

Oil Spill Prevention, Administration and Response (OSPAR) Fund

Annual Report FY 2010



Inundated Wastewater Treatment Facility during the Flood of 2010

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Introduction

The Oil Spill Prevention Administration and Response (OSPAR) Fund, RIGL Chapter 46-12.7, was created in 1996 (modifying a prior statute adopted in 1990) in the aftermath of the environmentally devastating North Cape oil spill. The fund was created, and is continually supported, by the assessment of a \$0.05 per barrel fee on petroleum products received at marine terminals in Rhode Island. The purpose of OSPAR is multi-faceted. It provides funds to promptly respond, contain and remediate oil spills. OSPAR funds are also utilized to maintain a state of emergency response readiness through responder training and equipment acquisition. The fund further provides, in the event of a significant release, funding for emergency loans to workers affected by a spill as well as damage compensation of legitimate claims that cannot otherwise be compensated by responsible parties or the federal government. The funds and the operations conducted in accordance with the statute are managed by the Rhode Island Department of Environmental Management (DEM).

Section 46-12.7-7 of the statute requires the DEM Director to submit an annual report to the legislature on the OSPAR Fund. This report summarizes the status and use of the fund for FY 2010.

Revenues & Expenditures – FY2010

The OSPAR account started FY 2010 with a balance forward of \$4,676,411. During FY 2010, the \$0.05 per barrel fee resulted in the collection of \$1,999,609 after the ten percent cost recovery fees. Personnel, operating and project expenditures for FY2010 totaled \$1,954,815 that included \$153,000 for PORTS Navigational System for Narragansett Bay as well as a transfer of \$247,778 to Coastal Resource Management Council (CRMC) for the Coastal and Estuarine Habitat Restoration Trust Fund. In addition, \$199,013 was transferred from the OSPAR account to the River, Bays and Watersheds Coordination Teams. A detailed review of expenditures is provided in the expenditure section of the report.

Figure 1 provides an overview of the OSPAR Fund revenues and expenditure activities since fiscal year 2001.

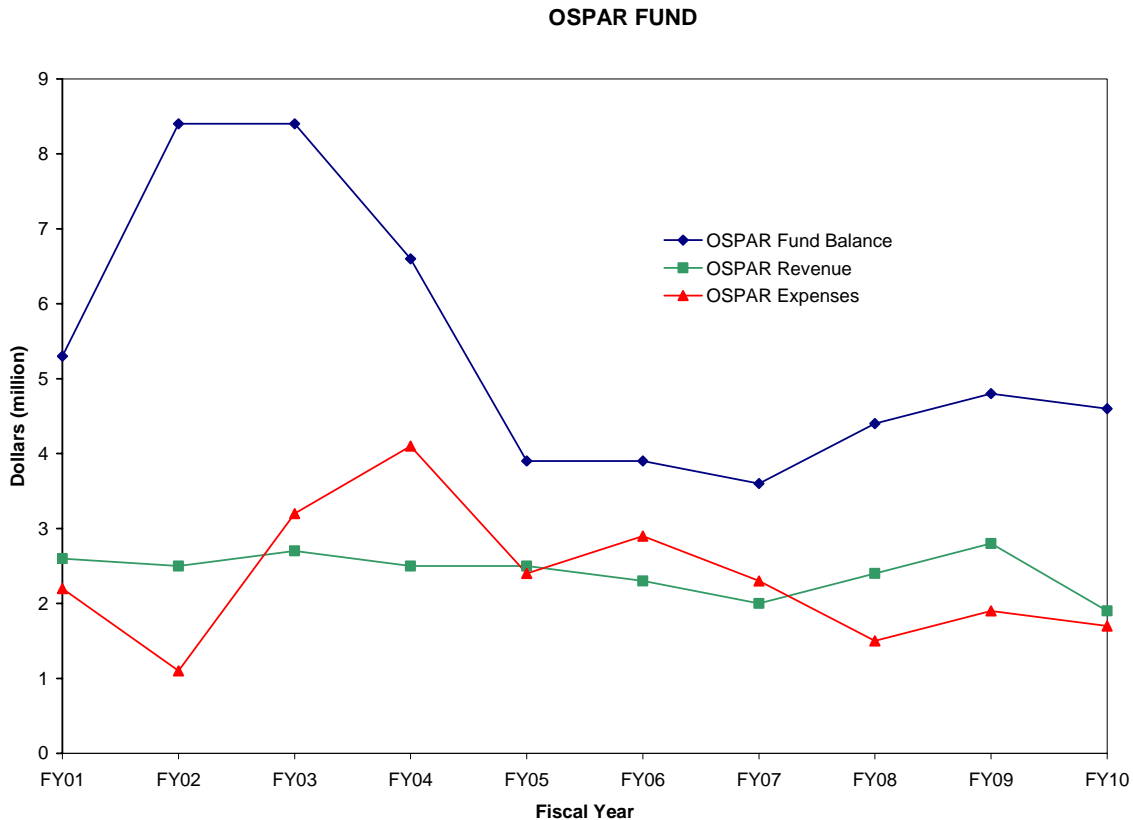


Figure 1. OSPAR Fund

The OSPAR fund reserve balance has not recovered since being utilized as state match for the Providence River dredging project in fiscal years 2003 and 2004. The project restored the shipping channel to the federally authorized dimensions of 40 foot depth and a channel width of 600 feet. Six million cubic yards of dredged material were removed during the project. The fiscal impact to OSPAR was 3.2 million dollars in FY2003 and 4.1 million dollars in FY2004.

