussels at the Ohio River Restoration Area near Muskingum Island. The goal of the project was an on-going monitoring assessment of the freshwater mussel restoration area of Muskingum Island that was devastated due to an industrial spill several years ago. A highlight of the scientific dive operation was that the first freshwater mussel collected was a Sheepsnose Mussel (*Plethobasus cyphus*) and the last mussel collected for the day was a Fanshell Mussel (*Cyprogenia stegaria*), both endangered species and both collected by the USEPA Scientific Diver.

#### Delaware River Freshwater Mussel Survey

The SDU had planned to collaborate on additional freshwater mussel surveys with the Partnership for the Delaware Estuary in FY 2015 but due to a number of factors including; wet weather, a major sampling project, and the lack of availability of boat operators and divers, no dives were conducted. Weather permitting we hope to do some surveying of sites this fall.

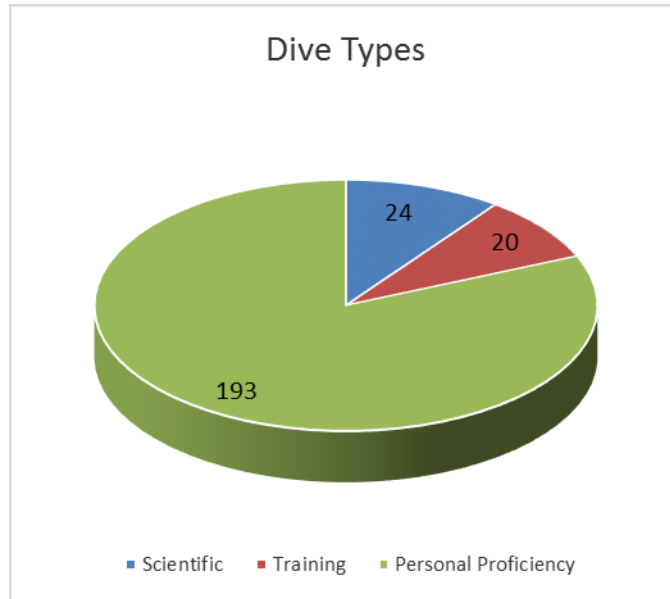
#### Proficiency Dives at Adventure Aquarium

Two members of our SDU continue to volunteer on their own time with the Adventure Aquarium in Camden. Duties include participating in a public dive show responding to questions while wearing an Aga mask equipped with coms as well as doing cleaning and maintenance diving. All dive shows include a mention for the public to reduce litter that may end up polluting our waterways. Several more of our SDU divers have expressed interest in volunteering at the aquarium and we hope to facilitate this in FY16. There are multiple benefits to SDU participation as dive volunteers including, improved proficiency, regular repetitive dives, and familiarization with the requirements of diving in a commercial dive operation. If openings are available in our FY16 training the SDU would like to offer the professional diving staff at the Adventure Aquarium the opportunity to be trained as EPA Scientific Divers. They might then be available to assist in SDU dive operations.

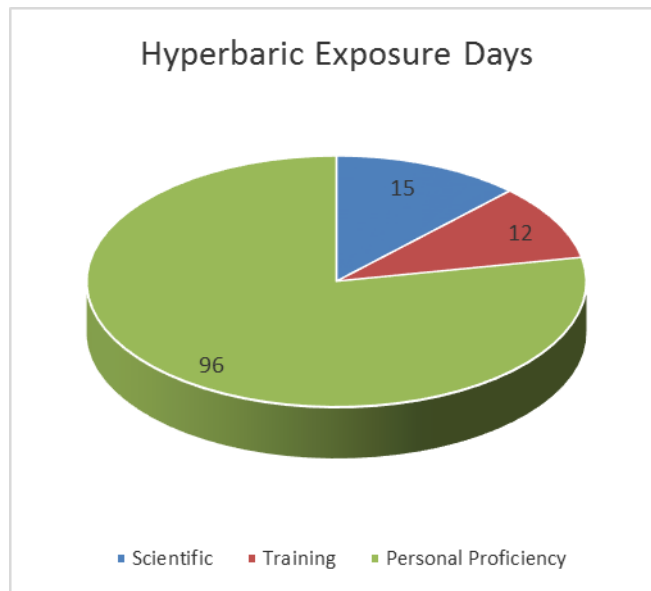
**Table 1 Data Summary for SDU Operations in FY 2015**

<b>EPA Region 3 Scientific Diving Unit Operations in Fiscal Year 2015</b>									
<b>Location</b>	<b>Purpose</b>	<b>Date</b>	<b>Depth in Feet</b>	<b>Conditions</b>	<b>Gas</b>	<b>Names of Diver and (#) of dives</b>	<b>Total # of Dives</b>	<b>Total # Hyperbaric Exposure Days</b>	<b>Dive Master</b>
Gulf Breeze	Advanced Operations Training	10/18 to 10/23/14	8 to 125 feet	Bay and Open Ocean	Air, Nitrox and Rebreather	Donohue (3) Newman (2)	5	5	Humphrey
Ohio River - Muskingum Island	Reintroduction of ETC freshwater mussels	5/8/2015	9-11 feet	clear visibility; cool	Air	Borsuk	5	4	Morrison
Dutch Springs Quarry, Allentown, Pennsylvania	Equipment Checkout, Re-qualification, Sample Training	5/27/2015	20 to 62 feet	Freshwater Lake	air	John Armstead (2), Dave Byro (2), Kelley Chase (3), Steven Donohue (1), John Forren (2) Eric Newman (2), Brad White (3)	15	7	Donohue
26 NM off Coast of Delaware	Epibenthic Sampling of EX USS Radford	6/23/2013	122	Open Ocean	Nitrox ~30% O <sub>2</sub>	John Armstead (1), Dave Byro (1), Steven Donohue (1), Rich Henry (1), Scott Grossman (1), Brad White (1)	6	6	Donohue
10 NM off Coast of NY/NJ	Video Transect of Dredge Diposal Site	9/8 to 9/10/15	65 -75	Open Ocean	Nitrox ~34% O <sub>2</sub>	Donohue (5)	5	3	Humphrey
Delaware River	Biological Survey of Hard Bottom in Broadkill Slough	9/16/2015	25	Open Water with tidal current	air	John Armstead (4), Brad White (4),	8	2	Donohue
<b>Total</b>							<b>44</b>	<b>27</b>	

**Figure 1 Scientific, Training, and Proficiency Dives for SDU in FY 2015**



**Figure 2 Hyperbaric Exposure Days for SDU in FY 2015**



Notes: Scientific Dives are performed for scientific, research, or educational purposes  
Training Dives are done on government time and at government expense.  
Personal Proficiency Dives are done on personal time and at personal expense in order to enhance or maintain proficiency. Divers may have used government dive equipment.  
Hyperbaric Exposure Day is defined as any day a diver has been underwater and exposed to increased pressure.

## **B. DIVING ACCIDENTS, INJURIES, OR INCIDENTS**

Describe all accidents, injuries, and incidents: There were no diving or related non-diving accidents, injuries or incidents experienced by our divers in FY 2015.

## **C. DIVE TRAINING**

1. Describe the type of training conducted/received, and list the name, office, and level of certification for each trainee. No trainee divers accompanied the SDU during training or operations this fiscal year. See the Narrative in Section A and the Summary Tables above for training dives and physical fitness testing conducted for the SDU. See the Table in Section E below for a complete list of the names, offices, and certification level of each member the SDU.

The National EPA Diver Training was held in early FY2015. Kelley Chase and Brad White successfully completed the training as Dive Masters.

The SDU conducted a training dive as discussed above in the description of EPA R3 SDU –FY-2015-01.

Most of the Philadelphia based divers successfully completed the DAN course entitled, First Aid for Professional Divers in FY2015.

Wheeling based divers participated in USFWS training and fitness testing.

