

22nd Annual Environmental Cleanup Report



State of Oregon
Department of
Environmental
Quality

Submitted to:

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

by

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January 2011



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Introduction

This report is required by ORS 465.235 and is prepared for the Oregon Legislature, the governor, and Oregon's Environmental Quality Commission. The report includes:

- Statistics and a description of environmental cleanup program activities;
- A summary of key issues affecting cleanups in Oregon including a funding shortfall in the state's Orphan Site Account; and
- A new four-year operational plan for fiscal years 2011 through 2015.

Highlights

DEQ is making good overall progress in investigating and cleaning up contaminated sites. For example, DEQ conducted more removal actions than anticipated in 2007. However, for most categories of cleanup actions, notably including preliminary assessments and no further action determinations, the Department completed fewer than the anticipated number of cleanup actions compared to projections developed in 2007, as shown in the following table:

Completed actions	FY 2010		FY 2007-2010	
	Projected	Actual	Projected	Actual
Removal Actions	6	11	24	49
Preliminary Assessments	25	9	100	76
Remedial Investigations	13	10	50	44
Feasibility Studies	6	7	24	28
Records of Decision	10	6	40	39
Remedial Actions	15	13	60	46
No Further Action Determinations	83	51	330	287

Taken as a whole, the number of cleanup actions completed is generally consistent with DEQ's 2007 projections. DEQ believes the somewhat lower than anticipated overall number of cleanup actions completed since 2007 can be attributed to:

- 1) Economic conditions: Most cleanup work in Oregon is completed by responsible parties under voluntary agreements at a pace controlled in large part by the responsible party. In many cases, pending property transactions serve as a stimulus for participation in voluntary cleanup program work. In addition, for parties that have requested DEQ oversight of voluntary cleanup project work, the pace of voluntary cleanup work is often driven by economic redevelopment considerations and the ability of parties to afford cleanup work. For these reasons, DEQ believes the number of voluntary cleanup projects completed continues to be affected by poor overall state and national economic conditions.
- 2) Cutbacks in staff: DEQ sharply reduced cleanup program expenditures beginning about five years ago, including the number of full-time staff assigned to investigation and cleanup projects, due to serious budget issues. These positions have not been replaced, and the reductions continue to affect all cleanup activities. Notably, in prioritizing various cleanup program activities as part of these adjustments, DEQ has deemphasized site assessment (preliminary assessments) and some voluntary cleanup project work to focus available staff

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resources on higher priority public health and environmental risk sites. The higher priority sites are usually more complex and therefore take longer to complete.

- 3) Loss of experienced project managers: Most DEQ project managers have many years of experience in investigating and cleaning up contaminated sites, and retirements have increased significantly. This is a challenge for DEQ's cleanup program because it requires more time for new project managers to learn the history and key issues at long-standing cleanup projects.
- 4) Complexity of cleanup projects: Some cleanup sites are inherently more complex and technically challenging. These include, but not limited to, upland sites located in the vicinity of the Portland Harbor federal Superfund site. In addition, toxicological information developed by U.S. Environmental Protection Agency about contaminants of concern is evolving, in some cases requiring greater degrees of site investigation and cleanup to protect public health and the environment.
- 5) Lack of Orphan Site Account funds: Because of limited Orphan Site Account funds – dedicated for cleanup of sites where the responsible parties are unknown, unable, or unwilling to conduct cleanup – DEQ has been forced to reduce work that would otherwise be completed at high priority sites presenting human health and environmental risks.

DEQ continues to work on program and process improvements with the objective of making it easier to clean up contaminated properties. For example, DEQ develops and updates guidance to help solve technical challenges and facilitate cleanup and, in 2010, issued guidance to address vapor intrusion in buildings. DEQ is also taking administrative steps to make sure DEQ project managers are effectively managing sites and moving cleanup sites towards closure.

The balance of this report discusses how sites are investigated and cleaned up, and provides an updated four-year plan for the environmental cleanup program. The report also discusses key issues for consideration of the Legislature, including financing for the investigation and cleanup of Orphan sites and proposed changes to the state's *Prospective Purchaser Agreement* program.

