



State of Oregon
Department of
Environmental
Quality

13th Annual Environmental Cleanup Report

Submitted to:

**Governor John Kitzhaber
Oregon Legislative Assembly
Environmental Quality Commission**

**by
Stephanie Hallock, Director**

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Executive Summary

Introduction

The Department of Environmental Quality (DEQ) is required by statute (ORS 465.235) to report annually to the Legislature, the Governor and the Environmental Quality Commission on the hazardous substance cleanup program. The purpose is to report cleanup accomplishments of the previous fiscal year; forecast activities for the current fiscal year; report on the status of cleanups in Oregon; and update the program plan every four years (last updated in the 1999 report).

This report's primary focus is DEQ's hazardous substance cleanup program. Additional information is provided about cleanups of leaking underground storage tanks (including heating oil tanks), which are conducted under separate statutory authority.

Highlights

This report includes:

- A statistical summary of cleanup activities
- Descriptions of some representative cleanups and emergency response events
- A summary of actions by the 2001 Legislature affecting cleanup program statutes
- An update on initiatives to improve cleanup processes, including hazardous substance and underground storage tank cleanups and emergency response
- A report of other key cleanup areas of concern, such as sediment contamination, abandoned mine lands and returning the state's brownfields to productive use
- A brief report on the cleanup program's budget status

Cleanup Accomplishments – Fiscal Year 2001

In the fiscal year ending June 2001, DEQ's environmental cleanup program designated 94 sites as requiring no additional action to protect human health and the environment. Since 1989, 777 sites have received "No Further Action" designations. DEQ is currently working on about 425 sites.

In addition to cleanups approved by the hazardous substance cleanup program, 2,809 underground storage tank (UST) cleanups were completed in accordance with DEQ's UST rules. Of these, 518 were regulated petroleum fuel tanks typically located at gasoline stations. The other 2,291 were heating oil tanks that are now decommissioned and cleaned up under a privatized program in which licensed contractors review and approve the work.

Program Improvements

In 2001, DEQ undertook several initiatives to improve the effectiveness of its environmental cleanup programs, including:

- Changes in hazardous substance cleanup procedures to improve communication with program participants and to increase certainty about cleanup status and costs
- Improved access to site information, which can assist parties with future cleanups and property transactions
- Initial work on enhanced emergency response and planning, as a result of the events of September 11. In addition to tasks such as working with other agencies on detailed procedures and protocols for handling chemical weapons, DEQ has also made significant progress in developing a response and recovery plan that will enable the agency to continue services in the case of a general emergency.

Improvements will continue in the coming months, including:

- On-going work to review and upgrade DEQ's system for tracking and following up on sites where, because contamination is left in place, risk of exposure is controlled through engineering or institutional controls
- Underground storage tank (UST) leak prevention will be enhanced through a number of activities, including expedited enforcement and mandatory operator training, as required by HB 2264. The bill also requires the program to apply for EPA approval of the state program, which involves revision of administrative rules.

2001 Legislative and Budget Actions

During the 2001 session, several actions were taken affecting DEQ's cleanup programs and budgets. The Legislature:

- Increased vessel and marine facility fees as requested to enable DEQ to carry out mandated marine oil spill preparedness and prevention responsibilities (HB 2150)
- Clarified that DEQ is the state agency responsible for overall management of releases of oil and hazardous substances and created a task force to evaluate needs and issues related to spill planning, preparedness and response and report to the Legislature in 2003. (also HB 2150)
- Appropriated funds for debt service for a \$4 million orphan site bond sale. This revenue, although less than requested, will allow DEQ to continue cleaning up high priority environmental sites during 2001-03. (DEQ Budget Bill, HB 5517)
- Clarified eligibility for liability protection under the state's dry cleaner facility cleanup law and clarified operator's waste minimization requirements. Also modified the program's fee structure and sunsets both the fees and liability protection on January 1, 2006. (SB 463)
- Amended the Brownfields Redevelopment Fund administered by the Oregon Department of Economic and Community Development, enabling OECDD to make grants as well as loans, and eliminating restrictions that required funds to be used only for assessments, rather than site remediation.
- Increased heating oil tank cleanup certification filing fees, as requested by DEQ and the Oregon Petroleum Marketers Association. The fee increases enable DEQ to continue the heating oil tank decommissioning and cleanup certification program authorized by the 1999 Legislature. (HB 2883)
- Increased regulated underground storage tank permit fees so that DEQ has adequate staff to continue leak prevention efforts and to receive underground storage tank

program delegation from the federal Environmental Protection Agency (EPA). (HB 2264)

- Revised fees to be charged until January 2004 at the state's hazardous waste landfill near Arlington. (HB 2698)

Major Projects and Initiatives

DEQ's cleanup programs play an important role in the agency's goal to protect human health and the environment from toxics, particularly in two emerging areas: contaminated sediments and abandoned mines. Key examples of contaminated sediments work include the on-going work at Coos Bay and DEQ's participation with EPA in addressing the Portland Harbor Superfund site. Much of cleanup program work on abandoned mine lands involves multi-agency efforts to identify historic mining areas and prioritize them for cleanup. There are also several active cleanups, some of which must be financed with state or federal funds, because there is no responsible party available to fund necessary work.

DEQ also has initiatives under way, in cooperation with other state and federal agencies, to encourage cleanup and redevelopment of "brownfields" – abandoned or underutilized commercial property where redevelopment or reuse is hampered at least in part by contamination.

Budget Status

In 2001, the Legislature passed all of the fee increases requested for DEQ's cleanup programs. These fees are expected to adequately finance the programs to which they are dedicated. Revenues from the most significant fee source, however, have declined significantly in the past year. Unless the fee returns to budgeted levels, this poses a challenge to funding the basic costs of DEQ's cleanup programs in the future.

For More Information

More information about several of the items covered in this report is available from:

- The Land Quality section of DEQ's web site, DEQ Online:
<http://www.deq.state.or.us/wmc/index.htm>. Cleanup program information can be found under Environmental Cleanup, Emergency Response and Underground Storage Tank topics.
- Profiles in Cleanup A Pictorial Review of Some of the Environmental Cleanup Sites in Oregon, Fall 2000.
<http://www.deq.state.or.us/wmc/documents/profilesincleanup.pdf>
- Site information databases
 - Active hazardous substance cleanup sites:
<http://www.deq.state.or.us/wmc/psrasp/ActiveSites.htm>
 - All hazardous substance cleanup sites:
<http://www.deq.state.or.us/wmc/ecsi/ecsiquery.htm>
 - Underground tank sites:
<http://www.deq.state.or.us/wmc/tank/LustPublicLookup.asp>

Scope of This Report

As required by law, this annual environmental cleanup report provides information about DEQ's hazardous substance cleanup program. It also includes information about cleanups of leaking underground storage tanks (USTs), which are conducted under separate statutory authority. Cleanup statistics include only hazardous substance cleanups and not tanks, unless specifically indicated.