2. List any training needed.
  - a. The SDU hopes to send two, or possible three, Scientific Diver candidates to the EPA Diver Training in Gulf Breeze in the spring of 2016 if it is offered. There has been significant interest from employees to join the SDU. The SDU must develop a formalized, open and transparent process to select diver candidates for training. Evaluation criteria has been drafted and a selection committee may be formed to choose candidates for FY2016.
  - b. A few divers missed the First Aid for Professional Divers in FY2015 and will need to receive First Aid, CPR and AED training at a minimum. An alternative would be to offer First Aid for Professional Divers again in FY2016.
  - c. Divers must complete the annual 8 hour refresher for their 40 hour HAZWOPER training or 8 hour field safety training in FY 2015.
  - d. Physical fitness testing was last done in FY2014 and should be repeated this coming year.
  - e. We will likely train in our new drysuits during our spring training in the controlled environment at the quarry.

**D. DIVE EQUIPMENT**

1. Same as last year? Yes \_\_\_\_\_ No X

a. If no, list and note the equipment that is new or removed from service.

New items:

The SDU purchased two new GoPro cameras with dive housings and supplementary battery packs in FY2015.

Finally, we continued to enhance the capability of our first aid kit by purchasing; a tourniquet, and color coded straps and a head restraint for our backboard.

Removed from Service:

The case on one of our two older GoPro cameras failed in FY2015 which resulted in the flooding and failure of the camera.

2. New Equipment Needed

As the fiscal year 2015 ended, we were awaiting the delivery of new drysuits to replace older suits with a more easily decontaminated suit. This should enhance our capability to support additional internal customers and respond in the event of a regional or national incident.

Several of our divers have vision correcting diopters in their masks but currently they do not have them in their Aga masks. We need to explore and purchase these for our Aga masks.

The SDU hopes to purchase safe second breathable inflators for our BCDs to eliminate a low pressure hose and provide a redundant breathable second stage that will be carried on all our dives.

**E. REVIEW OF UNIT DIVING PERSONNEL**

Table 2 below contains the names, division and current certification for members of the SDU at the end of the Fiscal Year. In FY2015 two of our Scientific Divers, Brad White and Kelley Chase, completed training as Dive Masters.



<b>EPA R3 SDU Members</b>	<b>Division</b>	<b>Certification</b>
John A. Armstead	LCD	Dive Master
Frank A. Borsuk	EAID	Dive Master
David Byro	EAID	Dive Master
Kelley Chase	HSCD	Dive Master
Matthew Colip	OPM	Scientific Diver
Steven J. Donohue	EAID	Dive Master
John Forren	EAID	Scientific Diver
Jennifer Fulton	EAID	Scientific Diver
Eric Newman	HSCD	Dive Master
Brad White	HSCD	Dive Master

LCD - Land and Chemical Division  
EAID – Environmental Assessment and Innovation Division  
HSCD – Hazardous Site Cleanup Division  
OPM – Office of Policy and Management

**F. TIME SPENT ON THE NATIONAL PROGRAM**

1. Time expenditures.

<b><u>ACTIVITY</u></b> (DESCRIPTION)	<b><u>TIME</u></b> (Hrs/Days)
Assistance with Diver Training Course	__5 days
Review of Documents (revision to DSM, emails)	__3 days
Performing Action Items (e.g., Prep for & Audit of Dive Opts)	__0 day
Preparation for and Attendance at Meetings (Annual DSB Meeting)	_5 days _
Technical Assistance to Other Units	_3 days_-
Other	—

2. Fiscal (monetary) expenditures:

**COST OF TRAVEL SPENT ON NATIONAL PROGRAM** (list by trip)

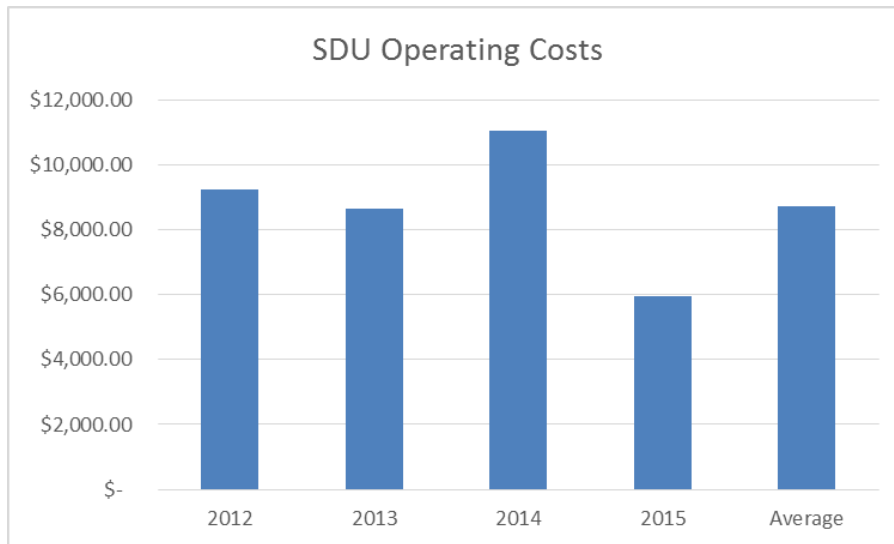
UDO Support of Annual Training and DSB Meeting	\$ 2,003.74
Dive Master Training Brad White	\$ 1,513.89

Dive Master Training Kelley Chase	\$ 1,596.27
Scientific Diver Training	\$ 0
<b>Total</b>	<b>\$ 5,113.90</b>

**G. FY 2015 BUDGET**

The capital equipment and operation and maintenance cost for the SDU was \$5,964.41 in FY 2015. This was significantly less than FY2014, when new dive computers were purchased; however it does not include the purchase of ten (10) new dry suits that were received in early October 2015. Figure 3 shows annual operating costs over the last several years. Annual operating costs include the cost for all new equipment and supplies, required annual maintenance for regulators, and tanks for both the Philadelphia and Wheeling locations and entrance fees at the training venue (quarry). This also includes the cost of filling tanks with air/nitrox as well as miscellaneous supplies. This does not include any travel costs. The SDU had only one operation that involved overnight travel, which was the trip to sample the Radford/Poole.

**Figure 3 Annual Operating Cost for the Scientific Dive Unit**



## R4 ATHENS DIVE UNIT

### ANNUAL REPORT OF UNIT DIVE TRAINING AND OPERATIONS 2015

Diving Unit: Region 4 Athens, GA  
Mel Parsons, UDO

Time Period: 10/2/14-10/08/15

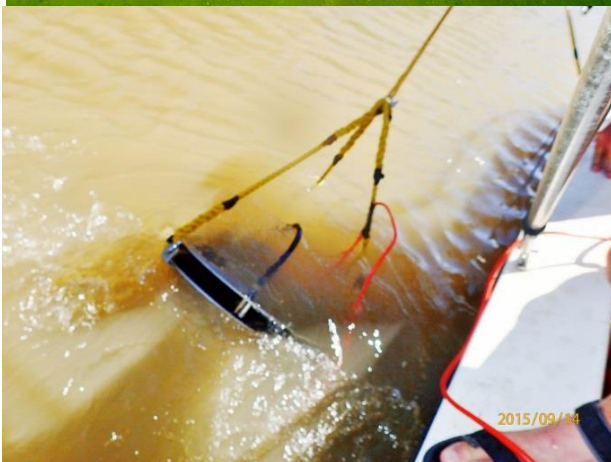
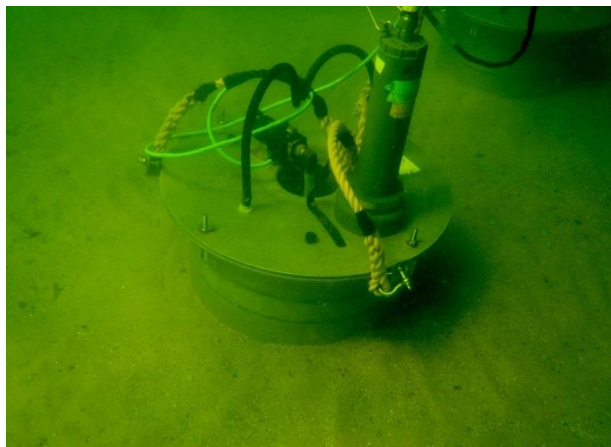
#### **A. DIVING ACTIVITIES**

The EPA R4, Athens Dive Team logged 99 dives with 63 exposure days over the past year. The Dives were a combination of Sediment Oxygen Demand (SOD), Ocean Dredged Material Disposal Site (ODMDS), Acoustic Doppler Current Profiler (ADCP) deployment/retrieval and training dives.