Previously, net revenue, while relatively constant, had exhibited a declining trend until FY08. This is partially explained by an increase in cost recovery from 7 percent to 10 percent. In FY2010 the downward trend in revenue has reappeared; however, this year expenses have remained relatively constant. The fall in revenue appears to be a result of a decrease usage of petroleum for heating and transportation.

ACTIVITIES– FY2010

Summary

With regard to pre-spill preparedness, the OSPAR Fund was used in FY2010 for personnel and operating expenses. Personnel costs assigned to the OSPAR Fund included the

following: Office of Emergency Response (partial salary of Emergency Response Administrator and full salary of technical assistant) and partial salaries of four first responders; DEM GIS Supervisor (partial); staff from DEM Office of Waste Management. These salary and benefit costs totaled \$753,330. Major operating expenses charged to the OSPAR Fund included: vehicle readiness and maintenance (\$180,440); emergency response equipment, cleanup services, maintenance and supplies (\$4,455); computer hardware, software, telecommunications and miscellaneous (\$12,211), Pilot Navigation System (\$153,000), Audubon Society Narragansett Bay National Estuarine Research Reserve Coastal Training Program (\$79,653) and Dawley Park building construction (\$309,175). These operating expenses totaled \$738,838.

In FY2010 the Office of Emergency Response, which operates as an all hazard response program and incorporates the oil spill prevention and response functions of DEM, continued to be extremely active responding to oil spills, hazardous material incidents and other state emergencies. There were 839 emergency response investigations undertaken by the Office during FY2010. The incidents comprised two primary categories, hazardous material responses and oil spills. Seventy-nine percent of these responses, a total of 664 incidents, were related to oil spills.

Figure 2 tracks the number of emergency response activities for a ten year period. While there is some annual variation in the number of emergency responses, the trend of the data demonstrates an increase. Activities undertaken by the Department's emergency response team have, on average, increased since 1996, placing ever increasing pressure on the limited available response resources. The downward slide in the FY09 and FY10 emergency response activities is due to the fact that seaweed* related responses have not been included in the tally since it became an issue in 2003.

* The seaweed also known as sea lettuce, or *Ulva Lactuca*, is green algae that grows near and below the low tide mark. Under normal conditions it is beneficial to the environment. However, under certain conditions that may include excessive nutrients and warmer water temperatures, the growth of sea lettuce explodes. When the seaweed dies, wind and ocean currents can push and keep the decaying seaweed to the shoreline where it becomes stranded in the shallow water and forms large green mats. As these mats decay they can produce hydrogen sulfide (H_2S), a gas with a foul or rotten egg odor. The decomposition of excessive sea lettuce in the Conimicut section of Warwick, the Still House Cove section of Cranston and the Riverside Terrace section of East Providence has resulted in the production of significant concentrations of H_2S gas. These episodic H_2S events create nuisance conditions and potential health concerns for those living in the area with compromised respiratory functions. Since the establishment of the program in 2003 several hundred cubic yards of sea lettuce have been removed from the environment and composted by the local cities impacted. From 2003 until 2006 the sea lettuce had been removed manually with OER personnel and prisoners. In 2006 the OER purchased a surf rake and John Deere tractor to more effectively remove the sea lettuce from the beaches, reducing the potential for the formation of H_2S gas. Under the auspices of the OER, two seasonal employees, an equipment operator and a technical support intern, work the beaches to remove the seaweed during the summer months. As a result, complaints have been addressed by the ongoing seaweed removal and have not been included in the tally.