Accomplishments – Fiscal Year 2001

Sites Completed

In the fiscal year ending June 2001 (FY 2001), DEQ gave "No Further Action" (NFA) designations¹ to 94 hazardous substance cleanup sites. The NFA indicates that these sites are sufficiently clean to protect human health and the environment. Thirty-three of these were sites where contamination was suspected, but DEQ's initial assessment indicated that no cleanup action was needed. DEQ has completed 777 No Further Action determinations to date.

Sites Listed

During FY 2001, 239 sites were added to DEQ's database of properties known or suspected to be contaminated with hazardous substances. The hazardous substance site list now includes more than 2,636 sites, including the 777 completed sites.

Once identified, sites in the cleanup database are evaluated for their potential impact on human health and environment, and if they meet certain criteria, they are added to one of two statutorily

Routes to Cleanup in Oregon

At most contaminated sites, there is an owner or operator who is legally responsible for site cleanup. DEQ has authority to require responsible parties to clean up through enforcement orders – these are called **site response** actions. More often, however, responsible parties address the contamination voluntarily. DEQ's **voluntary cleanup** program provides an avenue for the owner or operator to investigate and clean up the site, with DEQ overseeing the process. In 1999, DEQ formalized another option, called the **independent cleanup pathway**, in which the investigation and cleanup is done with a much reduced level of DEQ involvement.

When the responsible party has not been identified or is unable or unwilling to pay for cleanup, DEQ can use **"orphan site"** funds to take necessary cleanup action. In 1995, in addition to orphan funding, the Oregon Legislature authorized another account, funded by the dry cleaning industry, for cleaning up contamination at **dry cleaning sites**. DEQ also works with the federal Environmental Protection Agency (EPA) at the 10 Oregon sites currently on the **National Priorities List**, commonly known as the Superfund List.

Cleanups involving only releases of petroleum products from **underground storage tanks (USTs)** are managed within DEQ separately from other hazardous substance sites. Cleanups of large petroleum fuel tanks, primarily located at gas stations, are **regulated tank cleanups** under state and federal law. Cleanups of leaks from **heating oil tanks**, often at residential locations, have similar requirements.

Statistics in this report do not include USTs unless specifically noted.

¹ In this report, the term NFA includes "conditional" NFAs, which includes sites where the determination depends on long-term operation and maintenance actions, or the on-going application of engineering or institutional controls. To date, DEQ has issued 48 conditional NFAs.

required lists². One is the **Confirmed Release List**, which includes sites where DEQ has verified that hazardous substances have been released to the environment. In FY 2001, 41 sites were added to this list. As of December 2001, there were a total of 576 sites on the Confirmed Release List, not including 39 sites that have been "delisted." The other list is the **Inventory of Hazardous Substance Sites**, which consists of confirmed release sites that need additional investigation or remediation. Twenty-eight sites were added to the Inventory in FY 2001 and the total on the Inventory now stands at 291 sites, not including 23 delisted sites.

Cleanups vary in complexity and in the nature of DEQ's involvement. The box on the previous page describes the various "routes to cleanup" and defines terms used in this report. A statistical summary of FY 2001 cleanup actions and projected FY 2002 activities is included on page 16.

Accomplishments by Program

Site Response: Sites cleaned up under enforcement orders and orphan sites are Oregon's most seriously contaminated sites. At these sites, it can take a number of years to accurately define the extent of the contamination, design an appropriate remedy and complete the cleanup. There are currently about 165 active site response sites. This includes sites financed by the orphan site and dry cleaner funds, and those on EPA's Superfund List, as well as those financed by responsible parties. About 95 of the 165 site response cleanups are being carried out by responsible parties under DEQ oversight. During FY 2001, six sites were completed and given No Further Action determinations.

Orphan Sites: Because orphan funding is limited, only sites posing significant risk to people or the environment become orphans. Orphan sites fall into two categories based on the type of activity causing the contamination. Solid waste orphans involve contamination at municipal or other domestic waste landfills and are financed by a fee on the disposal of solid waste. Industrial orphans are sites contaminated by industrial or commercial activity

Current Cleanup Project Examples

DEQ and the City of Hillsboro worked jointly to clean up a vacated site where a new City Hall will be located. Because a dry cleaning operation was located at the site until 2000, part of the cleanup was paid for by the **Dry Cleaner Fund**. The City financed cleanup of contaminants from other previous uses. Contaminated soil and groundwater were removed and, after additional testing, DEQ staff concluded that no further cleanup action was necessary. This site shows how redevelopment and a good partnership can result in a successful cleanup.

In early 2001, an NFA was issued for a Lane County rock-crushing equipment facility. When the site's owners entered the **voluntary cleanup** program, they had already removed some contaminated soils and installed a system on-site to treat petroleum-contaminated soils from a former paint booth area. Through DEQ's oversight of subsequent testing, staff was able to verify that the soil cleanup was successful and that soil and groundwater conditions no longer pose a threat to human health and the environment.

In November, 2001, DEQ released its proposal to clean up a former toy manufacturing facility in DEQ's **site response** program. In 1998, an industrial solvent was discovered in the facility's water supply well at levels significantly above the federal drinking water standard. The well was immediately taken out of service and replaced by municipal water supply. As an interim measure, systems were installed to prevent the contamination from migrating to other supply wells in the area. DEQ's cleanup plan requires continued treatment, over an estimated 30 years, to destroy the solvent (TCE) and cyanide found in the groundwater.

Two projects illustrate the range of sites using the **Independent Cleanup Pathway (ICP)**. One, a former machine works and foundry, was a fairly complex cleanup. The owner requested DEQ technical consultation at several points to verify that investigation and cleanup were being done properly. This project moved more quickly than it would have with full DEQ oversight. At a former farm in Klamath County, ICP work included both review of cleanup and investigation and DEQ technical assistance. The property owner requested that DEQ review cleanup actions where petroleum and pesticide had been released and to provide consultation on other parts of the site. The project was completed a little more than 3 months from the date the site entered the program.