Accomplishments – Fiscal Year 2010

Oregon's environmental cleanup program:

- Evaluates and prioritizes for further action sites that are contaminated with hazardous substances;
- Oversees the investigation and cleanup of sites presenting significant risks to human health or to the environment;
- Assists property owners and local communities in restoring properties to productive use through voluntary cleanup, brownfield redevelopment and Prospective Purchaser Agreements; and
- Conducts investigations and cleanups at “orphan sites,” in cases where the responsible party is unknown, unwilling, or unable to complete required cleanup actions.

As required by ORS 465.235, this section describes cleanup program accomplishments in fiscal year 2010.

Sites in DEQ's database

Since 1988, DEQ has identified more than 4,600 contaminated and potentially contaminated sites in Oregon. 130 sites were identified in fiscal year 2010.

Sites on the Confirmed Release List

In FY 2010, DEQ added 10 sites to the Confirmed Release List and removed five. The CRL includes sites where contamination has been documented rather than just being suspected.

Sites on the Inventory

In FY 2010, DEQ added eight sites and delisted three others from the Inventory, which lists sites with confirmed contamination where DEQ has, upon further investigation, found clear risks to human health or the environment. Sites that rely on *engineering or institutional controls* to manage risks (see sidebar at right) must remain on the Inventory.

The Cleanup Process in Oregon

DEQ **screens** sites where hazardous substances may have been released to determine priorities for further action. If a release appears likely, a **Preliminary Assessment** may be conducted to investigate the presence of contamination. A **Site Investigation** may also be conducted to delineate the extent of contamination. If an emergency situation exists, a **Removal** may be needed to stabilize the site.

Sites known to be contaminated proceed through a three-step investigation process to determine how (or whether) they are to be cleaned up. A **Remedial Investigation** determines the full nature and extent of the contamination. A **Risk Assessment** looks at threats the contamination may pose to human health and the environment. Finally, a **Feasibility Study** evaluates various cleanup options for the site. From this information, DEQ determines whether the site needs cleanup and, if so, how it should be done. A **Removal** may be conducted at any time during this process to quickly reduce the amount of contamination and the threat it poses.

For sites where the necessary cleanup is relatively straightforward and simple, an initial removal action may be all that is required. However, if the cleanup will be more difficult and complex, DEQ may issue a formal cleanup decision (called a **Record of Decision**) after a **public comment period**. The resulting cleanup is referred to as a **Remedial Action**. In addition to (or instead of) removing or eliminating the contamination, an **Engineering Control** (such as a cap or fencing) may be put in place to isolate the contamination. Or, an **Institutional Control** may be recorded to limit future activities at the site so that people and animals aren't exposed to the contamination.

A site receives a **No Further Action** designation when DEQ determines that the site poses no significant threat to human health or the environment. This may occur at any point during the investigation and cleanup process.

Preliminary Assessments

A Preliminary Assessment is an investigation of a site, its surroundings and potential receptors. The history of a site is reviewed and a walk-through is conducted to determine whether contamination might be present and what its effects could be. Sampling of environmental media may or may not be conducted. DEQ uses this information to determine the site's priority for further investigation and cleanup.

In FY 2010, DEQ or parties working with DEQ initiated Preliminary Assessments at eight sites, and also completed assessments at nine sites.

Removals

A Removal is a cleanup that occurs before, or in lieu of, a Remedial Investigation, Feasibility Study or a final cleanup remedy. In many cases, Removals are used to address "hot spots" of contamination. Removals can effectively and efficiently help protect public health by preventing exposure to contaminants and the further spread of contamination. In FY 2010, Oregon began 13 Removals and completed 11.

Remedial Investigations

A Remedial Investigation is an extensive sampling effort at a site to determine contaminants that are present, their locations, concentrations, and migration patterns. Remedial Investigations include an evaluation of risks that contamination poses to human health and the environment. Not every site in DEQ's Cleanup Program requires this level of intensive investigation.