EMERGENCY RESPONSE ACTIVITIES

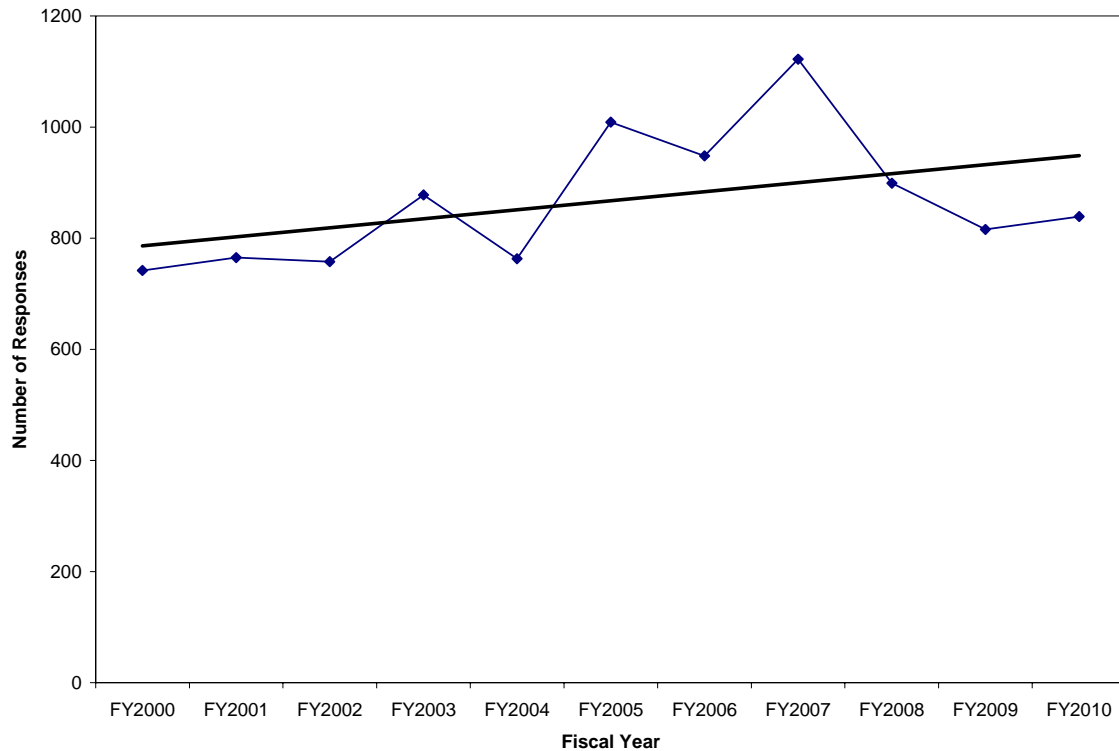


Figure 2. Response Activities

FY2010 EXPENDITURES

Personnel

- Partial salary and benefits of DEM Emergency Response Administrator
 - Partial support for four other members of the DEM Emergency Response Team.
- All five personnel serve as first responders and are also responsible for administering the OSPAR Program both in terms of pre-spill readiness and post-spill response.
- A technical assistant is also part of the Emergency Response Office and the OSPAR program.

- Partial support of salary and benefits of DEM geographic information system (GIS) Supervisor.

This individual is responsible for maintaining a comprehensive internet mapping application for planning, assessment and response to oil spills or other environmental emergencies in RI marine waters. This individual is also responsible for developing and maintaining a complete data inventory on an internal network capable of supporting responders during an oil spill or other environmental emergency. In the event of a spill, the GIS Supervisor coordinates the collection and dissemination of spatial data documenting extent of spill, fish kills, etc. In the aftermath of a spill, support is also provided for natural resource damage assessments to aid in the collection of damages from responsible parties.

- Partial salaries and benefits for personnel from DEM Office of Waste Management.

Personnel Costs

	\$ 753,330
Major Operating Expenses	
Vehicle Maintenance & Readiness	\$ 189,645
Cell phones, pagers, IT Support	\$ 12,211
Supplies: Office, Scientific, Miscellaneous	\$ 4,455
Emergency Response Vehicle Purchase/Replacement	\$ 0.00
Equipment, Repairs & Cleanup Services	\$ 0.00
	<hr/> \$ 206,311
Capital Projects	
Narragansett Bay PORTS (Pilot Navigation System)	\$ 153,000
Design/Construction Dawley Park ER/OSPAR Facility	\$ 309,175
	<hr/> \$ 462,175
Other Projects supported by the OSPAR Fund	
Coastal and Estuarine Habitat Restoration Trust Fund	\$ 247,778
Rivers, Bays & Watershed Coordination Team	\$ 199,013
Audubon Society – Narragansett Bay Estuarine Program	\$ 79,653
URI – Coastal Fellow – Seasonal – North Cape	\$ 6,555
	<hr/> \$ 532,999
Total OSPAR Expenditures	\$1,954,815

OIL SPILLCLEAN-UP ACTIVITIES

The DEM emergency response team responded to 664 oil spills during FY2010. The amount of oil products and oil spill debris remediated or removed from the environment during these response activities was estimated to be **73,790 gallons** of oil and **79 tons** of oil spill debris. The remediation work was completed by the OER, the OER contractors, the responsible party or their contractor. To ensure compliance with state and federal regulations, the work was conducted under the OER purview.

The circumstances causing these releases and the environmental impacts generated were varied. The categories of oil spills and the relative percentages of each spill type are illustrated in figure 3.

FY 2010

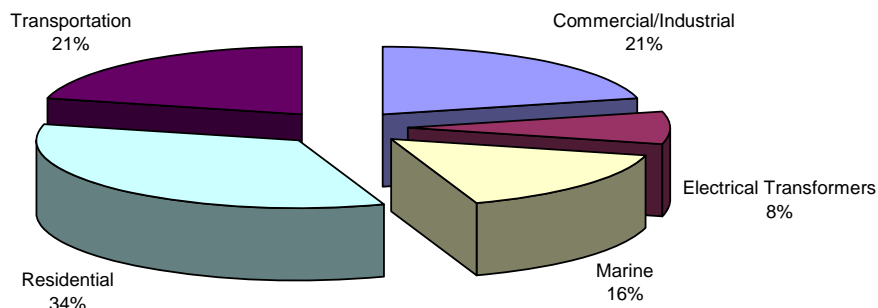


Figure 3. FY2010 Oil Spills by Category

The greatest percentage of spills, 34 percent, was related to residential incidents. This was the first year that residential oil spills have been more prolific than any other type of oil discharge. Releases from residential heating oil tanks continue to be extremely problematic. Cleanup can be expensive (particularly if the oil migrates into the subsurface) and many homeowner insurance policies do not provide coverage. Fuel oil spills in residential areas can contaminate drinking water wells, ground water, and soil; foul septic systems, requiring their replacement; cause odor and health problems in the home; and contaminate storm water drains, sewers, drainage ditches and surface water tributaries that lead to the Atlantic Ocean. The department has posted information on the Emergency Response web page regarding how to minimize the risk of a spill or release from a residential oil tank at <http://www.dem.ri.gov/news/2010/pr/0215101.htm>. DEM continues to conduct public outreach through press releases, television special reports and presentations to oil companies via insurance seminars. DEM also cooperated with the Oil Heat Institute to provide pertinent information to the oil service industry. Transportation oil spills comprised the next largest category accounting for 21 percent of department responses. Commercial/ Industrial spills also accounted for 21 percent of the spill events in FY2010. Oil spills in Narragansett Bay comprised 16 percent of response activities. Spills from electrical transformers comprised 8 percent of the spill events. Personnel from the OER met with some of the electric companies to discuss electrical transformer issues and to assure the proper cleanup of mineral oil dielectric fluid (MODF) and PCB contaminated transformer oil. The category and percentage of spills has remained relatively constant.