##### 1. Description/type of diving operations

##### a. Sediment oxygen demand/nutrient studies – 41 Dives, 33 Exposure Days:

SOD studies were conducted off the Gulf Breeze Dock, in the Yazoo River, MS and two studies in the Leaf River, MS.



b. Ocean Dredged Material Disposal Sites (ODMDS) – 38 Dives, 16 Exposure Days:

These surveys are to characterize the sediment, water and benthic infaunal community within and adjacent to the ODMDS. Conducted habitat assessment training at the Fernandina Beach, FL ODMDS from the NOAA vessel NANCY FOSTER. Diving on the Fernandina ODMDS Survey was a joint project with the R4 Atlanta Dive Team. Of the 74 dives logged, 36 were by the R4 Atlanta Divers and 38 were by R4 Athens Divers.



c. Deploy/retrieve instruments – 6 Dives, 2 Exposure Days:

Deployment and retrieval of current meters in Lake Michigan, offshore of Michigan City, Indiana for an ORD beach contaminant study. Dive platform was an Indiana DNR vessel.



d. Training Dives – 14 Dives, 12 Exposure Days:

Training dives were conducted during the dive course at Gulf Breeze last year and consisted of three deep offshore dives (115-120') as well as individual rebreather introduction/training dives.



2. Location of diving operations/water body

Florida – Pensacola and Fernandina Beach  
Mississippi – Hattiesburg and Vickburg – the Leaf and Yazoo Rivers  
Lake Michigan – Michigan City Indiana

3. Dive Statistics

<u>Number of Dives</u>		<u>Number of Exposure Days</u>	
Work:	85	Work:	51
Training:	14	Training:	12
Proficiency:	0	Proficiency:	0
	<hr/>		<hr/>
	99		63

**B. DIVING ACCIDENTS**

No accidents this year.

**C. DIVING SAFETY AUDIT**

No findings on the self-assessment audit this year

**D. DIVE TRAINING**

John Ruiz and Jon McMahan attending FY14 Diver Training.

**E. DIVING EQUIPMENT**

All dive equipment was serviced and passed inspection.

Tanks: 12 – 100 ft<sup>3</sup>, 16 - 80 ft<sup>3</sup>, 19 - 63 ft<sup>3</sup>, 4 - 19 ft<sup>3</sup>, 4 -13 ft<sup>3</sup>, 4 - 6 ft<sup>3</sup>  
1 KM Superlight 27 w/tri valve exhaust w/wireless and hardwire/wireless comms  
1 Amron two diver dive control console w/150' light umbilical  
1 Amron two diver com box  
Regulators: 6 Poseidon Cyclon 5000s  
2 Zeagle 50D/w ZX second  
3 Zeagle Flathead 7  
3 Genesis GS 2000

Computers: 2 Suunto Cobra  
5 Suunto Gekos  
AGAs: 8 /w silicone skirts – 4 with comms  
OTS Wireless communications for 5 FFM and 1 surface unit  
4 OTS Guardian FFM w/OTS Wireless Comms  
Gates Dry Suits w/attached Superlight neck yoke: 1  
Viking Dry Suit w/attached Superlight neck yoke: 1  
Viking Dry Suits w/ latex hoods: 13  
Whites Haz Mat Dry Suits: 2  
Sony TRV900 3ccd video camera  
Amphibico video housing w/Amphibico 10W Arc Light  
Olympus TG-3 14 MP digital camera w/Olympus U/W housing and strobe  
Olympus 8080, 8 MP digital camera w/Olympus U/W housing  
GoPro Hero 4 Black w/UW strobes  
2 Dacor dive scooters  
Parker 25' and 28' Pilot House Boats for dive ops.

Added four R10 Viking dry suits to the inventory this year and bought three Zeagle Flathead 7 sealed regulators. Plan to start phasing out the Poseidons that we have used for years.

**F. REVIEW OF DIVING PERSONNEL**

There are a total of 5 divers on the EPA Region 4 Athens Dive Team of which 4 are active. The dive team currently has 3 divemasters.

NAME	AGE	SEX	CERTIFICATION LEVEL
Pete Kalla	60	M	Divemaster (Inactive)
Jon McMahan	33	M	Scientific Diver
Mel Parsons	57	M	UDO/Divemaster
John Ruiz	50	M	Scientific Diver
Greg White	29	M	Divemaster



### **Changes in personnel**

Due to TMDL funding cuts and a change in the ESAT contract, R4 no longer has any contract divers.

Pete Kalla had knee and hip replacement surgery this past year and has been inactive since.

John Ruiz and Jon McMahan received scientific diver certification in October 2014.

### **G. TIME SPENT OF THE NATIONAL DIVE PROGRAM**

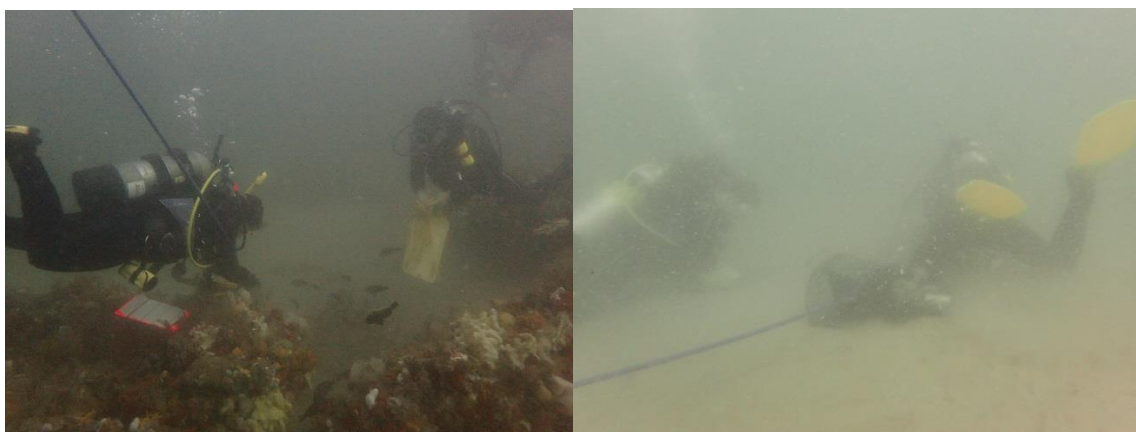
<u>ACTIVITY</u> (describe)	<u>TIME</u>
Assistance with Diver Training Course	7 days
Review of Documents (EPA Dive Manual v1.2)	1
Performing Action Items	1
Preparation for and Attendance of DSB Meeting	2
Technical Assistance to Other Units	0
Equipment Servicing	\$6700.00
Equipment Purchases	\$2500.00
Other	0

### **COST OF TRAVEL SPENT ON NATIONAL PROGRAM** (list by trip)

Attend Diving Safety Board Meeting	\$ 1650.00
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**ANNUAL REPORT  
OF  
DIVE TRAINING AND OPERATIONS**

**U.S. EPA  
Atlanta Region 4  
Dive Unit**



10/01/2014 through 09/30/2015

Submitted by

Gary W. Collins, Unit Dive Officer  
Tara Levine Houda, Alternate Unit Dive Officer

## A. Diving Activities

1. *Work/scientific* – One project used dive operations this year; the overall operations were managed by the Athens Dive Unit. The project was related to habitat assessment associated with the Fernandina ODMDS, FL, conducted aboard the *NOAA Nancy Foster* (5 days).