DEQ initiated 11 Remedial Investigations in FY 2010, and completed 10. Because Remedial Investigations often take more than a year to complete, investigations started in a given fiscal year are generally completed in a subsequent fiscal year.

Feasibility Studies

For sites that have undergone Remedial Investigations, Feasibility Studies provide detailed comparisons of different cleanup methods. Various approaches or technologies can be used, and each is evaluated for protectiveness. Options found to be protective of human health and the environment are then evaluated for *effectiveness, implementability, reliability, implementation risk, and reasonableness of cost*, as required by law. DEQ recommends a preferred option as the final cleanup strategy, and makes the final selection after public comment. In FY 2010, DEQ began seven Feasibility Studies and completed seven.

Records of Decision

A Record of Decision documents the cleanup approach to be used at large, complex, or significantly contaminated sites with completed Remedial Investigations and Feasibility Studies. DEQ finalizes the Record of Decision after evaluating public comments on the proposed approach and adjusting it as needed. The Record of Decision incorporates information from the Remedial Investigation and Feasibility Study to summarize the nature and extent of contamination, risks posed by contamination, and the method to be used to implement a remedy. DEQ initiated seven Records of Decision in FY 2010, and completed six. It takes several months for a Record of Decision to be written, released for public comment, and approved.

Remedial Actions

A Remedial Action is the final cleanup action at a site. Remedial actions may involve eliminating contamination from a site by excavation or treatment, or isolating the contamination through institutional controls – such as deed restrictions limiting certain land or water uses to prevent exposure – or implementation of engineering controls such as caps, fencing, or barrier walls. In FY 2010, DEQ initiated 11 Remedial Actions, and completed 13.

No Further Action Decisions

DEQ makes a No Further Action determination when the agency concludes that a site no longer poses risks to human health or the environment, and no further investigation or cleanup is necessary. During FY 2010, DEQ issued No Further Action decisions at 51 sites. The number of No Further Action decisions exceeds the number of Records of Decisions and Remedial Actions because many sites can be cleaned up using a quicker and simpler process.

Since its inception in 1988, DEQ's Cleanup Program has made No Further Action decisions at 1,453 sites. This amounts to nearly one-third of all sites in the state's Environmental Cleanup Site Information (ECSI) database.

Cleanup Program Reports

Voluntary Cleanups

The 1991 Legislature authorized a Voluntary Cleanup Program to provide willing parties with DEQ oversight while they investigate and, if necessary, clean up contamination from their properties. This cooperative process helps parties move through the process efficiently, and meet sometimes tight funding and redevelopment deadlines.

In 1999, DEQ added a second Voluntary Cleanup “pathway.” **Independent Cleanup** is a process by which parties complete their own investigations and cleanups with minimal DEQ oversight. If a party provides DEQ with 90 days’ notice, typically DEQ staff can arrange to review and approve a final cleanup report within 60 days after the report is submitted. The Independent Cleanup option is available for slightly or moderately contaminated sites that may exceed acceptable risk levels, but do not pose imminent threats to human or environmental health.

There are approximately 400 active Voluntary Cleanup sites, with about 300 sites following the traditional pathway, and about 100 in Independent Cleanup. Since 1991, the Voluntary Cleanup Program has issued No Further Action decisions for 787 sites, far more than the Site Response Program alone could have completed.

Brownfields

A brownfield is a vacant or underused property where actual or perceived contamination hinders expansion or redevelopment. These sites are often highly visible community eyesores where uncertainty about potential cleanup liability has derailed opportunities to bring new site uses and jobs that would revitalize the community.

Brownfields range from small inner city industrial properties to old strip malls to formerly-used rural gas stations. The cleanup and redevelopment of these properties can cure blight, increase the local property tax base, provide jobs, help meet Oregon’s land use goals, and protect public health and the environment.

Routes to Cleanup in Oregon

DEQ’s cleanup program has many options to help owners and operators of contaminated property move through the investigation and cleanup process. A popular option is **Voluntary Cleanup**. Willing parties and their contractors sign up to have DEQ staff oversee their projects, to ensure that their work meets all appropriate requirements. Parties can choose the standard Voluntary Cleanup approach or **Independent Cleanup**, depending on the project’s complexity and the amount of oversight needed.

