

21st Annual Environmental Cleanup Report



State of Oregon
Department of
Environmental
Quality

Submitted to:

**Governor Ted Kulongoski
Oregon Legislative Assembly
Environmental Quality Commission**

by

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Introduction

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.

This Environmental Cleanup Report summarizes major developments in the state’s environmental cleanup program, identifies accomplishments during Fiscal Year 2009 (July 1, 2008 through June 30, 2009) and forecasts future activities. ORS 465.235 requires the Oregon Department of Environmental Quality to prepare this report annually for the Oregon Legislature, the governor, and the Oregon Environmental Quality Commission. By statute, every fourth year, the report is to include an updated four-year plan. The latest four-year plan was developed in 2007 and will be updated in next year’s report. This report includes:

- Statistics on environmental cleanup program activities in fiscal year 2009 and anticipated activities for next year;
- Descriptions of environmental cleanup program components; and
- A summary about an expected funding shortfall in the state’s Orphan Site Account and the effects such a shortfall would have.

Highlights

Compared to the 2007 four-year plan projections, with some exceptions, DEQ completed slightly fewer than its anticipated number of cleanup actions, as indicated in this table:

Cleanup Actions	Fiscal Year 2009	
	<u>Projected Completions</u> (<u>Estimate from 2007</u>)	<u>Completions</u> (<u>Actual Results</u>)
Preliminary Assessments	15	18
Removals	8	7
Remedial Investigations	15	13
Feasibility Studies	9	7
Records of Decisions	8	11
Remedial Actions	10	10
No Further Action Determinations	85	84

While Fiscal Year 2009 cleanup completions were generally consistent with projections, the trend line of completed cleanup actions has declined slightly over the past several years. DEQ attributes this modest decline to:

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- 1) Economic conditions: Most cleanup work in Oregon is completed by responsible parties under voluntary agreements. As a result, the pace of cleanup work is driven by economic redevelopment considerations and the ability of parties to afford cleanup work. Due to poor overall state and national economic conditions since the recession began in December 2007, DEQ believes the total number of voluntary cleanup projects completed has been affected accordingly.
- 2) Cutbacks in staff: Due to serious program budget issues, in 2006 DEQ sharply reduced program expenditures, including the number of full-time staff assigned to investigation and cleanup. These reductions have affected all cleanup activities.
- 3) Types of sites: Over the past several years, many sites entering the state's Voluntary Cleanup Program have been small and lightly contaminated, and have proceeded to no-further-action determinations without needing Removals, Remedial Investigations, or Feasibility Studies.
- 4) Lack of Orphan Site Account funds: Because of limited Orphan Site Account (OSA) 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. Additional information about the lack of OSA funds is included on pages 6 and 7 in this report.

Despite these factors, DEQ believes it is making good progress overall in investigating and cleaning up contaminated sites.

The balance of this report discusses, in more detail, how sites are investigated and cleaned up, and the pace of cleanup work in Oregon. The report also discusses difficult issues in financing investigation and cleanup of Orphan sites. This is one of Oregon's many emerging public health and environmental challenges.

Accomplishments – Fiscal Year 2009

Since 1988, DEQ has identified more than 4,500 contaminated and potentially contaminated sites in Oregon. An additional 168 sites were identified in Fiscal Year 2009 (FY 2009).

Sites on the Confirmed Release List

In FY 2009, DEQ added six sites to the Confirmed Release List (CRL) and removed five. The list includes sites where contamination has been documented rather than just being suspected.

Sites on the Inventory

In FY 2009, DEQ added three sites and delisted three others. The Inventory lists sites with confirmed contamination that DEQ has determined poses 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.

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 2009, DEQ or parties working with DEQ initiated Preliminary Assessments at 21 sites, and completed assessments at 18 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 2009, Oregon began eight Removals and completed seven.

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.

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 17 Remedial Investigations in FY 2009, and completed 13. 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 2009, DEQ began 11 Feasibility Studies and completed seven. Because Feasibility Studies often take over a year to complete, the number of studies started and completed during a given period may differ.