*Proficiency* – One diver is involved with the Georgia Aquarium and conducts a number of dives to help with aquarium maintenance on a monthly basis. Beyond that, a training dive was held in part for proficiency, but mainly to ensure adequate skills were sharp prior to the Science operations aboard the *NOAA Nancy Foster*.

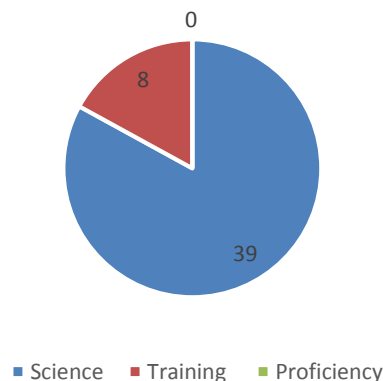
*Training* – The unit had one separate dive operation dedicated to this purpose. Four unit members took part in training dives at Lake Hartwell, GA.

2. **Lake Hartwell, GA** – USACE cove facility used for training/proficiency dives.  
**Offshore Florida** – Habitat Assessment worked jointly with the Athens Dive Unit.

3. Dive Statistics:

<u>Number of Dives</u>		<u>Number of Exposure Days</u>	
Science:	39	Science:	17
Training:	8	Training:	4
Proficiency:	0	Proficiency:	0
Totals	<u>47</u>		<u>21</u>

Scientific, Training, and Proficiency Dives for Atlanta in FY15



Additionally, 29 personal proficiency dives were conducted.

## **B. Diving Accidents, Injuries, or Incidences**

None to report

## **C. Dive Training**

1. One dive day was used this past year to re-qualify two divers, allowed two others to maintain proficiency, and provide training to all four divers in support of an upcoming ocean project.
2. At this time, we have no new candidates. We have had quite a bit of interest in the concept of advanced dive ops training, but this is variable depending upon what the details of such training would be.

## **D. Dive Equipment**

We made a couple of purchases of new equipment this past year. This gear was obtained to update the Unit's photographic and video capabilities.

- 1) GoPro Hero 4 Black Adventure Video Camera; Backscatter/Flexarm, etc GoBe700 dual Lights package; GoPro LCD back; 64 Gb SD card; battery charger & spare batteries; greenwater lens; combo filter kit
- 2) Olympus TG-3 U/W camera w/ PT-056 housing and Sea&Sea YS-03 U/W strobe; low discharge rechargeable batteries; battery charger

*Regulators:* **11** Atomic Z2 regulators (1<sup>st</sup> and 2<sup>nd</sup> stages) w/ Sea Elite octo.

*BC's:* **6** – Sea Elite Profile Hybrid; **1** - Mares Dragonfly; **1** – Sea Elite (no model available); **2** – Zeagle Ranger; **1** SeaQuest Black Diamond; **1** – Dacor Falcon.

*Computers:* **6** Suunto Gekko & **2** Suunto Zoop dive computers; **1** - Oceanic Veo 200.

*U/w video system:* Sony TRV900 w/ Amphibico Navigator900 housing and light package. **May be surplused.**

*U/w digital camera:* housing for Canon PowerShot A80 (camera damaged).

*MiniOx I Oxygen Analyzer:* updated sensors with backup sensor.

*OTS DRS-100B:* diver recall system

*Marine Trauma Kit* (Practical Trauma).

**E. Review of Unit Diving Personnel**

We have had several changes in Dive Unit personnel, and presently have not had any inquiries from other personnel. Due to uncertainties with medical issues, Steve Blackburn elected to drop off the dive team during this fiscal year. Two divers, Bob Howard and Drew Kendall will be retiring from the agency during the first quarter of the fiscal year. Due to changes in the Ocean Dumping program and a significant increase in time demands, Gary Collins is stepping down as UDO and as a member of the dive team.

<u>Diver Name</u>	<u>Age</u>	<u>Sex</u>	<u>Certification Level</u>
Gary Collins	53	Male	Divemaster, UDO
Roland Ferry	62	Male	inactive, Scientific Diver
Rosemary Hall	38	Female	Divemaster
Tara Houda	31	Female	Divemaster, AUDO
Bob Howard	67	Male	Scientific Diver
Drew Kendall	60	Male	Divemaster
Chris McArthur	46	Male	Divemaster

**F. Time Spent on the National Dive Program**

1. Time Expenditures

<u>ACTIVITY</u>	<u>TIME</u>
Assistance with Diver Training Course	40
Review of Documents	
Dive Plans	2
Dive Reports	8
Manual review/updating	50
Performing Action Items	
Action Item Follow-through	2
Preparation for and Attendance at Meetings (both UDO & AUDO)	
Annual Reports	10
Meeting participation	74
Technical Assistance to Other Units	0

2. Fiscal Expenditures

Cost of Travel Spent on National Program during FY15

Travel to Training Course	\$1,100
2014 DSB Meeting	\$800
Combined 2014 meeting and course	\$1,900
New Gear	\$5,553
Gear Maintenance	\$2,066

Total	<u>\$9,519.36</u>
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## **MEMORANDUM**

**SUBJECT** : ANNUAL REPORT OF DIVING OPERATIONS for  
Diving Unit - EPA Gulf Ecology Division

**LOCATION** : GULF BREEZE, FLORIDA

**TIME PERIOD:** Oct. 1, 2014 through Sept. 30, 2015

**FROM** : Jed G. Campbell, Unit Diving Officer

**TO** : EPA DIVING SAFETY BOARD

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### **Diving Activities:**

Gulf Ecology Division (GED) carried out several scientific diving operations. The primary dive projects performed included coral surveys and inspection and service of seawater intakes for the GED lab. Also deployed real time data loggers with satellite uplink, along with electronics packages for long term monitoring. The GED dive team accounted for a total of 74 individual dives during this twelve month reporting period.

### **Training Dives:**

GED divers made inspection dives around the GED west dock to search and remove any hazards. Ladders were removed, cleaned, and reinstalled. Barnacles, oysters, and fishing gear were removed from the pilings. Dives were made in order to test equipment (Superlite- 27, wireless, hard wire, EXO-26, a multitude of Aga mask and regulators) during the year. All diving cylinders (40), were visually inspected and those needing hydrostatic test were serviced. All regulators were annually serviced.

### **Coral Condition Survey:**

The condition of coral reefs for the last three decades has been dominated by increased levels of coral bleaching and disease which is unprecedented in recorded history. Initially, there appeared to be little or no recovery of affected colonies, which may have led to a significant decrease of the overall living coral surface area. Processes that cause tissue loss of corals are not well understood, but degradation is most likely the link to multiple environmental stresses. These stresses include global change, such as elevated temperature and UV-light penetration, and also water quality contaminated by runoff from terrestrial sources.

The National Coral Reef Monitoring Program (NCRMP) provides a biennial ecological characterization at a broad spatial scale of general reef condition for reef fishes, corals and benthic habitat (*i.e.*, fish species composition/density/size, benthic cover, and coral density/size/condition). Data collection occurs at stratified random sites where the sampling

domain for each region (*e.g.*, Puerto Rico, US Virgin Islands (USVI), Flower Garden Banks National Marine Sanctuary) is partitioned by habitat type and depth, sub-regional location (*e.g.*, along-shelf position) and management zone. NCRMP will provide broader geographic context to supplement local monitoring efforts and studies of tropical reef ecosystems.

The 2015 St. Croix sampling effort was conducted by participants from multiple agencies and institutions: NOAA/NOS National Centers for Coastal Ocean Science (NCCOS), NOAA/NMFS Southeast Fisheries Science Center (NOAA/NMFS), National Park Service (NPS), the University of the Virgin Islands (UVI), U.S. Environmental Protection Agency (EPA), and Virgin Islands Department of Planning and Natural Resources (DPNR).