² Copies of the two lists are available from DEQ at (503) 229-5913 or toll-free, (800) 452-4011. The current lists also can be viewed or downloaded from DEQ's web site. Go to <http://www.deq.state.or.us/wmc/cleanup/crl-list.htm> for information about the listing process and the link to DEQ's cleanup database.

and are currently financed primarily with state general funds. Additional funding comes from a fee on hazardous substances.

In 1999, the Killingsworth Fast Disposal landfill in Portland became the first solid waste site to be declared an orphan. DEQ used orphan site funds to complete construction, in early 2000, of a new system to extract and safely burn off the methane gas. The new system replaced the no-longer-functioning system installed before the landfill's owner declared bankruptcy.

DEQ added three sites to the industrial orphan list in calendar year 2001. Since 1991, when DEQ first started doing cleanup work at state-funded orphan sites, 51 sites have been placed on the industrial orphan site list. Orphan fund financed cleanup activities are on-going at 37 of these sites. Five sites have received NFA determinations, including the Rogue Valley Circuits site in Medford, which was completed in January, 2001. At the other nine, either the high priority work has been completed, or the responsible party or another funding source (such as the federal Superfund) is conducting further cleanup.

Over the past ten years, DEQ has spent more than \$33 million on orphan site cleanups. About \$3.9 million received through cost recovery, insurance settlements and prospective purchaser agreements has been returned to the fund. Much more orphan work remains: There are about 15 sites currently being evaluated as potential orphans.

Dry Cleaner Sites: Since the dry cleaner cleanup program began funding investigation and cleanup in 1997, 35 dry cleaners have applied for assistance. No cleanup was necessary at two of the sites. Cleanup is complete at ten sites and six others are scheduled to be completed by the end of 2002. Several dry cleaner sites have afforded DEQ the opportunity to team with private industry to demonstrate a method to speed up groundwater cleanup.

Voluntary Cleanups: Since this cleanup program was initiated in 1991, DEQ has issued NFA letters for more than 330 sites cleaned up under voluntary agreements, far more than would have been possible under the site response program alone. More than six new sites now enter the program each month. Since the introduction of the Independent Cleanup Pathway in April, 1999, about 65% of the sites entering the program have been independent cleanup projects, while the others continue to be traditional voluntary cleanups with full DEQ oversight. Currently, the average number of active voluntary cleanup sites, including those participating in the independent program, is about 260.

Prospective Purchaser Agreements

Over the last several years, brownfields – abandoned or underutilized commercial or industrial properties where redevelopment or reuse is hampered at least in part by contamination – have become an increasingly visible issue nationwide and in Oregon. Cleaning up and reusing these properties not only protects people and the environment, but also increases employment, creates vibrant communities and lessens the need to build in undeveloped "greenfield" areas. DEQ has made returning these properties to productive use a key goal of its cleanup programs.

One of DEQ's primary tools to encourage brownfield redevelopment is the prospective purchaser agreement (PPA). A PPA is an agreement between DEQ and a buyer of contaminated property which limits the buyer's cleanup liability in exchange for a

"substantial public benefit", such as assisting with cleanup or providing new jobs. DEQ completed five new agreements in calendar year 2001. Agreements have been signed covering 51 properties since 1995.

Emergency Response

Each year, DEQ receives about 1500 reports, from the Oregon Emergency Management System, of spills possibly involving hazardous substances. Because DEQ does not have sufficient resources to respond to many of these spill events, DEQ staff rely on reported information to determine the appropriate response. Response ranges from minimal, at events where the risk is low or it appears the responsible party is responding appropriately, to full coverage at major or significant spills.

In calendar year 2001, DEQ received 1700 spill reports – somewhat more than usual. Of these, DEQ tracked about 900 for potential or actual response. Eight of these were 'significant' events, fewer than the approximately 10 to 15 DEQ plans for in a year. Among the events were 85 drug lab spills for which DEQ arranged for cleanup by a contractor.

Underground Storage Tanks

In FY 2001, 2,809 underground storage tank cleanups were completed in accordance with the state's tank cleanup laws. Of these, 518 were regulated underground storage tanks (USTs) – large petroleum fuel tanks at retail service centers and other commercial establishments. The other 2,291 cleanups were heating oil tanks, primarily residential, which are now certified by DEQ-licensed contractors. Leaks from regulated tanks are a continuing problem, as inactive tanks are decommissioned and upgraded UST systems fail. Although heating oil tanks are smaller than regulated USTs and thus pose somewhat less danger to the environment, they are nonetheless a concern because approximately 20% impact groundwater and most are located within 10 feet of the home. The number of heating oil

Recent Significant Spill Events

A significant spill along the **Yaquina River** near Toledo demonstrates how multiple parties work together to minimize the harm to people and the environment from hazardous substance spills. In January, 2001, a tanker truck fatal accident released 5,800 gallons of fuel oil on U.S. Highway 20. In addition to responding to the accident, the Toledo Fire Department initiated actions to contain the spill, but a substantial amount of fuel reached the river. The Yaquina and its tributaries are home to a variety of fish and wildlife including chinook & coho salmon, steelhead, cutthroat trout, beaver, otter, ducks and geese. DEQ formed a "unified command," along with representatives of EPA and the responsible party, Blue Line Transportation, to establish priorities for the response and oversee the cleanup, but many other parties were involved as well. Because the spilled fuel was a heavy, viscous petroleum derivative, the cleanup was complex and required several environmental contractors with different areas of expertise. Both state and federal fish and wildlife biologists surveyed the river for impacts on resident species. The Oregon Department of Agriculture was also on scene to determine whether there were threats to shellfish, including oysters. Fortunately, the speed of the response prevented the fuel from getting into these areas. The U.S. Coast Guard, National Oceanic and Atmospheric Administration and the Oregon Department of Transportation also participated. The emergency response phase lasted about a week, but DEQ continues to oversee the responsible party's assessment of the site, to ensure that cleanup efforts have been successful.

DEQ and Washington's Department of Ecology both participated in an emergency response to a "**mystery**" spill of about 500 gallons of heavy fuel oil to the Columbia River near the port of Kalama, Washington. In this case, because the source of the spill was not immediately identified, a unified command, consisting of the two state environmental agencies and the U.S. Coast Guard, conducted the cleanup. Oil spread over a 7-mile stretch below Kalama, causing the Coast Guard to spend an estimated \$300,000 responding to the event. Oil samples taken from the spill were compared with oil aboard ships in the area at the time. Based on evidence matching the spilled fuel to samples from an 884-foot container ship, the Coast Guard was able to intercept the ship on a subsequent trip to Portland. Others involved in the larger incident command group included fish and wildlife agencies and environmental groups concerned about the health of the Columbia River area.

tanks releases continues to increase as an ever larger number reach the end of their expected life. The certification program has improved DEQ's ability to keep up with the growing demand.