DEQ also “discovers” contaminated properties through **Site Assessment**. DEQ learns about potential contamination from phoned-in complaints, unsolicited reports, and other DEQ programs or government agencies, in addition to conducting its own inquiries. DEQ evaluates and ranks sites according to their potential threats. Responsible parties are often encouraged to address their contamination through Voluntary Cleanup.

If a site is a high priority, DEQ may choose to take control of remedial activities, rather than wait for responsible parties to do so. DEQ can require cleanups to be conducted through **Site Response**. Parties can also enter Site Response voluntarily, if they want to conduct cleanup under a legally-enforceable order or judgment. If no responsible parties are able or willing to clean up a high-priority site, or if responsible parties are unknown, DEQ may designate the site an **Orphan**, and conduct the cleanup using its Orphan Site Account.

Qualifying contaminated **Dry Cleaner** sites are also addressed through their own separate account.

Other types of cleanups are conducted under separate statutory authority. For example, hazardous material spills are cleaned up through **Emergency Response** and petroleum releases from regulated **Underground Storage Tanks** (USTs) are addressed through the Leaking Underground Storage Tank Program.

In FY 2010, DEQ's cleanup program provided technical assistance to five local governments that have received U.S. Environmental Protection Agency brownfield grants worth more than \$1 million. DEQ also distributed about \$250,000 in EPA grant money to evaluate and clean up contamination at eligible brownfield sites. The 3-acre *Station Place* project in Northwest Portland won a 2010 "Oregon Brownfields Award" for effective and environmentally sustainable redevelopment of a dilapidated Brownfield site into new housing and parking, a business, and a rebuilt auto ramp. DEQ was closely involved in site investigation, cleanup, and planning for the new construction, which resulted in both temporary and permanent jobs in Oregon.

Prospective Purchaser Agreements

DEQ uses Prospective Purchaser Agreements as a tool to facilitate the cleanup and productive use of properties contaminated with hazardous substances. PPAs provide developers and others with the certainty necessary to acquire contaminated property, make financial investments, and move forward with redevelopment. A PPA is a legally binding agreement between DEQ and a prospective purchaser, which limits the purchaser's liability to DEQ for environmental cleanup at the property in exchange for providing a "substantial public benefit" such as partial cleanup and economic reuse of an otherwise vacant or underutilized property.

Since approval of the PPA provisions by Oregon's Legislature in 1995, DEQ has negotiated over 100 PPAs throughout Oregon, including eight in fiscal year 2010. PPAs have proven to be a significant tool for both cleanup and economic development.

DEQ is proposing modest changes to the existing statute to enhance an already useful tool as discussed later in this report.

Orphan Sites

Orphan sites are highly contaminated properties where parties responsible for the contamination are unknown, unwilling, or unable to clean it up. These sites include individual properties as well as "areawide" sites where hazardous substances have affected sources of drinking water.

Sites are designated as orphans only if they are high priority for cleanup, posing a serious threat to human health or the environment. To date, 96 sites have been officially declared orphans. About 20 of these have been cleaned up and closed (no further action-status), and many of these sites now support enhanced uses through redevelopment.

The balance of the state's 96 currently-declared orphan sites are in various stages of investigation and cleanup, including operation and maintenance (e.g., continued operation of treatment systems to protect drinking water resources). At this time, DEQ is actively working on only about 20 orphan sites due to limited available funding. DEQ has focused its limited Industrial Orphan Site Account budget on sites directly affecting public health (placing lower priority on ecological or environmental threats). Examples of threats associated with orphan sites include:

- Drinking contaminated water from private and public drinking water supplies;
- Exposure to contaminated soils or other media;
- Eating fish contaminated by releases of hazardous substances; and
- Breathing indoor air contaminated by hazardous substances migrating into homes and commercial businesses.

A legislative request for orphan site funding has been proposed for inclusion in the Governor's balanced budget. Additional information about this request is provided in the following section.