The monitoring objectives were to determine status, trends and variability in exploited and non-exploited reef fish and benthic communities within the USVI territories. Monitoring also addressed inside versus outside management zones using measures such as relative abundance (density), spatial distribution, size structure and diversity. Based on the pilot work conducted in St. Croix in 2013, it was decided that 254 survey locations would be sufficient to characterize hard bottom habitats in these strata and establish baseline fish and benthic community information.

US EPA divers, led by Jed Campbell, conducted daily diver surveys of coral habitat by measuring/observing coral demographics, line point intercept (LPI), topographic complexity and fish species composition along a 25-meter transect. Completion of the Program's overall goal brought into play an ability to estimate biological conditions of coral populations and to help understand associations between coral reefs, reef fish, soft corals, and other macro biota. Estimates of conditions can be used to compare species and populations of coral across reef types, study areas and geographic regions, and can be related to water quality, human influences and bleaching/disease status. Species identification, colony size and the percent of tissue mortality on each colony were recorded. These observations lead to a variety of conventional and unique assessment endpoints which will assist resource managers in tracking changes in coral condition.

#### **Type of Equipment Used:**

- Standard Scuba
- Superlite - 27 with communications and surface supplied NITROX
- PINGER SYSTEM - Divers used the underwater acoustic locating system
- Surface supplied system with AGA masks and wireless communications
- AGA mask on standard scuba
- NITROX
- Drysuits
- Scoters

#### **Dive Locations:**

Diving operations were conducted in the Gulf of Mexico, nearshore and inshore and offshore waters of Pensacola, St. Croix, and fresh water lakes and springs.



**Total Number of Dives:** 74

**Diving Accidents or Incidents:** None. No serious injuries to report.

**Review of GED Diving Personnel:**

<u>Name</u>	<u>Sex</u>	<u>Certification Level</u>	<u>Status</u>
Jed Campbell	M	UDO/Divmaster	Qualified
Deborah Santavy	F	Divemaster	Qualified
Sherry Vickery	F	Divemaster	Qualified
Bill Fisher	M	Scientific Diver	Qualified
Becky Hemmer	F	DiveMaster	Qualified
Peggy Harris	F	Divemaster	Qualified
Cheryl Hankis	F		

**Remote Divers**

<u>Name</u>	<u>Sex</u>	<u>Certification Level</u>	<u>Status</u>
Ross Lunetta	M	Scientific Diver	Qualified
Dorsey Worthy	M	Scientific Diver	Qualified

**UDO Time Spent on National Diving Program:**

**ACTIVITY** **TIME (DAYS)**

**Managing the Diver Training Courses** 25

**UDO Duties** 30

**Review of Documents**

- a. Diving Safety Policy
- b. Dive Physical Form
- c. EPA Health and Safety Manual Boating Operations

**Performing Action Items**

- a. Researching equipment
- b. Obtaining quotes for equipment and diver training
- c. Testing new and old equipment prior to training

**Preparation for and Attendance at Meetings**

- a. Annual Diving Safety Board Meeting
- b. Management briefings

**Technical Assistance to Other Units**

- a. Divers served as coral reef specialist assisting other Regions and Agencies

- b. Two remote divers from RTP are being managed by the GED UDO
- c. Region 6 dive plans are being reviewed by GED UDO
- d. Assistance to Region six for Dive Unit audit by SHEMD

**Unit Diving Officer:** Jed Campbell  
850-934-9395 (Office)  
850-934-2403 (Fax)

**MEMORANDUM**

**SUBJECT :** ANNUAL NATIONAL DIVER TRAINING REPORT

**LOCATION :** EPA DIVER TRAINING CENTER  
GULF BREEZE, FLORIDA

**TIME PERIOD:** October 20-24, 2014

**FROM :** Jed G. Campbell, Director, EPA National Diver Training Program

**TO :** EPA DIVING SAFETY BOARD  
SAFETY HEALTH AND ENVIRONMENTAL MANAGEMENT  
DIVISION (SHEMD)

NHEERL Gulf Ecology Division in collaboration with the Office of Water, which sponsored the EPA National Diver Training Program, October 20-24, 2014 at the EPA Diver Training Center in Gulf Breeze, Florida.

The Gulf Ecology Division hosted the EPA National Diver Training Program to train EPA scientists in Scientific Diving techniques. There were candidates from Federal, State and Local agencies. Participants from EPA Regions 1, 3, 4, 6, 8, 10, AED, GED, and WED were represented at the training as scientific diver candidates, Divemaster candidates, and advanced ops. Also in attendance were the University of West Florida, local first responders, the State of Tennessee, and other diving experts from across the country. There were over 35 participants involved in the training. Scientific Diving International (SDI), Jed Campbell, Training Director, and several EPA Unit Dive Officers provided the classroom lectures.

Participants underwent a rigorous physically and mentally challenging training program. They were instructed in both time tested and cutting edge techniques to allow them to safely and professionally perform their research and other duties underwater. The Gulf Ecology Division is a unique facility with a location which is ideally suited for this type of training. Access to clear warm shallow marine water, easy access to areas of deep clear open water, and immediate access waters of extreme limited visibility. We have a state of the art onsite training facility, docks to allow in water training directly from the facility, and a fleet of vessels for both inshore and open water training. During these operations the participants completed over 200 training dives. Listed below are a few of the aspects of the training that were covered and practiced during the training.

Diving Accident Management	Underwater to surface communications
Oxygen Administration	Compressed Gas Handling
Principles of Scientific Diving	Lift bag practice
EPA Diving Safety Policy	Diving Physiology
Oxygen Enriched Air Diving “Nitrox”	Black out Diving
Surface Supply Diving	Contaminated Water Diving
Dry suit Diving	Diver to diver communications
Full Face Positive Pressure Mask	Underwater Video and photography
Decontamination procedures	

**Expected Outcome:** Participants will return to their respective Regions and Agencies with the skills necessary to safely perform the scientific diving needs of the Environmental Protection Agency. They will return with the confidence and ability to perform those duties in an efficient and professional manner. The divers are trained to the guidelines of EPA’s stringent diving safety policy to ensure uniformity in safety procedures used across all dive units in the country. EPA continues to preserve its diving safety record of over twenty years of diving, about 40,000 dives performed, and no serious diving accidents.

## ANNUAL REPORT OF DIVE TRAINING AND OPERATIONS FOR FY15

**Diving Unit:** EPA Region 6 (Dallas Office and Houston Laboratory combined)  
Bill Luthans – Unit Dive Officer; Brandi Todd – Alternate UDO

### A. Diving Activities

#### Diving Operations and Locations

The Region 6 dive team undertook few operations in Fiscal Year 2015, but continued to develop its capabilities to serve the region; especially in the area of contaminated water diving and assessment of sediment conditions. The Region 6 Dive Team supported 3 new divers to complete Science Diver certification training and named an Alternate Unit Dive Officer in order to help ensure sustainability of the team and to plan for succession of leadership in light of the anticipated retirement of its Unit Dive Officer.

Still developing expertise and equipment for contaminated water diving, Region 6 worked closely with Alan Humphrey, UDO of the ERT Dive Unit in New Jersey (and newly elected Chair of the Dive Safety Board). Alan assisted in planning and execution of follow-up operations at the Donna Canal Superfund site. That investigation relied on directing divers in extremely low visibility, contaminated water to install and subsequently retrieve passive sediment sampling devices to determine the potential for PCB uptake by benthic biota as part of ongoing efforts to understand the source and potential future risk of PCB detected in fish tissue.