Figure 4 compares the categories and spill percentages for the last three fiscal years.

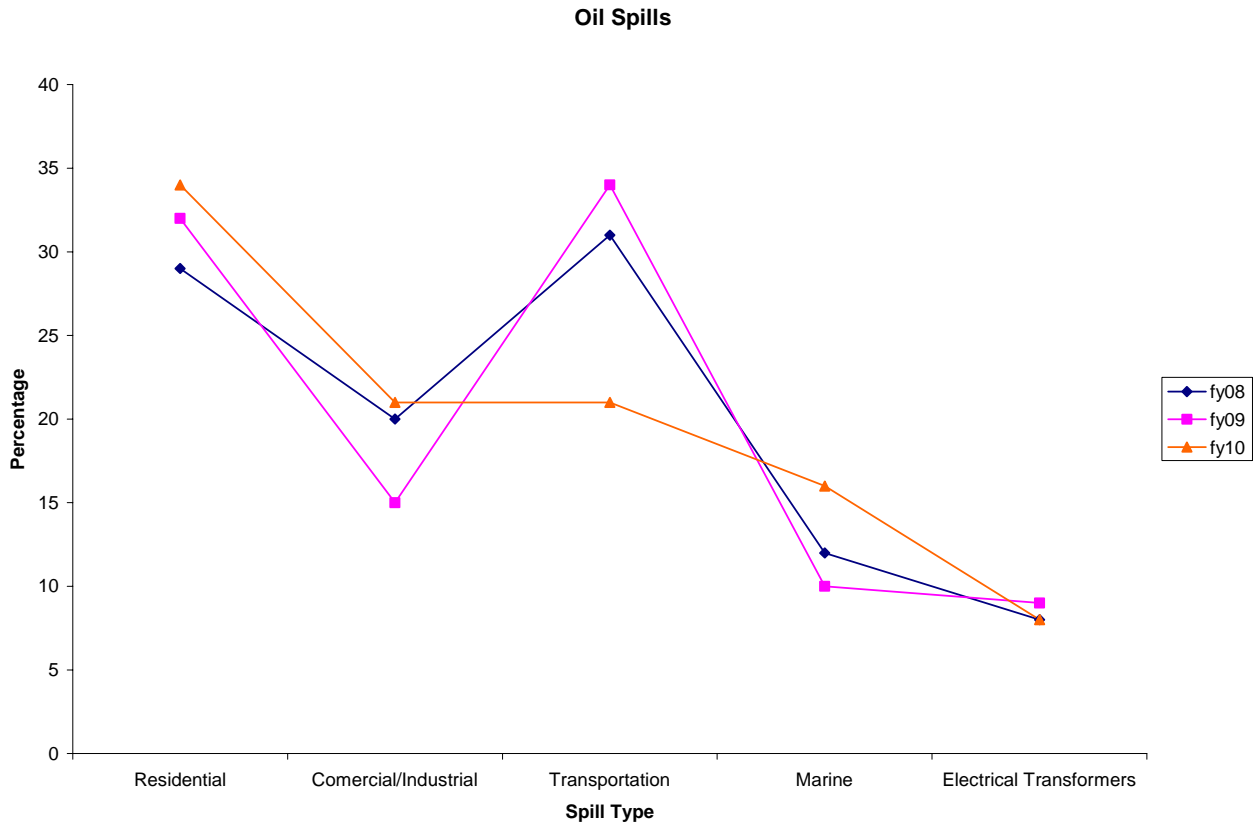


Figure 4. Comparison of Oil Spills FY2008, FY2009 and FY2010

March Floods of 2010

On March 28, 2010 personnel from the Office of Emergency Response (OER) began response activities for the repercussions of the March Floods that encompassed most of Rhode Island. By March 30th the state Emergency Operation Center (EOC) was inundated with calls concerning leaking tanks, drums, cylinders, as well as releases of oil and chemicals. The OER manned Emergency Support Function #10 (ESF#10), which provides support to the state and local governments in response to a potential discharge and/or release of hazardous material following a disaster, and many other services provided by DEM at the EOC for a two week period. Also served as the primary point of contact between the Unified Command and several DEM programs participating in the response. Within that time frame the office responded to approximately 170 oil/hazardous material releases and conducted 70 follow-up inspections. The flood related activities comprised almost 26% of the OER workload for the fiscal year. This gargantuan task was completed by four personnel from the OER working 24/7 as needed. The Governor declared a State of Emergency on March 31st due to the significant issues associated with the flooding. DEM provided several press releases regarding contaminated flood waters, illegal connections to sanitary sewers, proper disposal of household hazardous waste, indoor oil spills, impacts to recreational fields and shell fish closures.



Figure 5. An area in Westerly, RI during the Flood of 2010.

