

Oil Spill Prevention, Administration and Response (OSPAR) Fund

**Annual Report
FY 2005**



Blackstone River/Lonsdale Bleachery Bunker Oil Remediation Project

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

W. Michael Sullivan, Director

Michael J. Mulhare, P.E., Emergency Response Administrator

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 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 2005.

Revenues & Expenditures – FY2005

The OSPAR account started FY 2005 with a balance forward of \$3,903,537. During FY 2005, the \$0.05 per barrel fee resulted in the collection of \$2,479,926 after the seven percent cost recovery. OSPAR also received \$309,762 as reimbursement for expenditures from the Shellfish Restoration project and \$2,500 for rental of equipment. Personnel and operating expenditures for FY2005 totaled \$1,437,512, which included \$250,000 for the PORTS Navigational system in Narragansett Bay. In addition, \$968,267 was transferred from the OSPAR account to the CRMC for the South Coast Restoration project. A more detailed review of all expenditures is provided below.

ACTIVITIES– FY2005

Summary

With regard to pre-spill preparedness, the OSPAR Fund was used in FY2005 for personnel and operating expenses and the PORTS Program. In addition, funds were used for the development of a Continuity of Operation Plan (COOP), a Fisheries Closure and Reopening Plan, and development of the Bay Assessment and Response Team (BART) web site (<http://www.state.ri.us/dem/bart/index.htm>). OSPAR funds were also used for the Town Pond restoration project.

Personnel costs assigned to the OSPAR Fund included the following: DEM Emergency Response Team (full salaries of Emergency Response Administrator, partial salaries of four other team members, and full salary of an Executive Assistant assigned to the OSPAR program); DEM GIS Supervisor (partial); and staff from DEM Office of Waste Management engaged in oil-related investigation and remediation activities (partial); and staff from DEM Office of Technical and Customer Assistance, Division of Fish & Wildlife, and Office of Water Resources responsible for carrying out DEM activities

related to the Providence River Dredging Project (partial). These salary and benefit costs totaled \$524,162. Operating expenses charged to the OSPAR Fund included: vehicle maintenance, purchase and lease costs (\$174,528); emergency response equipment (\$5,223); vessel equipment maintenance and storage (\$37,461); training and travel (\$5,523); computer hardware, software and telecommunications (\$57,793); and other miscellaneous equipment and supply costs (\$16,889). These operating expenses totaled \$297,729. (A detailed breakdown of expense is presented in the report)

In FY2005 the DEM Emergency Response Team, which operates as an all hazard response program and incorporates the oil spill prevention and response functions of DEM, continued to perform at a high level with respect to oil spills, hazardous material incidents, domestic preparedness, and other state emergencies. There were **1,026** emergency response investigations undertaken by the team during FY2005, of which **654** related to oil spills. In addition **129** re-inspections of active projects were also conducted. The actions of the Emergency Response program during this reporting period resulted in removal from the environment of **16,642** gallons of oil and **3,100** tons of oil spill debris.

FY2005 EXPENDITURES

Personnel

Environmental/ Emergency Response/Dredging \$428,068

Full salaries and benefits of DEM Emergency Response Administrator and partial support for four other members of 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. An Executive Assistant is also assigned to the OSPAR program. Partial salaries and benefits for personnel from DEM Office of Technical and Customer Assistance, Division of Water Resources, and Division of Fish and Wildlife responsible for dredge project oversight.

Geographic Information System (GIS) \$36,094

Partial support of salary and benefits of DEM 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 locational 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.

Division of Waste Management	\$60,000
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Partial support of salary and benefits of two DEM employees in the Department's Office of Waste Management. Both individuals are routinely engaged in oil-related investigation and remediation activities, which during FY2005 included: Arco/Amoco site, Chevron site, Getty terminal, Getty pipeline, Mobil Oil site, Unocal site and several projects along Allens Ave. Providence.