Currently, Alan Humphrey is also assisting the Region 6 Dive Team to plan and execute an assessment of the physical integrity of an underwater cap over contaminated sediment and potential of migration of dioxin into the San Jacinto River from the San Jacinto Waste Pits Superfund Site in Houston, Texas. A scoping visit was completed, and planning is currently underway for at least four diving operations: a first to assess physical integrity of the cap and confirm methods for sampler installation into the armored cap, and least three additional operations to install and then retrieve sampling devices to measure dioxin in pore space above the cap and elsewhere.

The Unit Dive Officer continues to meet with other EPA programs such as water quality protection and enforcement to explore areas where divers can enhance program effectiveness.

With the expectation of ongoing work, especially in Superfund, The Region 6 Science Dive team has been able to maintain management support and very modest funding levels for equipment purchases and maintenance.

Continued

Dive Statistics (excluding personal, non-EPA dives)

Dive Type	Number of Dives	Number of Exposure Days
Science	22 (w/diver, standby, tender)	8 (2 divers X 4 days)
Training	45 (includes EPA Science Diver training)	24 (5 divers by various # days)
Proficiency	24	10 (5 divers X 2 days)
<b>Total</b>	<b>91</b>	<b>42 Diver Days (includes Science Diver Training for 3 people)</b>



EPA Divers at Donna Canal Superfund Site, San Jacinto Waste Pits and Science Diver Training at the Gulf Environments Division Laboratory on Sabine Island, Florida.

### B. Diving Accidents, Injuries, or Incidents

No accidents, injuries or other incidents to report during FY15 from Region 6.

### C. Dive Training

At the invitation of the Director of academic diving at Texas State University (Clear Springs Lake) in San Marcos, Texas; the Region 6 Dive Team was able to conduct proficiency/training dives at their facility. A portion of this spring-fed historical site is equipped with an obstacle course designed to enhance buoyancy control. The faculty head of the diving program, Fritz Heinemann, provided informal instruction on finning and turning techniques used by archeology divers to prevent kicking up sediment.

Three new divers (as listed in Section E) attended EPA Science Diver training and were certified as new divers. Luthans and Todd attended “Advanced Operations” Training including an introduction to Dive Rite rebreathers.

#### **D. Dive Equipment**

All dive team regulators, depth gauges and tanks are currently undergoing annual inspection and service (awaiting approval and funding of procurement request). All BCs older than one year were professionally serviced at the beginning of the FY.

The UDO for Region 10, Sean Sheldrake, has loaned a Viking drysuit and provided a new prototype Aqua Lung buoyancy compensator suitable for contaminated water diving to the Region 6 team to use on a trial basis.

At this point, the Region 6 Dive Team is equipped to perform either contaminated or uncontaminated water diving with respect to drysuits, full face masks (Guardians), and Hollis or Aqua Lung BC's amenable to decontamination, and tethered diving on communications. The Region is currently investigating obtaining equipment to support operations with surface supplied air.

In order to meet all requirements of the dive safety manual, the Region upgraded its ability to provide oxygen to a non-breathing diver with manually-triggered ventilation, procured an Automated External Defibrillator, and replaced and augmented its First Aid and blood pressure monitoring equipment. Procurements are either completed (AED) or underway (MTV O2 delivery).

#### **E. Review of Unit Diving Personnel**

Bill Luthans (M) – Unit Dive Officer and Dive Master.

Brandi Todd (F) – Completed Divemaster training - 100 working dives mark reached. Nominated as Alternate Unit Dive Officer.

Nick Gannon – (M) Science Diver (located in Houston). Would like to send Nick to Divemaster Training when next available. Has been on a detail to HQ – need to recertify.

#### New Divers added in October 2014 following Science Diver Training at EPA

Valmichael Leos (M) – Also serves as a Remedial Project Manager in Superfund; and thus already enrolled in H&S training and Medical Monitoring.

Ashley Howard (F) – Certified as an Emergency Medical Technician.

John Penland (M) – Also serves as an enforcement program inspector and thus already participating in H&S training and Medical Monitoring.

Currently Inactive Divers

Leonard Schilling (M) – Science Diver (has voluntarily suspended dive team membership due to increased obligations at work and home).

**F. Time Spent on the National Dive Program**

Luthans assisted part time and Todd full time with FY15 Diver Training on Sabine Island. Luthans has participated in review and revision of the Dive Safety Manual to help update it.

## ANNUAL REPORT OF UNIT DIVE TRAINING AND OPERATIONS

**Diving Unit:** [EPA Region 10  
www.epa.gov/region10/dive](http://www.epa.gov/region10/dive)

**Time Period:** FY 2015

### DIVING ACTIVITIES

#### 1. Describe each type of diving operation.

During FY15 the Region 10 unit had 6 scientific work diving events, some of which were full week operations. There were also 4 formal training events to practice critical rescue and scientific data collection techniques. There were 3 projects in support of Superfund. 3 projects were related to natural resource, water, or habitat quality issues. One work projects this year involved use of free swimming SCUBA, 1 was via tethered SCUBA, and 4 were surface supplied. Training was conducted to maintain proficiency with all diving modes, rescue, sampling, and underwater photography. Region 10 had 32 work dives and 43 training dives. Overall, Region 10 had a total of 148 dives (including requalification and off-duty dives). During FY2015, Region 10 (R10) had the following work projects:

1. [Duwamish Superfund Site Sampling](#). Divers supported the Superfund program by using their scientific sample collection expertise in deploying passive samplers in this estuarine area to evaluate bioavailability of PCBs for a study led by principle investigators at MIT. EPA divers both provided in water sample collection support, as well as, invaluable QA/QC formulation for the project QAPP to ensure the data was of high quality in making cleanup decisions — two separate dive operations for deployment (July 2014) and retrieval (FY15, October 2014 and June 2015). Possible pollutant exposure: PCBs, PAHs managed by full diver encapsulation and potable water decon. This operation was supported by ERT.



Photo of Chad Schulze holding a core sample to turn over for sample processing on the Wooldive.

2. [Mulkiteo Sample Collection](#). In an ongoing R10 EPA partnership with Washington State Department of Ecology to leverage resources for priority work in estuary protection, our Dive Unit conducted an operation at Mukilteo,



WA. Divers evaluated the status and condition of entangled water quality monitoring equipment (two CTDs (conductivity, temperature, dissolved oxygen) mounted on one deployment set-up) to determine and execute a safe retrieval by the top-side Ecology crew. Observations of sea stars for health, in light of the massive sea star wasting epidemic, was also undertaken.



WDOE CTD entangled in a derelict crab pot line.



Photo: Lisa Macchio directs Rob Pedersen to his task.

3. [Coquille River Ocean Dredge Material Disposal](#) Site Habitat survey. Region 10

divers worked with TChris MochonCollura from ORD-Western Ecology Division in July to conduct a habitat survey of possible areas for shifting of dredge material spoils. Unfortunately the river bar was quite treacherous to cross, and crossing was restricted after the first day of diving, so the full survey was not possible. No contaminant exposure known.



Photo: Diver TChris Mochon Collura conducts a video transect; photo by Sean Sheldrake

4. [McCormick and Baxter Superfund Site Five Year Review Sampling](#) . Region 10 divers worked with the Environmental Response Team (Alan Humphrey) on deployment of passive samplers on a superfund site on the Willamette River. As with previous deployments, the passive samplers will give an accurate picture of whether the cleanup cap is working by directly measuring porewater concentrations of contaminants of interest. ERT and R10 expertise in this area continues to be in high demand in writing guidance and developing site specific quality assurance plans. Contaminant exposure might include PAHs.

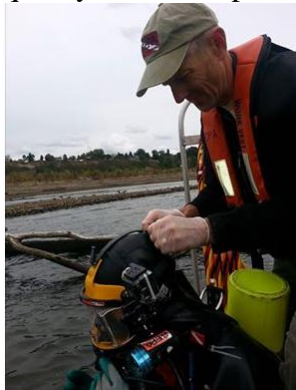


Photo: Sean Sheldrake gets Portland based diver Anne Christopher ready to collect a sample.