The OER worked with the following agencies: FEMA, USCG, EPA, Army Corp of Engineers (ACOE), RI EMA, DOH, Urban Search and Rescue (USAR), and Local Haz/Mat Teams. On April 1, 2010 support was requested from the USCG and EPA to provide technical assistance and Incident Command System (ICS) expertise. Since ESF#10 was basically manned by the Emergency Response Administrator, federal personnel were used to fill necessary ICS positions. This allowed the OER to not only be reactive to the emergencies complaints but begin to become proactive. As a result, 34 TIER II facilities were identified that store hazardous chemicals within the flooded areas along with 11 other targeted facilities. Once this list was complete, members from 6 RI Haz/Mat Teams and 2 RI Decon Teams were called upon and provided with an Incident Action Plan (IAP) as well as a Health and Safety Plan (HSP). They were paired with Atlantic Strike Team personnel to form 4 integrated assessment teams to conduct field inspections at the required facilities and complete shoreline assessments. This was the first step from being reactive to becoming proactive. At the end of the week all 34 targeted facilities were inspected and all issues were resolved. The information was put into spreadsheets and plotted on GIS maps for situational awareness. The constant inundation of complaints took longer to complete. OER hired several emergency response contractors to address oil and chemical issues. Approximately 2,500 gallons of oil and 11.5 tons of contaminated debris were removed from the environment and disposed of properly. The contractual cost for the worked provided was over \$118,000.00. Personnel overtime cost was more than \$4,000.00. The OER was reimbursed by FEMA 100% for all these expenditures.



Figure 6. Dye and oil from orphaned 55 gallon drums and tanks along the Bradford River.

Vigilant Hope Full Scale Exercise (FSE) 2010

The Vigilant Hope Full Scale Exercise was conducted on May 5, 2010 to evaluate the Southeastern New England Area Maritime Security Plan, Rhode Island and Southeastern Massachusetts Area Contingency Plan along with State and local Emergency Plans for coordinating response capabilities. Exercise activities were conducted over a three day period, with several exercise venues including a one day full-scale exercise. The exercise concluded with a Player Hotwash, which is an opportunity for players to describe their immediate impressions of demonstrated capabilities and the exercise itself, and Controller and Evaluator debrief. This exercise was an interagency effort that provided opportunities for each agency involved to evaluate their own response and recovery capabilities, and build long lasting working relationships. The Vigilant Hope Exercise tested the ability of participating agencies to detect, respond to, and recover from a transportation security incident. Play was driven by a scripted exercise scenario agreed upon by Area Maritime Security Committee (AMSC) stakeholders and designed to closely mirror a real-time stressful environment.

The following agencies that participated in the exercise represent the large contingent of stakeholders in the Port community with a vested interest in Port response: U.S. Coast Guard (USCG), Federal Bureau of Investigation (FBI), Joint Terrorism Task Force (JTTF), Rhode Island Fusion Center, Occupational Safety and Health Administration (OSHA), Federal Emergency Management Agency (FEMA), US Customs and Border Protection (CBP), Transportation Security Administration (TSA), Environmental Protection Agency (EPA), Rhode Island Emergency Management Agency (RIEMA), Rhode Island Department of Environmental Management (RI DEM), Rhode Island Fire Marshall, Rhode Island Army National Guard 13th Weapons of Mass Destruction-Civil Support Team (RI ANG WMD CST), Rhode Island Hazmat and Decontamination Teams, Surrounding State's CSTs, United States Attorney's Office, Rhode Island State Police (RISP), Rhode Island WMD Tactical Team, Providence Emergency Management Agency (PEMA), Providence Fire Department (PFD), Providence Emergency Medical Services (PEMS), Providence Police Department (PPD), Maritime Strike Team, Providence HazMat Team, Rhode Island Economic Development Corporation (RIEDC), Johnson & Wales University, US Coast Guard Deployable Operations Group (DOG) and Army North (ARNorth)



Figure 7. US Coast Guard Buoy Tender Willow used as a Terrorist Vessel

The exercise allow agencies with oversight responsibilities an opportunity to manage both the environmental response requirements and the security response while preparing for continuing long-term operations and future attacks. The exercise scenario included incidents in several locations, based on information discovered in a terrorist safe house in Charleston, SC. Documents found included photographs of various ports along the east coast including Providence and instructions for making bombs. A brief description of each is provided below:

Port of Davisville: A foreign car carrier, M/V EXERCISE HIGHWAY (USCG Buoy Tender Willow) moored at the Port of Davisville to discharge cargo. Customs and Border Protection (CBP) conducted a routine boarding of the vessel where their radiation detectors alarmed. CBP, the Civil Support Team (CST), FBI and DEM Office of Emergency Response provided assistance ranging from vessel entries, technical support and removal of the radiation source.

On Water Venue: Suspicious activity in the area of the Jamestown Bridge was discovered by the DEM enforcement officers on marine patrol. Suspects on the vessels fired upon the officers who then requested assistance from the USCG and RI State Police. The vessel headed north towards the Port of Providence, which houses large petroleum tank farms and chemical facilities. After pursuing the vessel the agencies were able to intercept the boat and apprehend the terrorist. The authorities were then able to determine the vessel was laden with explosives.

Port of Providence (ProvPort): Two male suspects attempting to leave ProvPort through the security gate were asked for identification and fled on foot. Providence Police observed multiple silver containers, personal protective equipment and possible chemicals in the back of the truck. The suspects were pursued to the ProvPort Warehouse and exchanged fire. The suspects were considered armed and dangerous and in the possession of weapons of mass destruction (WMD)/CBRNE (chemical, biological, radiological, nuclear and explosive) agents. The WMD Tactical Team was brought in to finally apprehend the terrorist and the FBI dealt with the remaining issues.

Connecticut and Rhode Island Cross-Border Exercise Series (CRICES) Full Scale Exercise (FSE) 2009

The Office of Emergency Response participated in The Connecticut and Rhode Island Cross-Border Exercise Series Full Scale Exercise (CRICES FSE). The CRICES FSE was held on Saturday, September 12th in North Stonington, CT between 8:00 a.m. and 4 p.m. This eight-hour exercise was the second in a two exercise series developed by a joint planning team composed of Fire, Emergency Medical Services, Emergency Management, and Environmental Protection officials from CT and RI and representatives of the Federal Emergency Management Agency, US Environmental Protection Agency (EPA) and the United States Coast Guard (USCG).