	\$524,162
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Operating

Vehicle Maintenance & Readiness	\$155,130
Safety Equip. – Emergency Response	\$ 5,223
Training & Travel	\$ 5,523
Emergency Response Vehicle Leases	\$ 6,484
Vessel Maintenance, and Storage	\$ 37,461
Cell phones, pagers	\$ 11,811
Computers- Hardware/Software/Telecommunications	\$ 45,982
Supplies: Office, Scientific, Miscellaneous	\$ 10,766
Emergency Response Vehicle	\$ 19,398
Tracks for Marsh-Walker	\$ 6,172
Narragansett Bay PORTS	\$250,000
Coastal Institute at the University of Rhode Island <i>(Contracted to develop an emergency response web page, refine and elaborate the roles of the scientific support team, conduct oil spill training exercises and update the RIDEM Emergency Response Plan.)</i>	\$125,900
Town Pond Restoration Project	\$233,500

	<u>\$913,350</u>
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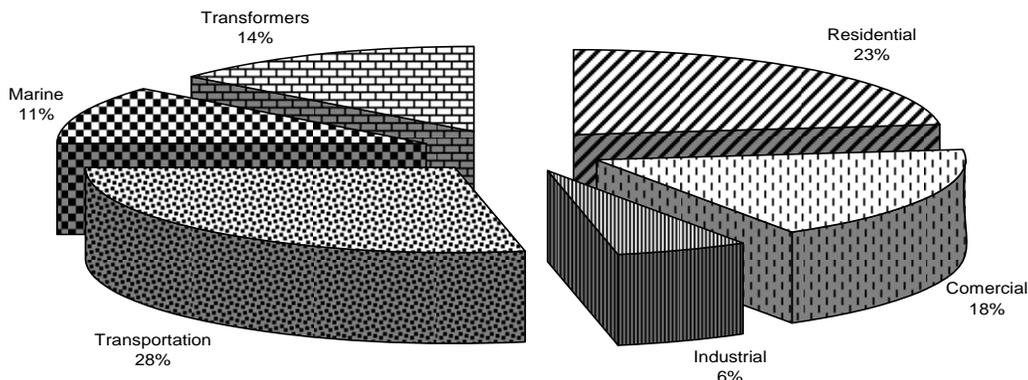
TOTAL OSPAR EXPENDITURES	\$1,437,512
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OIL SPILL CLEAN-UP ACTIVITIES

The DEM emergency response team responded to 654 oil spills during FY2005. This represents a 25 percent increase in oil spill responses compared to FY2004. The amount of oil products and oil spill debris managed during these response activities is estimated to be 16,600 gallons of oil and 3,100 tons of oil spill debris. In FY2004, the emergency response team remediated 40,600 gallons of oil and 3,500 tons of oil debris. While there were more spills in FY2005, the amount of oil recovered was 60 percent less, indicating the spills themselves were smaller. The amount of oil debris recovered during FY2005 is only slightly less than the preceding year (10 percent reduction) which indicates that even though the spills were smaller in composition the environmental impact was as great as experienced during the events of FY2004.

The circumstances causing these releases and the impacts generated were varied. The following illustrates the categories of oil spills and the relative percentages of each.

OIL SPILLS 2005



The greatest percentages of spills, 28 percent, were transportation related. Most transportation spills were relatively small and were the result of motor vehicle accidents. Residential oil spills comprised the next largest category accounting for 23 percent of the department responses. Releases from residential heating oil tanks are extremely problematic. Cleanup can be expensive (particularly if the oil migrates into the subsurface) and many home owner insurance policies do not provide coverage. The DEM has discussed this issue with the Department of Business Regulation which has indicated that it would require legislative action to change the current underwriting practices. 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 (<http://www.state.ri.us/dem/programs/director/emmerresp/prevent.htm>). Spills from transformers comprised 14 percent of the spill events which is consistent with what was observed during FY2004. Commercial and industrial spills combined equaled 24 percent of the total spill responses. Oil spills in Narragansett Bay comprised 11 percent of response activities.