For more Region 10 Dive Unit project information, see:

<http://yosemite.epa.gov/r10/OEA.NSF/webpage/Dive+Team+Projects> and [www.facebook.com/EPADivers](http://www.facebook.com/EPADivers)

Training projects included (no pollutant exposure expected):

1. Region 10 sent two divers to the USC Wrigley campus for rescue training in October (Richmond and Christopher). Funds will be requested to send Kris Leefers in FY 2016.
2. Rescue training at the Manchester Lab campus- December 2014
3. Rescue training at the Manchester Lab campus- February 2015
4. Rescue training at the Manchester Lab campus- April 2015

Also, DAN advanced first aid was provided to the team by in house instructor Chad Schulze, saving cost and travel on neurological examination and oxygen administration.

Projects deferred to others or cancelled.

The dive unit remains in high demand to conduct scientific surveys and provide HASP review for contracted scientific diving operations. This year two projects were deferred to the ROV group in Big Lake in Holy Cross, AK (3/19/15) site assessment and a marina dredging project video survey requested by R10 program office ETPA.

2. Location of diving operations (list each state and type of water body).

Scientific work and training dives were conducted inshore and offshore in areas of Washington and Oregon including estuarine river systems such as the Duwamish and Willamette.

3. Dive Statistics.

Number of Dives

Work	32
Training	43
Other (off-duty & proficiency)	73
<b>Total</b>	<b>147</b>

Number of Diving (exposure) Days (=sum divers/days)

Work	15
Training	28
Other	38 (Non diving (hyperbaric exposure training in chambers/Tending Assist/Non diving DM/+ OD = Off Duty)
<b>Total</b>	<b>81</b>

**DIVING ACCIDENTS, INJURIES, OR INCIDENTS**

1. Description of all accidents, injuries, and incidents (use separate page if necessary and include copies of applicable forms, e.g., EPA Form 1440-9, CA-1, or CA-2).

No injuries reported. All Region 10 divers receive training during annual HAZWOPER refreshers which covers reporting processes, including form CA-1, or worker's compensation claims.

One accident was reported during a joint WED/R10 operation where the 1 ton dive van hit a deer during early morning hours. The driver reacted well by not swerving and kept the van under control. A deputy sheriff was called to put down the deer and the van was later repaired for approximately \$2500.

Another dive van incident involved brushing a parking lot pillar; damage is estimated at \$1500 but repairs have not yet begun due to preparation and cleanup from dive operations every other week.

For more information on R10 dive safety protocols, see:  
<http://yosemite.epa.gov/r10/oea.nsf/Investigations/Dive+Team+Safety>

## **DIVE TRAINING**

1. Describe the type of training conducted/received, and list the name, office and level of certification for each trainee (use separate page if necessary).

Approximately \$3400 was spent on dive training with FY 15 funds.

Divers are current for basic first aid, CPR, AED, Oxygen Administration, neuro examinations, and the annual 8-hour Hazwoper refresher. Most training was sponsored by our Dive unit and field operations. (\$300)

Kris Leefers was sent to 40 hour hazwoper to support R10 Superfund, RCRA, and Office of Water dive operations. (\$700)

ERT and R10 both attended AAUS in 2015 (crossing FYs) and learned a great deal from interacting with DSOs at universities as well as government institutions. (\$800)

Two divers were sent to rescue training on Catalina Island. These divers sponsored a local rescue training dive in December and February to transfer their knowledge to the rest of the unit, developing more efficient rescue techniques, including the "backboard slide" where divers use the backboard to quickly slide an injured diver onto the boat deck after doffing gear (where no mechanism of injury to the neck or spine is present). Tuition cost: \$1400.



Photo: Diver Kris Leefers is slid up the backboard to get over the transom by tenders and her dive buddy while gear is ditched or left in the water. Without a mechanism of neck injury, this technique saves enormous time in rescue over full back boarding.

Unfortunately due to the lack of new divers, some training funds had to be returned to the region for other uses this year.

## 2. List any training needed.

In 2015, the usual refreshers for first aid, CPR/AED, oxygen administration/neuro examinations, and 8-hour health and safety are required annually (or biannually) for some first aid courses.

Hazwoper 40 hour training is planned for any new divers in 2016.

Region 10 will be renewing our 2 day wilderness first aid in November 2014 with RMI and sending two divers to rescue training at USC Wrigley in October 2015.

In late 2016 or 2017, R10 will sponsor a full face mask overhaul technician class at the regional office to save funds on overhaul and increase safety by allowing for divers to perform full tear down field repairs of the equipment as needed.

Region 10 will seek to continue its presence at AAUS conferences to benefit the dive community with EPA dive program knowledge, as well as learn from others in matters of both scientific method and safety.

For additional details on R10 Dive Training, see:

<http://www.epa.gov/region10/pdf/diveteam/training.pdf>

For additional details on R10 Dive Publications, see:  
<http://yosemite.epa.gov/R10/oea.nsf/investigations/divepubs>

## DIVE EQUIPMENT

Region 10's budget remained constant in 2015 with a service budget of approximately \$8,000 and \$17,000 for equipment. Additionally, capital equipment purchases amounted to approximately \$28,000 in additional equipment improvements for safety and productivity.

1. All divers without spare Viking suits again had new suits purchased for them this year. Due to the 3 months it is taking Viking to make new suits, a suit failure can take a diver out of the rotation for too long without a spare suit. Leakage is unacceptable for most R10 dive operations due to contamination, or cold stress. Due to the contamination and frequent use of R10 suits, many are only lasting five years before catastrophic failure (patch glue fails to adhere at this point). All suits are now being labeled with "EPA" for easy ID of gear as government owned/issued and for easy ID of divers in photos sent to various publications. Brand justification\* available for contracting purposes.
2. One additional canon still camera, strobe, and sola light for video was purchased.
3. New aqualung Brotula BCDs were purchased (\$500/ea.) for dive program contaminated water diving unit use and feedback—R10 will evaluate these against the OMS IQ pack (\$700 /ea. if in production) and ERT will evaluate there's against the Hollis enviro Pro (\$1k/ea.).
4. 4 new Viking Superlight 17 mating suits were purchased to share with ERT. R10 will put on a training dive in Seattle and overhaul ERT S17's in FY16 to maintain a high state of preparedness for medium to high level contaminated water diving.
5. A new surface supply control box was purchased (\$8,000) as the KMACS5 control box purchased previously is only intended to be used with air/21% oxygen. To enhance safety for the dive unit, all tanks will be converted to nitrox which required purchase of a new AMRON control box. Brand justification is available to help with other unit's contracting needs.
6. New hoses for all contaminated water diving equipment were purchased for installation in 2016 (Hanson locking quick disconnect), \$3,000.
7. New manifold switch blocks were purchased to replaced older emergency gas switch blocks in 2016, \$3,000.
8. Remaining regulators were switched over to DIN valves, allowing more secure connections to be made on emergency gas supply bottles, \$3,000.
9. Funding was made available for a membrane compressor purchase this year, but upon further review, lab and regional office dive staff determined that it would be more cost effective and efficient to continue to rely upon local shops for air fills (those that do air tests) and transport high pressure tanks to projects across R10.

\*Many purchases above required a “brand justification” to allow the purchase of a specific brand to be compatible with polluted water, technician training already purchased, and/or spare parts already in inventory which R10 would be happy to share with any other dive unit to ease the contracting process for new equipment.