The CRICES FCE allowed participating agencies to examine current capability levels in the areas of communications, emergency operations center management, on-site incident management, responder safety and health, triage and pre-hospital treatment, and weapons of mass destruction/hazardous materials response and decontamination.



Figure 8. Full Scale participants going through medical monitoring.

Participants from hazardous materials (HazMat) response teams located in Connecticut and Rhode Island conducted operations at the former Fischer Controls facility simulating an accident at an industrial facility that led to the release of several potentially hazardous chemicals. The scenario involved a HazMat incident along the Connecticut-Rhode Island border. The integrated State HazMat teams conducted operations for petroleum, chlorine releases, downed personnel recovery, and decon.

The exercise featured both the ICS and operations-based field activities. This allowed incident management staff to discuss the incident objectives, communication plan, develop an IAP and oversee the operational response to the incident. This provided the HazMat teams with an opportunity to utilize tools and resources of their counterparts.

Exercises like the CRICES TTX are a crucial component of on-going preparedness efforts that build and foster relationships between responding agencies from both states. Additionally, these exercises serve to validate plans and procedures in place for responding to a multitude of incidents. Lessons learned during the conduct of the CRICES FSE allow participating agencies to continually improve their ability to respond. It is often said that meeting counterparts from other agencies is the most important information exchange that comes out of a FSE exercise; however, in this case participants generated

an IAP, a Communication Plan and conducted entry operation in Level A suits. This will provide the confidence that integrated teams from both states can work together to protect human health and the environment.



Figure 9. Full Scale participants suiting up in Level A suits to make an entry.

PORTS Program

OSPAR continues to support the Narragansett Bay Physical Oceanographic Real-Time System (PORTS) that began operation in June 2000. PORTS, which is operated by the National Oceanic and Atmospheric Administration (NOAA), is comprised of five monitoring stations located in Narragansett Bay that monitor stage of the tide, currents, and weather. This data is reported every six minutes to a central receiving computer, which processes the information. Real-time information regarding tides, current and weather can be accessed by telephone at 401-849-8236 and 1-888-301-9983 or on the internet at, <http://tidesandcurrents.noaa.gov/nbports/nbports.shtml?port=nb> . NOAA continuously monitors the in-water sensors and conducts data validation. This 24/7 quality control allows NOAA to guarantee the accuracy of the data. As a result, the state-licensed pilots who guide the largest vessels into port in Narragansett Bay are able to make decisions on vessel movements with real-time information. Over the last few years the host agencies for PORTS including RIDEM have formed a coalition to petition the Federal Government to include the maintenance of the PORTS system as part of the NOAA budget. NOAA has not taken over the maintenance expenditures but is still reviewing the possibility.

State-licensed pilots can directly access PORTS information while traversing Narragansett Bay using the Raven Portable Pilot Navigation System purchased with OSPAR funds. The systems have wireless/Bluetooth capability that allows the acquisition of real-time data from PORTS as well as real-time weather information from the National Weather Service. The navigation systems are extremely sophisticated, utilizing a Differential Global Positioning System that accurately and safely determines the position of a vessel being piloted through the bay. The system uses the U.S. Department of Defense Global Positioning System and the Canadian Coast Guard network of differential radio beacons to provide accurate navigation information in conjunction with accurately surveyed maritime charts provided by the U.S. Army Corps of Engineers. It is the only commercially available portable piloting navigation system incorporating U.S. Army Corps of Engineer channel data on customized vector electronic charts with sub-meter positional accuracy necessary for precision navigation in RI waters. The goal of the program is to provide the greatest degree of safety possible for commercial ship traffic in Narragansett Bay and the Ports of Providence and Quonset.

Emergency Response Preparedness

In FY2010 the Office of Emergency Response continued the renovation, which began in 2005, of the former Dawley Park headquarters building. The facility, located on Route 3 Exeter, is ideally suited for the needs of the program. It is centrally located and will provide needed storage for the department's emergency response equipment. It will also provide a location that can be used for wildlife rehabilitation. In addition, the facility will serve as a remote command center if needed. The exterior renovations had been completed in 2005. The interior renovations have now been



completed and the building has already been used as a training facility for the OER. Training conducted at the building has included air monitoring and chemistry for emergency responders. The new construction of a four bay garage for the storage of the Department's oil skimmers and other response equipment began in FY2010. This metal building will be completed in FY2011.

Training Activities

The Emergency Response team continued to improve its response capabilities through training. During FY2010 team members continued to build on the all hazard model. Members of the Emergency Response team participated in courses, training and exercises that included:

- 8-Hour CT/RI Cross-boarder Exercise Series (CRICES) Full Scale Exercise
- 16-Hour WMD Hazardous Material Evidence Collection
- 16-Hour North East High Level Radiation Task Force Training
- 8-Hours Quahog X Large Scale Exercise with Civil Support Team
- 8-Hour Vigilant Hope Hazardous Material Exercise
- 8-Hour Bridge Collapse Exercise
- 16-Hour Regional Response Team Training with EPA & USCG
- 24-Hour Radiation Class
- 2-Day New England Regional Criminal & Epidemiological Investigation Workshop
- 4-Hour Radiation Identifier Training
- Quality System Awareness Training Program
- 8-Hour Gainer Dam Exercise
- 24-Hour Debris Management Course
- 24-Hour Basic Chemistry for Emergency Responders
- 8-Hour HAZWOPER Refresher
- 3-Day Plymouth Haz/Mat Training
- 8-Hour Mustard-Lewisite Terrorist Drill
- 10-Hour Large Scale Exercise at Iron Man Triathlon
- 6-Day Incident Management Training
- 35-Hour Radiation Training

The DEM Emergency Response program also continued to provide training. The training provided included *Hazardous Materials & Criminal Investigation* for the State Police Training Academy, *WMD Hazardous Material Evidence Collection* with the Cranston Fire Department, *Homeowner Oil Spill Handling* for oil companies, *Chemical Safe Schools* for educators, *Hazardous Materials Recognition & Identification Refresher* for RI DOT and *Environmental Health & Pesticide Safety Education* for the University of Rhode Island.