During fiscal year 2005 the Emergency Response program spent considerable effort addressing a chronic release of bunker oil into the Blackstone River from the former Lonsdale Bleachery complex located in the town of Lincoln. During the last several years the department has undertaken several efforts to mitigate periodic releases from this facility. Obtaining a permanent solution had been difficult because of the clouded ownership history and inability to identify a responsible party. In FY2005 the Department

requested that the EPA utilize the federal Oil Pollution Fund to investigate and remediate the source of the bunker oil leaching into the river

The Bleachery is a complicated site comprising many buildings. Some of the structures are over one hundred years old. There are no plans available to determine location of past conveyances and appurtenances related to the use of bunker oil at the facility. There has also been at least one fire at the facility and the resultant partial demolition of the boiler room has obliterated many of the physical details of how the facility operated. Inspection of the site and anecdotal information indicate that at various times during the history of the mill complex coal was used to provide energy for steam production as well as bunker oils. Abandoned above ground storage tanks and coal bins were located adjacent to the boiler rooms. A review of old Sanborn insurance maps found a handwritten reference to three underground concrete tanks at the site. Locating and verifying the existence of the previously unknown tanks became a focus of the investigation and remediation effort.

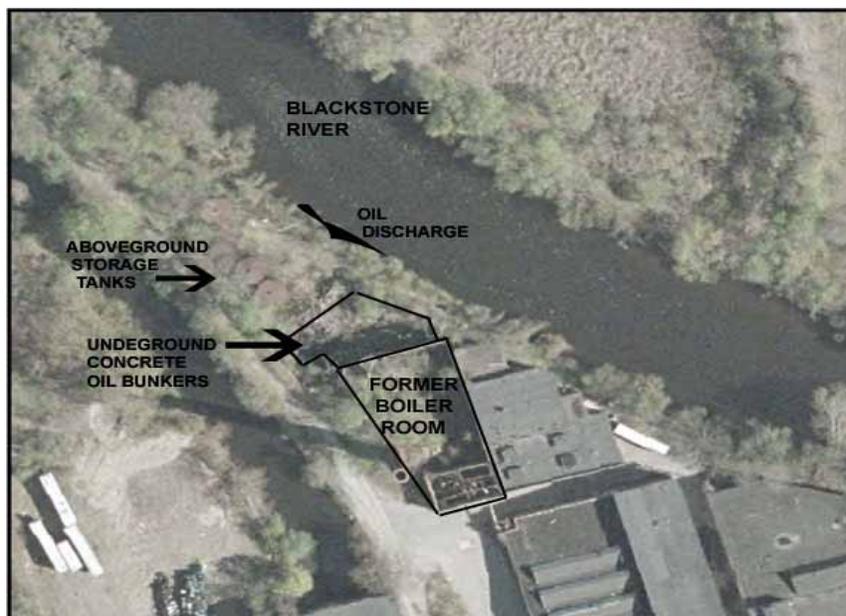


Figure 1. Lonsdale Bleachery

Initially a system of containment booms and oil adsorption materials were installed along the bank of the river. These booms had to be monitored frequently to insure that they did not become dislodged because of fluctuation of the river water level. The absorbents were changed on an as needed schedule.



Figure 2. Oil Leaching Into the Blackstone River

The early stage of the investigation focused on installing a series of test pits to determine how and where oil was reaching the river. The test pits also served as a means of determining if there was any underground piping connecting the above ground tanks to the boiler room and were used to determine if the information on the Sanborn maps regarding the existence of the concrete bunkers was accurate.

Prior to beginning the test pit program considerable site preparation was necessary to remove overgrowth, debris associated with a fire and a wall of the former boiler room that was in danger of collapse. Figure 3 shows the initial site conditions: the coal storage area is in the foreground and, at the far end of the clearing, one of the three above-ground storage tanks is barely visible.



Figure 3. Initial Site Conditions

The above ground tanks were found to be free of oil and all indications were that they had been previously cleaned. There was evidence that the tanks had at one time floated off their foundations as a result of flooding. There was no evidence of underground piping from the tanks to the boiler room.



Figure 4. Two of Three Above Ground Storage Tanks



Figure 5. Debris Removal

Vegetation was cleared, scrap metal was removed, and the debris left behind from a previous mill fire was consolidated in preparation for the investigation. A concrete slab was found under the former coal building.