Changes to Oregon's Cleanup Statutes

Much of the legislative activity affecting environmental cleanup programs during the 2001 session was related to fees and funding changes. (See Budget Update.) Two bills made statutory changes affecting cleanup programs:

- House Bill 2150, which increased oil spill prevention fees for the first time since they were authorized in 1991, also made other changes to Oregon's **marine oil spill prevention and response program**, including:
 - Inland liquid petroleum pipelines are now subject to the requirement to prepare oil spill prevention and contingency plans, which previously applied only to pipelines crossing navigable waters.
 - The bill defined in statute the role of the State On-Scene Coordinator for the cleanup of oil and hazardous materials, clarifying the role of DEQ's response personnel.
 - The Environmental Quality Commission (EQC) is required to establish, by rule, oil spill response zones in and adjacent to the navigable waters of the state and to define the amount of response equipment required to be available in those areas.
 - The bill also established a task force to examine methods to minimize environmental impacts from spills. The task force will report its recommendations to the 2003 Legislature.
- In addition to restructuring the fees that finance **dry cleaner environmental cleanup** fund, Senate Bill 463 also made several changes to the environmental management and cleanup programs the fund finances:
 - New provisions of the law were added to define the number of inactive dry cleaner facilities eligible for cleanup funding. Without this information it has been difficult to project total funding requirements. The bill requires DEQ to develop a list of inactive facilities, based on applications from owners or operators. Prior to establishing a list of inactive facilities, DEQ must adopt rules, conduct outreach to dry cleaner owners and operators, and establish the application process. Inactive dry cleaners are required to pay annual fees to be eligible for cleanup funding.
 - SB 463 clarifies eligibility for protection from cleanup liability under the law. New language reinforces the intent of the original bill's sponsors, which was that protection for a facility owner's be dependent on the eligibility of the facility operator.
 - The associated dry cleaner waste minimization requirements were clarified, and the EQC is to adopt rules related to those provisions.
 - The bill sunsets the program on January 1, 2006.

Program Changes and Improvements

Cleanup Program

In 2001, DEQ undertook several initiatives to improve the effectiveness of its cleanup programs, including hazardous substance and tank cleanups and the emergency response program.

Over the last several years, DEQ has taken many steps to decrease the cost of cleanup and otherwise improve the program. Significant initiatives include introduction of the Independent Cleanup Pathway (ICP) to assist people in cleaning up contaminated property without ongoing DEQ oversight and development of an Alternative Dispute Resolution process, a forum for DEQ and participants in the ICP to resolve contested "No Further Action" determinations.

In the past year, DEQ has continued its efforts to improve customer service. The initiatives undertaken were guided by recommendations from the Voluntary Cleanup Focus Group and the Environmental Cleanup Advisory Committee, following review of an independent customer survey that DEQ commissioned in early 2000. The recommendations covered several areas, including improved communications, access to information and consistent application of DEQ cleanup policies.

In 2001, DEQ:

- Upgraded invoices to provide more specific information about DEQ services associated with cleanup project review.
- Provided more information to program participants by and improved communications between participants and DEQ project managers by:
 - Meeting with program participants to clarify expectations upon entering the program and before DEQ initiates each new major phase of work
 - Providing more certainty about the cost of cleanup projects with written estimates of DEQ oversight costs
 - Increasing certainty about project time frames by acknowledging receipt of major documents and providing, in writing, an estimated review time
- Improved access to site information by:
 - Making the underground storage tank cleanup database available on the Internet, though a user-friendly search screen
 - Enhancing the search features of the existing Internet interface to DEQ's hazardous substance site database. The new feature allows a user to search the database for completed project steps, such as an ecological survey, within a user-specified geographic area. The new search feature is expected to save responsible parties' time and money through use of information gathered for nearby sites.
- Developed an in-house electronic resource center that provides the most recent documents and information to project managers, supporting consistent application of DEQ policy and procedures across the state. The resource center also provides better

coordination with centralized contracting staff, for projects like orphan and dry cleaner sites where DEQ conducts the cleanup.

- Developed a policy for handling the change in DEQ project managers, when necessary, to minimize costs and project disruption for program participants.

DEQ has other improvements planned for the future. Work will continue during 2002 to review and upgrade DEQ's system for tracking and following up on sites that control risk of exposure through engineering or institutional controls. The goal is to better protect public health and the environment. We will also review the application of the "locality of facility" definition, which has to do with determining the area where exposure could occur if the contamination is not controlled. Guidance on this topic will be updated as needed to improve consistency across the state.

Emergency Response and Spill Prevention

DEQ is also leading or participating in efforts aimed at improving preparedness for emergencies of all kinds and focusing more on preventing spills:

- The events of September 11 have emphasized the need for emergency preparedness. DEQ, along with other agencies, has identified the need to coordinate with others to prepare for and minimize the danger posed by the catastrophic release of dangerous chemicals. Specific roles for DEQ would include analysis of chemical weapons in a safe and secure environment, decontamination of exposed areas and issues related to waste disposal. DEQ has been working with other agencies on detailed procedures and protocols for handling chemical weapons. The Department has also made significant progress in developing and implementing a response and recovery plan that will enable the Department to continue services in the case of a general emergency, including natural disasters. This plan will be completed by July, 2002.
- DEQ also continues to collect data and track the progress of state agencies in response to the recommendations from the New Carissa Review Committee, which was appointed to study issues related to the grounding of the New Carissa. The group was charged with examining local, state, and volunteer involvement and identifying ways to improve oil spill planning, prevention and response by state and federal agencies. The Committee issued its report to the Governor in June 2000. A number of the committee's recommendations relate to oil spill prevention responsibilities mandated by ORS 468B.395. DEQ's responsibilities include coordination, training and assistance to other parties involved in oil spill response.
- The emergency response and spill prevention program is also undertaking a review and consolidation of various DEQ administrative rules covering emergency response.

Underground Storage Tank Program

Since the December, 1998 federal deadline for underground storage tank owners to upgrade their equipment, DEQ's Underground Storage Tank Program has focused its resources on continuing the cleanup of historical leaks and on decreasing the risk of future leaks.