HABITAT RESTORATION PROGRAM

In June 2002, the RI General Assembly enacted legislation (RIGL 46-23.1) that established a coastal and estuarine habitat restoration program administered by CRMC. Subsidy from the OSPAR fund continues to be transferred to CRMC in accordance with RIGL § 46-23.1-3. The financial support is for the Rhode Island Coastal and Estuarine Habitat Restoration Trust Fund. Habitat restoration projects are selected from recommendations by the RI Habitat Restoration Team established by CRMC, Save The Bay and the Narragansett Bay Estuary Program. Each year the Trust Fund receives \$250,000 from the OSPAR account to fund habitat restoration projects in the state. Since the inception of the Trust Fund

CRMC has awarded \$1.87 million for 67 projects, which has leveraged more than \$18 million in matching funds. The following short project descriptions are taken from the CRMC web site. Additional information can be found at <http://www.crmc.state.ri.us/>

Lower Pawtuxet River Restoration Sediment Management, Warwick

Award: \$41,659

Lead Organization: Narragansett Bay Estuary Program

Partners: National Oceanic and Atmospheric Administration (NOAA), Restore America's Estuaries (RAE), Save the Bay, USDA Natural Resources Conservation Service (NRCS), U.S. Fish and Wildlife Service (USFWS), U.S. Environmental Protection Agency (EPA), Rhode Island Corporate Wetlands Restoration Partnership (CWRP), American Rivers

The goal of this project is to restore over seven linear miles of anadromous fish habitat by breaching or partially removing Pawtuxet Falls Dam in Warwick and Cranston. Historically, the Pawtuxet River supported large annual runs of migratory fish. The construction of the dam in 1924 and deteriorating water quality due to discharges from mills and wastewater treatment facilities once made the lower Pawtuxet River unsuitable as anadromous fish habitat. Water quality in the river has since drastically improved, and breaching the dam will restore passage and habitat for several fish species including American shad and river herring, as well as restoring a wide range of additional riverine ecosystem functions. The awarded funds will be used sampling and removing approximately 2000 cubic yards of sediments to prevent the sediments from migrating downstream into Pawtuxet Cove following the dam removal.

Blackstone River Fish Passage Restoration, Pawtucket

Award: \$50,000

Lead Organization: Blackstone River Watershed Council and Friends of the Blackstone

Partners: USDA NRCS, Pawtucket Hydro, LLC, City of Pawtucket

The purpose of this project is to restore anadromous fish passage across the first four dams on the lower Blackstone River. The goal is to restore the Blackstone anadromous fish runs that have been obstructed for nearly 200 years. This project will improve the riverine ecosystem, increase recreational opportunities for activities such as fishing, canoeing, kayaking, and historic tours, and provide economic benefits for four towns in the project area. The awarded funds will provide non-federal match for construction of fish passage facilities on the first two dams on the lower Blackstone, Main Street Dam and Slater Mill Dam, both in Pawtucket, R.I.

Shannock Falls Fish Passage Restoration, Richmond

Award: \$50,000

Partners: USDA-NRCS, NOAA-RAE

The goal of this project is to provide passage for a range of species, including Atlantic salmon, American shad, blueback herring, alewife, sea lamprey, American eel and brook trout at the Lower Shannock Falls Dam and ultimately to provide passage for these species to the remainder of the mainstem Pawcatuck River and Wordens Pond. Completion of the project will restore nearly 1300 acres of spawning and nursery habitat,

and provide additional benefits such as restoration of riverine functions, recreational opportunities and improved safety. The awarded funds will be used towards construction activities including sediment analyses, construction oversight services, project management and bedrock removal.

Woonasquatucket River Paragon Dam Fish Passage Restoration, Providence

Award: \$9,000

Lead Organization: Woonasquatucket River Watershed Council (WRWC)

Partners: US Fish and Wildlife Service (USFWS), USDA NRCS, RI Foundation

The proposed project is part of a larger restoration effort that will enhance depleted spawning populations of river herring and possibly shad. River herring have been observed below the first dam. Fish passage in the lower Woonasquatucket River, a federally designated "American Heritage River", is currently obstructed by five abandoned mill dams. Restoration of river herring to the Woonasquatucket River will provide ecological benefits to the river and upper Narragansett Bay by restoring historic anadromous fish spawning and rearing areas. The awarded funds will be used to partially remove the already failing dam structure to allow for fish passage.

Manton Pond Dam Fish Passage Restoration, Johnston

Award: \$9,000

Lead Organization: Woonasquatucket River Watershed Council (WRWC)

Partners: USDA NRCS, USFWS

The purpose of this project is to restore fish passage to the entire length of the lower Woonasquatucket River to the prime spawning habitat of Manton Pond. Manton Pond Dam is the last of five dams in a long-term restoration strategy for the lower Woonasquatucket River. It is the last link in a project to restore spawning habitat for an estimated annual return of 40,000 adult blueback herring, alewife and shad. The focus of the project will be to plan, design and construct a fishway at Manton Dam. Awarded funds will be used to complete a full site survey necessary for the project's design.