Key Issues

Orphan Funding Shortfall

In 1991 the Legislature authorized an *Orphan Site Account* to address high priority orphan sites. The Industrial OSA¹ has been funded primarily through the sale of long-term bonds.

Over the life of the program, General Obligation bonds have been issued seven times, providing a total of \$41.85 million, including the most recent issue authorized by the 2007 Legislature. Although the 2007-authorized bond issue provided \$4.5 million in revenue for orphan site work, \$657,000 of the bond proceeds were re-designated in 2009 for debt service rather than site cleanup as a result of the State's General Fund shortfall.

The state's OSA budget indirectly benefitted from recent federal appropriations. In 2009, Congress approved stimulus program funding, pursuant to the *American Recovery and Reinvestment Act (ARRA)*. DEQ requested and received \$2.7 million in ARRA funding for Leaking Underground Storage Tank investigation and cleanup, which continues to be used at 13 sites around the state. These federal dollars helped to implement work in the past two years at sites that otherwise would have required Orphan Site Account funding.

Since 1991, DEQ has successfully recovered approximately \$8.5 million of OSA expenditures from responsible parties. The prospects for additional cost recovery of Orphan Site Account expenditures are quite limited since there are only a few currently-declared orphan sites remaining with an opportunity for significant cost recovery.

DEQ has fully spent proceeds from previous bond sales, and we forecast that about \$250,000 to \$400,000 of cost recovery funds will remain on June 30, 2011. To conserve funds, DEQ has been limiting use of Orphan Site Account funds to the very highest priority sites given uncertain prospects for future funding.

DEQ has proposed for inclusion in the 2011-13 Governor's Balanced Budget a bond sale to enable work on orphan sites in three expenditure categories, with estimated costs of approximately \$3.4 million for the 2011-13 biennium as follows:

- 1) *National Priorities List Obligations: \$625,000.* For federal Superfund (National Priorities List) sites, federal law requires the State of Oregon to pay 10% of total remedial action costs of EPA-implemented remedies. Oregon must also pay 100% of the long-term operation and maintenance costs of installed remedies. Anticipated FY 2011-13 federal obligations include \$450,000 for Taylor Lumber (Yamhill County) and \$175,000 for McCormick and Baxter (Multnomah County).
- 2) *Other Fixed Costs: \$275,000.* This category includes the maintenance of remediation systems at other sites not listed on the NPL. These sites include: Surgichrome (Clackamas County), NuWay Oil (Multnomah County), Lebanon Areawide (Linn County), Frenchglen Mercantile and VP Valley Products (Malheur County), and Lone Elk Market (Wheeler County). In most of these cases, the installed treatment systems are protecting drinking water supplies.

¹ There is also a Solid Waste component to the OSA, which is used to clean up contaminated municipal solid waste landfills and is funded by solid waste disposal fees, rather than bond sales.

- 3) *Investigation and Cleanup of High-Risk Sites: \$2.5 million.* This category covers costs to stabilize and to continue investigation and cleanup of sites where remedies have not yet been implemented to protect public health and the environment.

If sufficient funding is available, DEQ intends to work on about 25 of the highest priority orphan sites. Conversely, without continued funding for this work:

- People will be at risk of exposure from contamination currently being addressed with installed treatment systems;
- Uncontrolled sites will continue to leak contaminants, particularly to ground and surface water bodies;
- By not meeting federal commitments to operate remedies at Superfund sites and provide a 10% match for federal cleanup expenditures, we put at risk future EPA Superfund spending at sites like Formosa Mine (Douglas County), North Ridge Estates (Klamath County), and Astoria Marine (Clatsop County); and
- By investing in removal of the worst of the contamination, in many cases DEQ can make orphan sites attractive to investors who will finish the cleanup and return the site to productive use.

DEQ's proposal is to sell \$6.74 million in bonds to fund orphan work for two biennia. Policy Package 183 proposes to finance this work using revenue that will be freed up when the oldest of the OSA bond issues are paid off during the 2013-15 biennium. Debt service for those bonds came from both General Funds and the Hazardous Substance Possession fee. DEQ proposes to use the Hazardous Substance Possession fee exclusively to finance the new issue; the fee would not need to be increased to provide for debt service. Policy Package 131 would also provide other funds limitation to expend about half of the proceeds in 2011-13.