Although the aim of the upgrade requirements was to minimize fuel spills into the environment, the equipment doesn't completely prevent leaks. Spill and overfill equipment and leak detection methods only prevent leaks or speed their detection if

components are properly operated and maintained. DEQ is taking a number of actions to help ensure that this happens. First, DEQ is pursuing approval of the state program from EPA, which will allow DEQ, rather than EPA, to be the lead agency for facility inspections. In order to obtain this approval, the program will need to revise existing regulations and demonstrate a strong field presence. To this end, in the coming year, the UST program will increase inspections and develop an expedited enforcement process. Criteria for a mandatory operator-training program will also be established, as required by House Bill 2264. A major component of this effort is to rewrite existing federal requirements in more user-friendly language and format. Rule revisions are expected to be complete by September 2002.

DEQ has also taken steps to help reduce the cost of cleaning up tank leaks by continuing to investigate and encourage new ways to efficiently reduce environmental risks. Within the last two years, DEQ published new risk-based guidance for remediating petroleum contaminated sites and revised the UST Cleanup Manual. New guidance on bioremediation technologies is being published and will be available through DEQ's web site. Finally, the UST program is working to ensure that tank operators are financially able to address spills that may happen in future. DEQ is beginning an effort requesting facility owners or operators to submit proof of financial responsibility (typically, insurance coverage) to pay for environmental cleanup or third party damages should their UST systems leak.

Major Projects and Initiatives

DEQ's cleanup programs play an important role in the agency's goal to protect human health and the environment from toxics, particularly in two emerging areas: contaminated sediments and abandoned mines.

Contaminated Sediments

For years, contaminants from industrial and other activity have been accumulating in river sediments, particularly in harbor areas. We are only beginning to understand the extent of this contamination and the effects it may have on river users, including humans, wildlife and fish populations. Developing and implementing strategies for cleaning up contaminated sediments and preventing future contamination will be a key activity across cleanup, water quality and other DEQ programs in the coming years. Environmental cleanup staff are already playing a role by focusing site assessment activities on these vulnerable areas, prioritizing sites for cleanup work, and investigating and requiring cleanup of sources of contamination. Some areas currently being addressed are Coos Bay, the Columbia Slough (see box on following page), Ross Island in the Willamette and the Portland Harbor area.

Portland Harbor, the segment of the lower Willamette River between Sauvie and Swan Islands, continues to be a significant focus of DEQ's sediment cleanup activities. A joint DEQ-EPA study, completed in mid-1998, found high concentrations of toxic materials, including metals and the pesticide DDT throughout the harbor area. Most of the contamination is concentrated in sediments adjacent to on-shore sites that, based on ongoing DEQ and EPA activities, are already known to be contaminated. This suggests that the on-shore sites may be the source of much of the contamination. On December 1, 2000, Portland Harbor was added to the National Priorities List, or Superfund. EPA and DEQ share responsibility for investigation and cleanup activities related to Portland Harbor: EPA is designated the lead agency for "in-water" work, while DEQ is responsible for the cleanup of sites along the river banks. Work on these upland sites ranges from the early stages of investigation to continuing or completing site cleanups. The investigation focuses on identifying and controlling the sources of harbor sediment contamination. Meanwhile, EPA has been negotiating with property owners and business operators who may be responsible for contaminated sediments. To date, nine have signed an administrative order to carry out a formal Remedial Investigation and Feasibility Study. A workplan for this RI/FS phase is currently being drafted.

Examples of Major Cleanup Projects

Coos Bay Sediments. In December, 1998, the EPA agreed to allow DEQ to continue its state-led cleanup effort, rather than declare Coos Bay a Superfund site. EPA determined that three sites have polluted the area with a variety of contaminants that threaten the bay's aquatic resources. DEQ has cleaned up one of the sites, **Mid-Coast Marine**, a former marine construction and repair operation, with state orphan site funds. Contaminated soils and sediments containing tributyltin, which poses a continuing threat to both the fishing and shellfish industries and to marine life in the bay, were removed. DEQ is now evaluating the human health and ecological risk of the residual contamination. The other two shipyards have been cleaned up by their owners, who are working with DEQ to implement practices to prevent future recontamination.

Portland areawide investigation and cleanup. DEQ continues to work in two areas of metropolitan Portland where contamination from multiple sites has affected a broad area. In both cases DEQ is working with the City of Portland and multiple property owners to identify the sources and begin cleanup efforts.

- One project focuses on the contaminated sediments in the 30-miles of **Columbia Slough** channels. Many of the contaminants in the Slough are persistent and tend to bioaccumulate. Investigations are underway at more than 40 facilities along the Slough that have been identified as high or medium priority for further investigation. The Department is requesting that the City undertake interim action, combining aggressive storm water control and monitoring, verification of contaminant modeling results, and further evaluation of sediment remediation alternatives identified for the Buffalo Slough section.
- At Portland's **Columbia South Shore Wellfield**, DEQ is partnering with the City to address the threat of solvent contamination to the backup and supplemental regional water supply. DEQ and the City have entered an agreement to expedite site discovery, interim removal or hydraulic containment actions and final cleanup remedies. The Agreement calls for jointly-developed strategies, use of DEQ Orphan Site funds and City funds, and a dispute resolution process that gives the City the ability to undertake work should DEQ and the City not agree on the scope of remedial work needed.

Abandoned Mines

Like contaminated sediments, historic mining activity across the state is a source of toxics in the environment. Metals and mining by-products continue to run off into streams, affecting fish and other species, and sometimes threatening human water supplies. Mines are particularly problematic, because many have been abandoned for years, leaving no responsible party to pay for remediation. Abandoned mine land contamination is of concern not only to DEQ's water quality and environmental cleanup programs, but also to many other natural resource agencies, including those who own land where mining occurred, such as the Bureau of Land Management and the US Forest Service.

In accordance with the strategy of focusing site discovery and assessment efforts on "vulnerable areas," DEQ's environmental cleanup program is investigating areas where mining is known to have taken place. DEQ is also partnering with several other state and federal agencies (such the Oregon Department of Geology and Mineral Industries and the federal Bureau of Land Management) in a project to prioritize former mine sites for cleanup and environmental restoration. Similarly, DEQ has been working with EPA to look at the areawide impacts of mining in the Upper Powder River Basin. (See box.) In the past year, DEQ has participated in several conferences with other interested agencies in the Pacific Northwest, to exchange information and explore ways agencies can cooperate in addressing this issue.