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 13 Records of Decision in FY 2009, and completed 11. It takes several months for a Record of Decision to be written, released for public comment, and approved. As a result, over a given period, the Records of Decision started are generally not the same as those completed.

Remedial Actions

A Remedial Action is the final cleanup action at a site; it may involve eliminating contamination from a site, or isolating the contamination through institutional controls such as deed restrictions limiting certain land uses such as residential construction or groundwater withdrawal, or implementation of engineering controls such as caps, fencing, or barrier walls. In FY 2009, DEQ initiated 13 Remedial Actions, and completed 10. Because Remedial Actions may take years to complete, the number of such actions started and completed during a given time period can differ.

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, or when DEQ determines that a site presents no unacceptable risks, and cleanup action is therefore not needed. During FY 2009, DEQ issued No Further Action decisions at 84 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 1,403 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, 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 404 active Voluntary Cleanup sites, with 314 sites following the traditional pathway, and 90 in Independent Cleanup. Since 1991, the Voluntary Cleanup Program has issued No Further Action decisions for 752 sites, far more than Site Response 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.

In FY 2009, 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 \$230,000 in EPA grant money to evaluate and clean up contamination at eligible brownfield sites. The *Watershed at Hillsdale* affordable senior housing project won the 2009 EPA “Phoenix Award” for effective and environmentally sustainable re-use of a small Brownfield site. The cleanup, overseen by DEQ, was completed prior to construction.

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.

Prospective Purchaser Agreements

DEQ uses Prospective Purchaser Agreements (PPAs) as a tool to facilitate the cleanup and productive use of properties contaminated with hazardous substances. 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 more than 100 PPAs throughout Oregon, including two in Fiscal Year 2009.

PPAs have proven to be a significant tool for both cleanup and economic development.

Orphan Sites

Orphan sites are highly contaminated properties or areas where parties responsible for the contamination are unknown, unwilling, or unable to clean it up. The 1991 Legislature authorized a state *Orphan Site Account* (OSA) to clean up contamination that poses potentially serious threats to human health or the environment.

Orphan sites include a range of contaminated sites such as small businesses, abandoned mines, and larger, "areawide" sites where hazardous substances have affected sources of drinking water. Since 1992, the Account has funded work at more than 60 high-priority Orphan sites, about 20 of which are currently active. DEQ designated seven additional sites as Orphans during the 2007-09 biennium.

The Account is funded primarily through the sale of long-term bonds and cost recovery from responsible parties. Since 1992, the Oregon Legislature has approved DEQ's issuance of bonds totaling about \$41.9 million, including \$4.5 million authorized by the 2007 Legislature. While DEQ's cost-recovery efforts since 1992 have returned approximately \$8.4 million to the OSA, future cost recovery is expected to be quite limited. Leading up to the 2009 Legislative Session, DEQ developed a proposed legislative request for additional OSA funding, but this request did not make it into the Governor's budget.

In 2009, the U.S. 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 is being applied at 13 key sites in Klamath, Wheeler, and Yamhill Counties. These federal dollars have helped to implement work in the past year at sites that otherwise would have required Orphan funding.

While limiting the expenditure of available OSA funds to only the highest priority site work, DEQ anticipates these funds will be spent, or nearly spent, by June 30, 2011. Without additional funding, existing OSA site work will not get done in many cases, and new OSA work cannot be initiated. DEQ also may be required to discontinue operation of existing groundwater treatment systems, even in cases where shutting down these systems will affect public drinking water supplies.