Allin's Cove Invasives Control and Upland Restoration, Barrington

Award: \$6,891

Lead Organization: Barrington Land Conservation

Partners: USDA NRCS

The purpose of the project is to restore 3.5 acres of land abutting Allin's Cove by replacing invasive *Phragmites australis* and Japanese knotwood (*Fallopia japonica*) with native grasses, shrubs and trees. The invasive plant management and native plant establishment will occur at three distinct sites adjacent to the Cove. The awarded funds will be used to control the invasive plants *Phragmites australis* and *Fallopia japonica* at these sites and reestablish a community of native coastal plants and warm season grasses in the Allin's Cove coastal buffer.

Buckeye Brook Brackish Marsh Restoration, Warwick**Award:** \$1,450**Lead Organization:** Buckeye Brook Coalition**Partners:** RI Rivers Council

The goal of this project is to restore a native, brackish marsh in the upper Buckeye Brook by treating *Phragmites australis* that has become established and has been expanding in the recent years. The awarded funds will be used for herbicide treatment and cutting of the dead *Phragmites*.

Round Marsh Salt Marsh Restoration, Jamestown**Award:** \$15,000**Lead Organization:** Jamestown Conservation Commission**Partners:** USDA NRCS, Town of Jamestown

The project's restoration goal is to reduce the advancement of *Phragmites* in the eastern portion of Round Marsh and to restore conditions appropriate for native salt marsh vegetation wherever possible. Restoration efforts undertaken at the proposed location will benefit the integrity of the entire Great Creek/Round Marsh complex, by reducing the advancement of *Phragmites* and preserving native salt marsh habitat. These efforts will increase the extent of productive salt marsh wildlife habitat available to native fish and wildlife species. In addition, better design and control of drainage in this section of marsh will reduce mosquito breeding habitat. The awarded funds will be used for mowing and mulching of *Phragmites* as well as tidal creek excavation and restoration.

Restoring Hard Clams in Rhode Island's Salt Ponds, Charlestown (Ninigret Pond)**Award:** \$40,000**Lead Organization:** The Nature Conservancy

The purpose of this project is to improve ecosystem function in Ninigret Pond by restoring a self sustaining population of hard clams within a Rhode Island Department of Environmental Management (RIDEM) designated shellfish spawner sanctuary. This action will provide immediate and long-term improvements in water clarity and increase juvenile hard clam recruitment pond-wide. It will also create important bottom structure and improved benthic habitat for a variety of other marine species. Awarded funds will be used to purchase and transplant 500,000 clams and monitor the success of the project.

RI BAYS, RIVERS and WATERSHEDS COORDINATION TEAM PROJECTS

In 2007 the general assemble provided OPSPAR funding to the Rhode Island Bays, Rivers and Watersheds Coordination Team (CT). It is a state interagency commission dedicated to the protection, management, restoration, and sustainable development of Rhode Island's fresh and marine water and watersheds. Through strategic coordination of government programs, the CT ensure the well being and sustainable use of Rhode Island's water and watersheds, increases the vitality of our marine economy and water intensive industrial sectors, and prepares Rhode Island for future environmental and socioeconomic

imperatives. Additional information can be found at <http://www.dem.ri.gov/bayteam/index.htm>. Listed below are the Strategic Investments by the RI Bays, Rivers and Watersheds Coordination Team to Support a Comprehensive Water Monitoring Strategy for FY2010.

Large River Water Quality Monitoring

2010 OSPAR Contribution: \$156,600 (Contractual for 12 months)

Other Funds: USGS match

DEM continued its cooperative agreement with the United State Geological Survey to maintain water quality monitoring on three of the State's largest rivers. Six stations were sampled monthly on the Blackstone River and its tributary the Branch River, the Pawtuxet River and the Pawcatuck River for a range of water quality parameters including nutrients and pathogens. Samples are analyzed for metals quarterly. Data undergoes federal quality assurance procedures and then is made available via USGS information system – NWIS. Data is important for evaluating long-term trends and tracking pollutant loadings into the upper Bay from the rivers. Data is used in various state water programs. One station is monitored near the MA/RI state line on the Blackstone in order to help define pollutant contributions from the Massachusetts portion of that watershed. Three others are located near the mouths of the Blackstone, Pawtuxet and Pawcatuck Rivers in order to be representative of the pollutant loadings from these tributaries into coastal waters.

Streamflow Gage Network

2010 OSPAR Contribution: \$42,412.50 (operation for up to 12 months)

Other funds: USGS federal matching funds

Rhode Island continued to maintain the network of continuous streamflow gages via cooperative agreements with the United State Geological Survey (USGS). Support from the Coordination Team previously allowed three gages to be added to the network in the fall of 2006. These gages were maintained during FY2010. Streamflow data is made available on a real-time basis via USGS. The data are used by multiple agencies for a number of programs including drought management, water quality restoration, water management, permitting etc.

OUTLOOK AND PROJECTIONS

OSPAR-related expenditures during FY2011 are expected to be similar to FY2010 absent any major spills and associated response needs. The functional capacity to respond will continue to be stressed by the continued reallocation of OSPAR funds. The constant fiscal pressure on the OSPAR fund will have a cumulative impact, compromising the ability of the program to perform the basic readiness and response tenants for which it was established.

CONTACT INFORMATION

For further information regarding this report, the activities of the emergency response team or OSPAR, contact James Ball, RIDEM Emergency Response Administrator, Chief Office of Emergency Response at 401-222-4700 extension 7129 or at james.ball@dem.ri.gov.