Abandoned Mine Projects

Over the last three years, DEQ and EPA site assessment staff have conducted a joint investigation, funded by EPA, looking at the areawide impacts of mining in the **Upper Powder River Basin**. Environmental investigations have been completed at 13 sites located within several historic gold mining districts that were mined in the late 19th and early 20th centuries. Four sites were initially identified as potentially qualifying for the national Superfund list. After follow-up sampling of fish tissue in the basin, however, EPA has decided not to list these sites. Despite the decision not to perform a Superfund investigation and cleanup, DEQ has asked EPA to perform a removal, or interim action, at the Golconda Mine, to protect the environment from the worst of the contamination. The Golconda Mine potentially represents the most significant contamination in the basin. This action would dovetail with anticipated cleanup actions by the responsible party at the other three high priority sites in the area.

DEQ and EPA have also completed a number of investigations focused on the presence of arsenic and mercury in the **Calapooya/Sutherlin Watershed**, where past mining activity is a very likely contributor. DEQ is taking several actions: Highly contaminated soils have been removed from the Bonanza Mine mill area. Investigations are continuing there and at the Nonpareil Mine. Additional air and soil samples will be taken in the coming year to evaluate the risks to nearby residential areas.

Brownfields

DEQ seeks to help and encourage communities and businesses to clean up and reuse brownfield sites, throughout its assessment and cleanup activities. In addition, DEQ supports a number of brownfield-specific activities, such as:

- Brownfield redevelopment is a component of Oregon's **Community Solutions Teams (CST)** strategy to support Oregon communities in solving local problems and improving livability. The five state Community Solutions agencies, including DEQ and the Oregon Economic and Community Development Department (OECDD), all have roles to play in using brownfields as a catalyst to encourage investment in housing and jobs in urban and rural communities. DEQ's primary role is to provide the technical expertise, typically through the voluntary cleanup program, to ensure that properties can be safely reused. DEQ also makes projects possible through prospective purchaser agreements, secures EPA funding as described below, works with CST partners to increase awareness of

brownfield redevelopment opportunities, and partners in other creative ways on individual projects.

- Many brownfields around the state are located at former gasoline stations sites. Yet, because much of EPA's brownfield funding cannot be used for petroleum contamination, it has been difficult to obtain financing for investigation, cleanup and redevelopment of leaking UST sites. Recently, EPA initiated an "USTfields" program and in October 2000, selected Oregon as one of ten recipients of pilot USTfield grants. Federal funds will pay for assessments at three former service stations located in Baker City, Eagle Point and Portland. DEQ is aiding these efforts by providing contract administration and technical assistance, which serves as grant match. DEQ has also submitted applications for EPA's second round of pilot grants, for two additional sites, in Astoria and Lane County.
- EPA "targeted brownfield assessment" grants pay for DEQ to conduct site assessments at government-owned properties and private property where the redevelopment plans promise significant public benefits. To date, DEQ has used these funds to complete eleven assessments across the state, many in rural areas, such as the former cement plant in Baker County (see box).
- Both OECDD and Portland Development Commission have received grants from EPA to capitalize **Brownfield Cleanup Revolving Loan funds**. DEQ works with both organizations to provide the environmental oversight required to ensure the cleanups meet federal standards. Loans are available to both public and private parties to assist with either investigation or cleanup.
- DEQ also assists in technical matters when OECDD makes loans from its **Oregon Brownfields Redevelopment Fund**. The 2001 Legislature approved Governor Kitzhaber's proposed changes to the statutes governing the use of the fund. Previously, loans could only pay to investigate contamination. The bill (SB 275) expanded the program to include all cleanup activities. Now OECDD may also make grants as well as loans, where appropriate. Since the passage of this legislation, OECDD has made five grants, primarily for cleanup activities.
- More than 120 people attended the **3rd Annual Brownfields Conference** in Bend, which focused on brownfields issues affecting the state's large and small communities. The conference was a joint effort of DEQ, OECDD, and Oregon State University's Technical Assistance to Brownfields Communities, Rural Development Initiatives and others, with financial support from private sponsors.

Targeted Brownfield Assessments

Targeted Brownfield Assessment (TBA) funding advanced **Baker County's** objective of eliminating a **former cement plant** as an eyesore, visible from the highway near Huntington. This mining and cement-manufacturing plant was built in the 1920s to supply cement for Owyhee Dam. It had been closed for almost 20 years when, in May 2000, the county requested a TBA to investigate possible contamination from petroleum, PCBs, metals, and related compounds. DEQ concluded that several areas could present risks from direct-contact or air-borne exposure to contaminated soils. With DEQ's recommendation to remove soil in these areas, the County now intends to pursue industrial re-use or greenspace development at this site.

The owner of a **former auto dealership/service center** offered to donate the property to the **City of Newburg** as part of a planned downtown historical/commercial district, but the City was concerned about the attached environmental liability. The City requested a TBA to define the liability. Among the concerns were leaks from a waste-oil tank, PCB-containing light ballasts, and asbestos. Soil contamination is significant enough to warrant removal in only one location. Some groundwater samples revealed contamination, and because there were records of domestic wells nearby, DEQ suggested further evaluation of possible groundwater risks. DEQ also developed worst-case cost estimates for the city to address these items. Because the TBA allayed its liability concerns, the city decided to acquire the property and seek the funding to implement DEQ's suggestions.

Recent Brownfield Cleanup and Redevelopment Projects

Mill Pond Village, Astoria. The transformation of the abandoned Astoria Plywood Mill into a mixed retail and residential development earned Oregon one of twelve 2001 Phoenix Awards, which recognize successful brownfield redevelopment projects nationwide. The Astoria project was an eight year public-private partnership involving the City of Astoria, DEQ, ShoreBank Pacific, the Oregon Mill Site Conversion Program, EPA and many others. Beginning in 1993, DEQ used orphan site funds to address the worst of the many environmental concerns. But the City of Astoria was eager to complete the cleanup to make the prime riverfront property an anchor in its Gateway Master Plan. Persevering through many obstacles, the City completed a deal with a developer to purchase the site. Using the proceeds from the sale, the City repaid the orphan site account for half the cleanup costs, as specified in a prospective purchaser agreement with DEQ. The 16-acre development of parks, housing and neighborhood-oriented commercial enterprises is scheduled for completion by 2006.

Tri-County Service District Wastewater Treatment, Oregon City. To enable expansion of its wastewater treatment facility onto a neighboring property, the Tri-County Service District has entered into a prospective purchaser agreement with DEQ. The property was an unpermitted solid waste landfill in the 1960s and is also contaminated with gasoline. In exchange for a release from further cleanup liability, the PPA provides \$2 million towards cleanup, which includes capping the landfill and removing gasoline-contaminated soil. Any funds remaining after cleanup are pledged to regional groundwater cleanup.