Key Issue(s)

Orphan Funding Shortfall

Work on Orphan sites falls into three expenditure categories, with the following estimated costs for each during the 2011-13 biennium:

- 1) *National Priorities List Obligations: \$870,000.* For federal Superfund (NPL) 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. Current sites in this category are: McCormick and Baxter (Multnomah County), Taylor Lumber (Yamhill County), and Northwest Pipe & Casing (Clackamas County).
- 2) *Other Fixed Costs - \$400,000.* This category includes the maintenance of previously-constructed remediation systems at other sites not listed on the NPL. Examples are engineered soil and sediment caps and groundwater treatment systems that ensure safe drinking water for residents in affected areas. Some of these sites are: NuWay Oil (Multnomah County), Surgichrome (Clackamas County), Lebanon Areawide (Linn County), Frenchglen Mercantile and VP Valley Products (Malheur County), and Lone Elk Market (Wheeler County). Annual fixed costs for these sites range from \$5,000 to \$75,000 per site.
- 3) *Investigation/Cleanup of High-Risk Sites: \$1 million to \$1.3 million.* This category covers costs to stabilize contamination at high-priority Orphan sites that are not in the preceding two categories. It also includes funds to address as-yet unknown sites and unanticipated actions that may be needed at existing Orphan sites (contingency funds). DEQ conservatively estimates 2011-13 investigation and cleanup costs of \$500,000 to \$800,000 for known sites and \$500,000 for as-yet unknown sites.

The preceding information does not include estimates for the North Ridge Estates asbestos site near Klamath Falls or other NPL or potential NPL sites. The North Ridge Estates site is nearing a decision point and DEQ is currently in discussions with EPA about future roles and costs for both agencies in implementing the Record of Decision EPA is developing for the site. EPA is estimating a cost of \$15 million to \$16 million to clean up this residential neighborhood.

In summary, DEQ limits its use of discretionary Orphan funds (Category 3 above) to the very highest priority sites and activities, spending only what is needed to stabilize sites rather than complete their cleanup. Available Orphan funds will be exhausted, or nearly exhausted, by the end of the 2009-11 biennium. Looking forward, Oregon's estimated 2011-13 NPL and fixed-cost obligation is \$1.27 million, and DEQ conservatively estimates the cost for all other Orphan sites at \$1 million to \$1.3 million. Given these anticipated costs, which are currently unbudgeted, DEQ is looking hard at available funding options for the 2011-13 biennium, to be considered in developing the Governor's Recommended Budget.

For More Information

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

**Cleanup Phases Initiated and Completed,
Fiscal Year 2009 (Actuals) and 2010 (Projections)**

Site actions	Fiscal Year 2009 (Actual)		Fiscal Year 2010 (Forecast)	
	Initiated	Completed	Initiated	Completed
Suspected Release Sites Added to Database	NA	168	NA	160
Added to Confirmed Release List	NA	6	NA	15
Added to Inventory	NA	3	NA	10
Site Screenings	47	28	50	35
Preliminary Assessments	21	18	20	20
Removal Actions	8	7	7	8
Remedial Investigations	17	13	12	15
Feasibility Studies	11	7	7	9
Records of Decision	13	11	7	8
Remedial Actions	13	10	10	10
No Further Action Determinations	NA	84	NA	85

Note: Projections for initiated and completed cleanup phases were established in the 2007-11 "Four-Year Plan of Action." As provided by ORS 465.235, the four-year plan is part of this year's Annual Report; actions expected to be completed over that period appear in the table on Page 9. The current four-year plan is unchanged from last year's Annual Report.

**Four-Year Plan for Actions Projected to be Initiated and Completed:
7/1/07 – 6/30/11**

Site actions	2007-09 Biennium		2009-11 Biennium	
	Initiated	Completed	Initiated	Completed
Suspected Releases Added to Database	NA	300	NA	275
Added to Confirmed Release List	NA	65	NA	50
Added to Inventory	NA	40	NA	35
Site Screenings	120	100	100	110
Preliminary Assessments	50	50	50	50
Removal Actions	15	12	15	12
Remedial Investigations	18	20	20	25
Feasibility Studies	12	12	13	12
Records of Decision	22	22	20	20
Remedial Actions	30	25	28	30
No Further Action Determinations	NA	160	NA	165

This Four-Year Plan assumed stable program funding through June 30, 2011.