Cleanup Changes and Economic Development

DEQ is proposing legislative changes to the Prospective Purchaser Agreement program to enhance use of PPAs for economic redevelopment and environmental cleanup. Under the current statute, DEQ is authorized to provide certain liability protections to purchasers of contaminated properties. These include a release of liability from the State of Oregon from cost recovery actions (if entered into as a judicial consent judgment under the provisions of ORS 465.325) and protection from cost recovery actions by other liable parties, such as former owners or operators of the properties.

However, recent federal court decisions suggest Oregon's cleanup law might be interpreted to allow so-called "direct" cost recovery claims against prospective purchasers that would otherwise not have financial liability for properties that were contaminated prior to acquisition by the new owner. This is a new concept that was not known or considered when the original PPA program was authorized by the 1995 Legislature.

To address this potential deficiency, DEQ is proposing HB 2082 to provide prospective purchasers who enter into a judicially-approved consent judgment explicit protection against direct cost recovery claims.

**Cleanup Phases Initiated and Completed for
Fiscal Years 2010 and 2011**

Site actions	FY 2010 (Actuals)		FY 2011 (Forecast)	
	Initiated	Completed	Initiated	Completed
Suspected Release Sites Added to Database	130	130	138	138
Added to Confirmed Release List	10	10	25	25
Added to Inventory	8	8	18	18
Site Screenings	28	28	50	55
Preliminary Assessments	8	9	25	25
Removal Actions	13	11	8	6
Remedial Investigations	11	10	10	13
Feasibility Studies	7	7	7	6
Records of Decision	7	6	10	10
Remedial Actions	11	13	14	15
No Further Action Determinations	51	51	83	83

FY 2011 forecasts are based on estimates developed in January 2007 as part of the four-year plan included in the January 2007 Environmental Cleanup Report. As provided by ORS 465.235, a new four-year plan for fiscal years 2012-15 is included on Page 11 of this report, and the updated numbers contained in this new report should be used for forecasting purposes.

Four-Year Plan: Projected Cleanup Actions, 7/1/11 – 6/30/15

Site actions	2011-13 Biennium	2013-15 Biennium
Suspected Releases Added to Database	260	260
Added to Confirmed Release List	20	20
Added to Inventory	16	16
Site Screenings	56	56
Preliminary Assessments	18	18
Removal Actions	22	22
Remedial Investigations	22	22
Feasibility Studies	14	14
Records of Decision	20	20
Remedial Actions	23	23
No Further Action Determinations	144	144

This Four-Year Plan assumes no significant changes in program funding and staffing levels through June 30, 2015. DEQ absorbed approximately 25% FTE reductions in the cleanup program during 2005 and 2006 and these reductions are projected to remain in place.

In forecasting the number of completed actions in the next two biennia, DEQ relied upon results from the past year and from the past four years, as follows:

- a) For remedial investigations, feasibility studies, records of decisions, remedial actions, and no further action determinations, DEQ used the number of actual completed actions from the past four years to forecast results for the next four years;
- b) For projected completions in site discovery work (e.g., suspected sites added to the database; additions to the confirmed release list and inventory; site screenings; and preliminary assessments), DEQ used the number of actual completed actions from FY 2010 as the bases for future estimates. We relied upon FY 2010 results given the overall maturity of the environmental cleanup program and the generally lower priority of site-discovery work for DEQ at this time; and
- c) For removal actions, DEQ assumes the number of completed removal actions will match results achieved in FY 2010, given a growing emphasis by DEQ and others on use of removal actions to stabilize and address short-term risks.

For More Information

If you have questions or comments about this report, please contact Jeff Christensen, Emergency Response and Environmental Cleanup Program manager, at christensen.jeff@deq.state.or.us. Additional information about cleanup projects and programs is also available on DEQ's web site at <http://www.deq.state.or.us/lq/cu/>.