The Yards at Union Station, Portland. This project was the winner of Oregon's first Phoenix Award in 1999. The Portland Development Commission purchased the site as part of the City's plan to devote underutilized parts of the central city into high-density mixed use redevelopment. Investigation prior to building revealed contamination from almost 100 years of use as a rail yard. The remedy included soil removal, capping the site and a deed restriction. The redevelopment, which provides housing for almost 1,000 residents, was financed by a creative mix, including loans, developer equity, tax-exempt bonds, tax abatements and credits, and tax increment financing.

Vocational training center, Madras. With help from OECDD and DEQ, the Opportunity Foundation of Central Oregon, which provides life improvement services to persons with disabilities, will be able to build a vocational training center and retail store on a currently contaminated site in downtown Madras. The foundation purchased the site, formerly the location of a gas station and car dealership, and negotiated a prospective purchaser agreement under which they will address contamination with oversight from DEQ's voluntary cleanup program. A \$99,000 grant from OECDD's Brownfield Redevelopment Fund will pay for demolishing the buildings and removal of asbestos, petroleum contamination and underground tanks. A public green space is also planned. The development is expected to help revitalize Madras' business district.

Peterson's Furniture Store, Ontario. Three new buildings – home to a bank, insurance agency and restaurant – have gone up in downtown Ontario on the site of a former furniture store that was vacant for 11 years due to low-level groundwater contamination. Under a prospective purchaser agreement, the new owner not only created new jobs, but also reimbursed DEQ for past oversight costs, and performed additional required cleanup work, including installation of monitoring wells, additional sampling and assessing the risk to human health. In September 2000, DEQ determined that no further action was necessary.

Oakridge Industrial Park, Oakridge. The City and DEQ have been working together since 1995 to create the Oakridge Industrial Park at the site of the former Pope and Talbot Lumber Mill. Parcels of the site are developed only after they receive an NFA from DEQ. With the help of additional information obtained through a Targeted Brownfield Assessment grant, twenty lots have now been cleared for unrestricted development, and another three are available as long the contaminated groundwater is not used.

Outreach

In many cases, contaminated sites and the adequacy of cleanup plans are, quite understandably, of concern to surrounding communities. DEQ provides information, often working with the responsible parties, through a number of avenues. In addition to providing the required opportunity for public comment on proposed remedies, DEQ holds public meetings to provide information and hear concerns. Written updates are mailed to interested parties and the press and are published on DEQ's web site. Recent examples of sites with a great deal of community interest include:

- A dry cleaner located in a commercial and residential district in southeast Portland where neighbors were concerned about contamination migrating to their property and the associated effect on property values. DEQ staff presented information about risks and allayed community concerns at two public meetings and met additional times with community leaders.
- Solvent (TCE) contamination found in wells in a Corvallis neighborhood. The contamination was found near a site with the same contaminant where cleanup actions were nearly complete. As a result, DEQ sampled drinking water and irrigation wells in the area and began an investigation to determine the source. In addition to providing carbon filters for drinking water as an interim measure, DEQ also initiated actions to keep the public informed: distributed fact sheets to area residents; attended a neighborhood association meeting to present information and answer questions; and kept city officials and affected property owners and residents informed through regular e-mail and other communication.

DEQ staff use many avenues to convey information about DEQ's cleanup programs in an effort to explain how the cleanup process works, to encourage more cleanups and to offer assistance to interested parties. Much of the outreach is directed to representatives of local government, who may own contaminated property, or whose development efforts may be stymied by contamination at a key piece of property. DEQ's outreach ranges from visits to local government officials to meeting with groups such as the League of Oregon Cities, the Association of Oregon Counties, and the Oregon Public Property Managers Association. It also includes consultation on specific issues.

Outreach also extends to the private sector. In May, 2001, DEQ held a conference in Bend for environmental consultants, commercial realtors and bankers, to bring them up to date on the latest in cleanup practices, including the Independent Cleanup Pathway. DEQ also works directly with program users through the Voluntary Cleanup Focus Group that continues to meet two times a year to monitor program progress and discuss issues raised by group members.

Budget Update

The 2001 Legislature passed all of the cleanup program fee increase legislation proposed by Governor Kitzhaber, avoiding service reductions that would have been necessary otherwise. Barring an extended economic downturn, these fees are expected to adequately finance the cleanup programs to which they are dedicated.

Revenues from the cleanup programs most significant fee source have declined in the past year, however, which may pose a challenge to funding cleanup efforts in the future. This revenue, derived from **hazardous waste disposal fees**, is necessary to pay for basic costs of the hazardous substance cleanup program not financed by federal grants or cost recovery of individual site expenditures.

The 2001 Legislature approved these funding changes for DEQ's cleanup and related programs:

- Increased **oil spill prevention fees** for the first time since they were initially authorized in 1991 (HB 2150). The fees are assessed on a per-trip basis on vessels (barges, tankers and cargo vessels) using Oregon's navigable waterways and on marine facilities. This revenue is the only source of funding for DEQ's statutorily-required marine spill prevention duties, including review of contingency plans prepared by marine vessels and facilities, providing guidance to the marine industry on response technologies, and participation in industry drills and exercises. The fee will also enable DEQ to develop a method for natural resource valuation in assessing damage from oil spills, revise the Interagency Response Plan for oil spills, consult with affected parties about plan revisions and provide training for implementing the plan.
- Overhauled **dry cleaner program funding** mechanisms (SB 463). The fees established by the 1995 dry cleaner cleanup legislation have consistently failed to raise the expected \$1 million a year, despite the law's automatic increase in solvent fees each year the revenue has fallen short. Through the efforts of members of the dry cleaner industry, a new set of fees were crafted that are expected to not only generate sufficient revenue, but also to more equitably spread the cost among beneficiaries. Existing facility (per store) and solvent use fees were reduced; the level of facility fee charged now varies with the amount of risk represented by the type of solvent used; and new fees, based on the store's gross revenues, were established. In addition, inactive dry cleaner facilities must also pay fees in order to qualify for program benefits.
- Changed some **hazardous waste disposal fee** categories and rates. A significant change is a reduction in the fee charged for waste from environmental cleanups. This change will not necessarily decrease revenue, however, because the price change could result in offsetting increases in waste disposed at the hazardous waste landfill.
- Increased fees charged to support the streamlined **heating oil tank cleanup program**. In 1999, HB 3107 created a new heating oil tank program that includes licensing requirements for contractors who perform heating oil tank services. Contractors must certify that their work is in compliance with all regulatory requirements and that cleanup standards have been met. DEQ then registers the certified cleanup reports and can audit the companies for general work practices. When established, the program was funded by a mix of General Funds, licensing fees charged to the contractors performing tank work, and filing fees for each report of cleanup or decommissioning submitted to DEQ. General Funds were not reappropriated for the 2001-03 biennium. Instead, the 2001 Legislature authorized (HB 2883) an increase in the filing fee for heating oil cleanup reports to \$125.
- Increased the fees charged to manage **the underground storage tank (UST) leak protection program**, and added new fee categories to support the UST regulatory