For details on R10 Dive Team equipment, refer to the web site:  
[http://www.epa.gov/region10/pdf/diveteam/equipment\\_list.pdf](http://www.epa.gov/region10/pdf/diveteam/equipment_list.pdf)

### REVIEW OF DIVING PERSONNEL

<u>Name</u>	<u>Certification Level</u>
Sean Sheldrake	Regional Diving Officer, Divemaster
Chad Schulze	Divemaster, UDO Alternate
Rob Pedersen	Divemaster, UDO Alternate
Lisa Macchio	Divemaster
Rob Rau	Divemaster
Adam Baron	Scientific Diver
Anne Christopher	Scientific Diver
Brent Richmond	Scientific Diver
Kristin Leefers	Scientific Diver

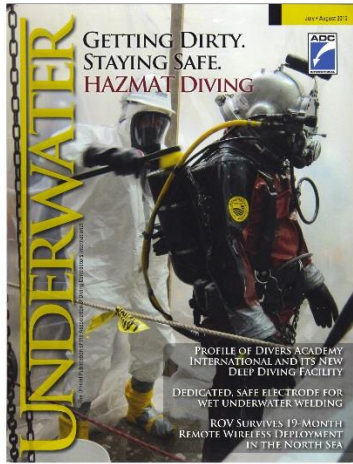
Due to hiring cutbacks, R10’s operations are now limited by lack of available trainees, though training, equipment, and service funding is available to support up to 12 divers. Requests continue for ERT dive unit support to ensure full support of R10 programs.

For more information: [www.epa.gov/region10/dive](http://www.epa.gov/region10/dive)

### **TIME SPENT ON THE NATIONAL DIVE PROGRAM**

<u>ACTIVITY</u> (identify and describe)	<u>TIME</u> (hours)
Assistance with the EPA Diver Training Course (1)	(normally 120—lesson prep in FY 14 for class held in 2015) 40
Outreach on behalf of EPA dive program ( <a href="#">Facebook</a> , “ <a href="#">It’s all about Science</a> ” blogs, design of new OneEPA dive program web page, <a href="#">Flickr</a> )	200

Outreach continues on behalf of the dive program, and will soon include work to prepare a new national diving web page. Also of interest is a diving post on with the Association of International Dive contractors (July/August issue) in partnership with ERT.



**HAZMAT**

## Getting Dirty. Staying Safe.

By SAMUEL LEE

**"IT'S A DIRTY JOB, BUT** it's also a high-stakes one. The diver's job is to clean up the messes that other people have made. It's a job that's often overlooked, but it's one that's essential to the safety of the environment and the people who live in it. The diver's job is to clean up the messes that other people have made. It's a job that's often overlooked, but it's one that's essential to the safety of the environment and the people who live in it. The diver's job is to clean up the messes that other people have made. It's a job that's often overlooked, but it's one that's essential to the safety of the environment and the people who live in it.



**HAZMAT**

When it comes to hazmat diving, there are a lot of different ways to do it. Some people use surface-supplied air, while others use scuba. Some people use dry suits, while others use wet suits. The choice of equipment depends on the specific job and the environment. Hazmat diving is a specialized field that requires a lot of training and experience. Divers must be able to identify and handle hazardous materials safely. They must also be able to work in confined spaces and under pressure. Hazmat diving is a challenging and rewarding job that can make a big difference in the world.

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*"When the EPA needs the professional help of skilled commercial divers, they insist that they be ADCI certified."*

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**HAZMAT**

**"Risk factors must be controlled and mitigated when performing HAZMAT diving operations."**

Risk factors must be controlled and mitigated when performing HAZMAT diving operations. This includes factors such as equipment failure, environmental conditions, and human error. Divers must be trained to recognize and respond to these risks. They must also have proper backup and support. Hazmat diving is a high-risk activity that requires a lot of preparation and planning. Divers must be able to handle any situation that may arise. They must be able to work in a team and communicate effectively. Hazmat diving is a challenging and rewarding job that can make a big difference in the world.

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Performing Action Items (Meeting Minutes/review and comment on DSM revisions, equipment recall notices) 100

Technical assistance to other units, Regions, other state & federal agencies (e.g., NOAA CWD support)



Other activities:

- Preparation for and dive team meetings 20
- All team members that participated in various public outreach, education events, including two earth day events for 350+ children. 40
- Preparation for training events 30
- Development of polluted water protocols & SOPs 50



Figure: Screen shot of the EPA Divers Facebook page

COST OF TRAVEL FOR NATIONAL PROGRAM

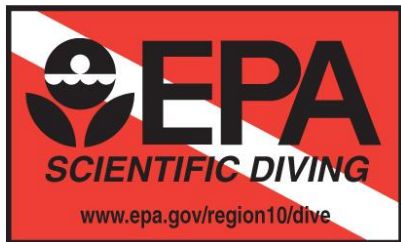
COST

List by trip:

16)

1X for GED/ DSB

\$1000k (for trip in FY



## ANNUAL REPORT OF DIVE TRAINING AND OPERATIONS

Diving Unit: **Western Ecology Division**  
ORD/NHEERL

Time Period: **Oct. 2014 – Sept. 2015**

### A. DIVING ACTIVITIES

1. Dive activities during FY 2015 consisted of working, training and proficiency dives. Working dives included dock piling maintenance (cleaning), inspection of a multi-parameter water quality instrument deployment housing, and dredge disposal site monitoring.

One diver is involved with the Oregon Coast Aquarium and conducts a number of dives to help with aquarium maintenance on a monthly basis.

Due to additional work duties, one diver (Ted DeWitt) is, once again, considering stepping away from the WED dive program.

2. Location of work dive operations: GED, Sabine Island; Yaquina Bay, Newport, OR; Bandon, OR – offshore.  
Location of work related proficiency dive: Netarts Bay, Netarts, OR
3. WED divers continue to have difficulty maintaining proficiency by diving at bimonthly intervals, and overall the need to dive has lessened over the last few years due to a shift in projects. Management still supports diving operations at the division.

Dive Statistics:

Type of Dive	Number of Dives	Number of Exposure Days
Working	4	3
Proficiency	45	23
Training	7	4
<b>Total</b>	<b>56</b>	<b>30</b>

4. Dive Audit:

Self-audit completed for FY15

(External audit - completed in July 2011.)

## **B. DIVING ACCIDENTS, INJURIES, OR INCIDENTS**

None

## **C. DIVE TRAINING**

Mochon Collura received intro-to-rebreather training at GED in Oct. 2014 during EPA diver training.

Reichman and Mochon Collura provided NAUI FA/CPR and DAN 02 training to dive team members on 1 and 2 Dec. 14.

Several divers were 're-qualified' by Mochon Collura following extended absences from diving.

## **D. DIVE EQUIPMENT/MAINTENANCE**

Date	Diver	Item	Cost
12-Nov-14	Team	CPR manikins	\$576.09
17-Nov-14	Team	FA/CPR and O2 training info	\$213.49
17-Nov-14	Team	Dive Computer	\$280.20
9-Dec-14	Team	O2 cylinder fills	\$27.50
13-Feb-15	Team	Regulator and BC annual servicing	\$325.00
13-Feb-15	Team	Dive Cylinder VIS (8)	\$120.00
13-Feb-15	Mochon Collura	Ear plugs	\$15.00
7-April-15	Mochon Collura	Dive light	\$49.00
		Total	\$1606.28

## **E. REVIEW OF DIVER PERSONNEL**

Diver	Certification	Sex	Status
T Chris Mochon Collura	Divemaster, UDO	Male	Qualified

Mark Johnson	Divemaster, Alt. UDO	Male	Qualified
Chris Andersen	Divemaster	Male	Qualified
Jim Kaldy	Scientific Diver	Male	Qualified
Jay Reichman	Divemaster	Male	Qualified
Ted DeWitt	Divemaster	Male	Not Qualified

#### F. TIME SPENT ON NATIONAL DIVE PROGRAM

1. Time Expenditures:	hrs.
Assistance with Diver Training	45
Dive Program Audit	2
Review of Documents	8
Performing Action Items	--
Preparation for and Attendance at Meetings	24
Technical Assistance to other Units	--
2. Fiscal (monetary) expenditures	
DSB Meeting	\$2500.00
Training at GED	\$0.00
Diver Physicals	\$2750.00
New Gear	\$920.29
Gear Maintenance	\$685.99
Gear Repair	\$0.00