Figure 6. Excavation of the Concrete Tanks Below the Coal Storage Building

The three concrete oil tanks referenced on the Sanborn map were uncovered when the floor of the coal storage area was removed. A fourth chamber, believed to be a pump pit, was also uncovered. The tanks were filled with concrete rubble, soil, oily water and bunker oil. The oily, contaminated debris (1,640 tons) was removed and transported for disposal via asphalt batching. Approximately 10,000 gallons of oil and 63,000 gallons of oily water were pumped out of the tanks.

Trenches and test pits were dug along the perimeter of the concrete structure and the river wall. The connection between the oily waste in the concrete tanks and the contaminated groundwater has not been established. The next phase of the project will focus on determining how much oil is below the concrete tanks and how it is reaching the Blackstone.

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 www.coops.nos.noaa.gov/nbports/nbport. 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.

Emergency Response Preparedness

In FY2005 the Emergency Response program continued the renovation of the former Dawley Park headquarters building. The facility, located on Route 3 in Exeter, is ideally suited for the needs of the program. It is centrally located. It will provide needed storage for the department's emergency response equipment. It will also provide a location which can be used for wildlife rehabilitation. And it can also serve as a command center if needed. Exterior renovations have been completed. The next phase of the project will include completion of interior renovations and the construction of a garage for storage of the Department's oil skimmers and other response equipment.



Figure 7. Dawley Park Emergency Response Building Renovations

The Emergency Response team continued to improve its response capabilities through training. During FY2005 team members participated in courses and training in

Integrated Emergency Management, Hazwopper Refresher Training, Rail Car Response and Sampling of Biological and Chemical Weapons of Mass Destruction.

The DEM Emergency Response program also provided training. The training provided included *Hazardous Materials & Criminal Investigation* for the State Police Training Academy, *Hazardous Materials Recognition and Identification* for the Department of Transportation and *Environmental Health & Pesticide Safety Education* for the University of Rhode Island.

TOWN POND RESTORATION

Located next to Mount Hope Bay, Town Pond was a tidally influenced salt pond and salt marsh prior to the placing of dredged material in the area in the early 1950s as part of an Army Corps of Engineers navigation improvement project. At the time, the low-lying pond was considered a good place to dispose of dredged material. Filling the pond with dredged material increased its elevation above that of regular tidal flooding, converting it to a lower value, non-tidal habitat. DEM and the Corps recognized the potential value of the site and joined in an effort to restore the marsh using the Corps program to modify projects to improve the environment (Section 1135 of the Water Resources Development Act of 1986)



An estimated 126,000 cubic yards of existing dredged material are being excavated to promote restored tidal exchange to Town Pond. Over time, the interior marsh will be transformed from a lower value brackish habitat to a high value salt pond and salt marsh habitat. Approximately 18 acres of phragmites reed, which is above the elevation of tidal influence, will be removed to restore salt marsh and salt pond estuarine habitats. Once the new elevations are established and are flooded by frequent tides, estuarine habitats and vegetation communities will establish. Two concrete structures will be built as part of the project. A 45-foot long, 42-inch diameter culvert

with concrete headwalls will replace a smaller old culvert that will be removed, and a concrete weir approximately 38 feet long will be built to regulate a permanent pool where the entrance channel meets the interior marsh.

The material excavated to restore the salt marsh and salt pond will be placed in the northeast corner of the site, south of the railroad tracks. This disposal area will be covered with 6 inches of loam and seeded with coastal grasses (e.g. switchgrass) to create a coastal grass community. Provisions will be made to allow continued maintenance access to the existing electric transmission lines that run through the project area.

Outlook & Projections

OSPAR-related expenditures during FY2006 are expected to be similar to FY2005 barring any major spills and associated response needs.

Contact Information

For further information regarding this report, the activities of the emergency response team or OSPAR, contact Michael Mulhare, RIDEM Emergency Response Administrator, at 401-222-4700 extension 7124 or at michael.mulhare@dem.ri.gov.