program. These activities are not part of the UST cleanup program, but rather prevent future releases by ensuring proper tank system operation. Annual per tank permit fees were increased from \$35 to \$85 dollars. A surcharge of \$20 for 2002 will help pay for the costs of obtaining EPA approval for DEQ's tank program, which is necessary to continue receiving federal funding. Higher fees, together with grant funding, will support 10 FTE. Staffing at this level are expected to pay for tank inspections every three years and to enable DEQ to provide technical assistance to tank owners as needed. (HB 2264)

The Legislature also approved a General Fund appropriation to finance a new orphan site bond sale in the 2001-03 biennium. Although the amount approved is less than requested by DEQ, together with cost recoveries, the \$4 million bond sale will permit continued cleanup of high priority orphan sites.

The Legislatively Adopted Budget for the 2001-2003 biennium is shown on page 17.

Progress in Cleaning Up Sites In Oregon

Sites with a release of hazardous substance or those suspected of being contaminated move through several stages of investigation and cleanup, which are described below. The chart on the next page reports the of number sites that have completed each of the stages in the past fiscal year, as required by cleanup statute. The number of phases initiated is also shown.

Sites added to DEQ's Environmental Cleanup Site Information (ECSI) database are first **screened**, or evaluated, based on readily available information, to determine the site's priority for further investigation. If warranted, many sites then undergo additional analysis called a **preliminary assessment**. Sometimes this investigation is all that is necessary to determine that the site does not pose significant risk. Sites with significant contamination go through the entire process, starting with a **remedial investigation**, involving sampling, site characterization and risk assessment, and a **feasibility study** to evaluate cleanup options. Once a proposed cleanup alternative is approved by DEQ's director, the cleanup method is fully planned in a **remedial design**. The phase where cleanup is carried out, which in some cases takes many years, is called **remedial action**. At a number of sites, interim cleanup actions may be taken prior to full investigation and design, in order to protect people and/or the environment from immediate threats. This is known as a **removal action**. A site receives a **No Further Action (NFA)** designation when DEQ determines that it poses no significant threat to human health or the environment.

For More Information

To obtain additional copies of this report, or for other cleanup program information::

Address: Land Quality Division
811 SW Sixth Avenue
Portland, OR 97204
Telephone: (503) 229-5913 or 1-800-452-4011

Or visit the cleanup programs on the web at <http://www.deq.state.or.us/wmc/index.htm> .

**Cleanup Phases Completed and Initiated
Actual and Projected, Fiscal Years 2001 and 2002**

Actions	Completed		Initiated	
	7/00-6/01	Projected 7/01-6/02	7/00-6/01	Projected 7/01-6/02
Suspected Releases Added to Database	239	160	NA	NA
Added to Confirmed Release List	41	48	NA	NA
Added to Inventory	28	30	NA	NA
Site Screenings	106	150	135	150
Prelim. Assess'ts & Site Investigations	75	90	78	90
Voluntary Cleanup				
Removal Actions	15	15	16	15
Remedial Investigations	22	22	18	19
Feasibility Studies	10	10	10	9
Remedial Design	2	2	1	2
Remedial Actions	10	10	11	12
No Further Action Determinations	55	55	NA	NA
Site Response				
Removal Actions	8	8	6	8
Remedial Investigations	6	8	9	8
Feasibility Studies	9	9	7	8
Remedial Design	3	3	2	2
Remedial Actions	3	3	5	4
No Further Action Determinations	6	6	NA	NA
Underground Tanks				
Regulated Tank Releases Reported	135	120	NA	NA
Regulated Tank Cleanups	518	450	123	100
Heating Oil Releases Reported	2613	2800	NA	NA
Heating Oil Tank Cleanup Certifications	2291	3000	NA	NA

Notes:

- No Further Action Determinations include "conditional NFAs," where contamination is left in place, but controls are in place to prevent exposure.
- Heating Oil Tank Cleanup Certifications represents the number of reports filed with DEQ by licensed contractors. (Previous annual cleanup indicated the number of cleanups reviewed and approved by DEQ.)
- Since the beginning of program operations, 39 sites have been removed from the Confirmed Release List and 23 from the Inventory.
- Site Response actions include cleanups that are not "enforcement" sites under a consent order; these include those financed by the dry cleaner fund and orphan site cleanups.

Legislatively Adopted Budget, 2001-03

(Dollars in millions)

Activity	Funding Sources	Budget*
Environmental Cleanup (excluding USTs)		
Enforcement and voluntary sites, program management	HSRAF ³ (including cost recoveries), EPA grants	16.3
Orphan cleanups	Industrial Orphan Site Account	6.0
McCormick & Baxter Superfund site	Federal Superfund	8.2
Dry cleaner cleanups ⁴	Dry Cleaner Fund	2.0
	99.3 FTE	\$ 32.5
Underground Storage Tank Cleanups		
Regulated tank cleanups	Federal grant, cost recoveries, HSRAF (grant match only)	3.4
Heating oil tank cleanup and decommissioning	Contractor licensing, tank owner certification fees	0.6
	10.5 FTE	\$ 4.0
Emergency Response and Spill Prevention		
Emergency Response	General Fund, cost recoveries, EPA grant funds	1.0
Highway Spills	Petroleum Load Fee	0.2
Drug Lab Cleanups	Asset forfeitures, cost recoveries, law enforcement agency reimbursements	0.4
Oil spill prevention, preparedness	Marine vessel & facility fees	0.6
	25.4 FTE	\$ 2.2
Cleanup Total	135.2 FTE	\$ 38.7

* Does not include agency indirect charges.

³ Hazardous Substance Remedial Action Fund

⁴ Includes hazardous waste minimization component of program