



20th Annual Environmental Cleanup Report

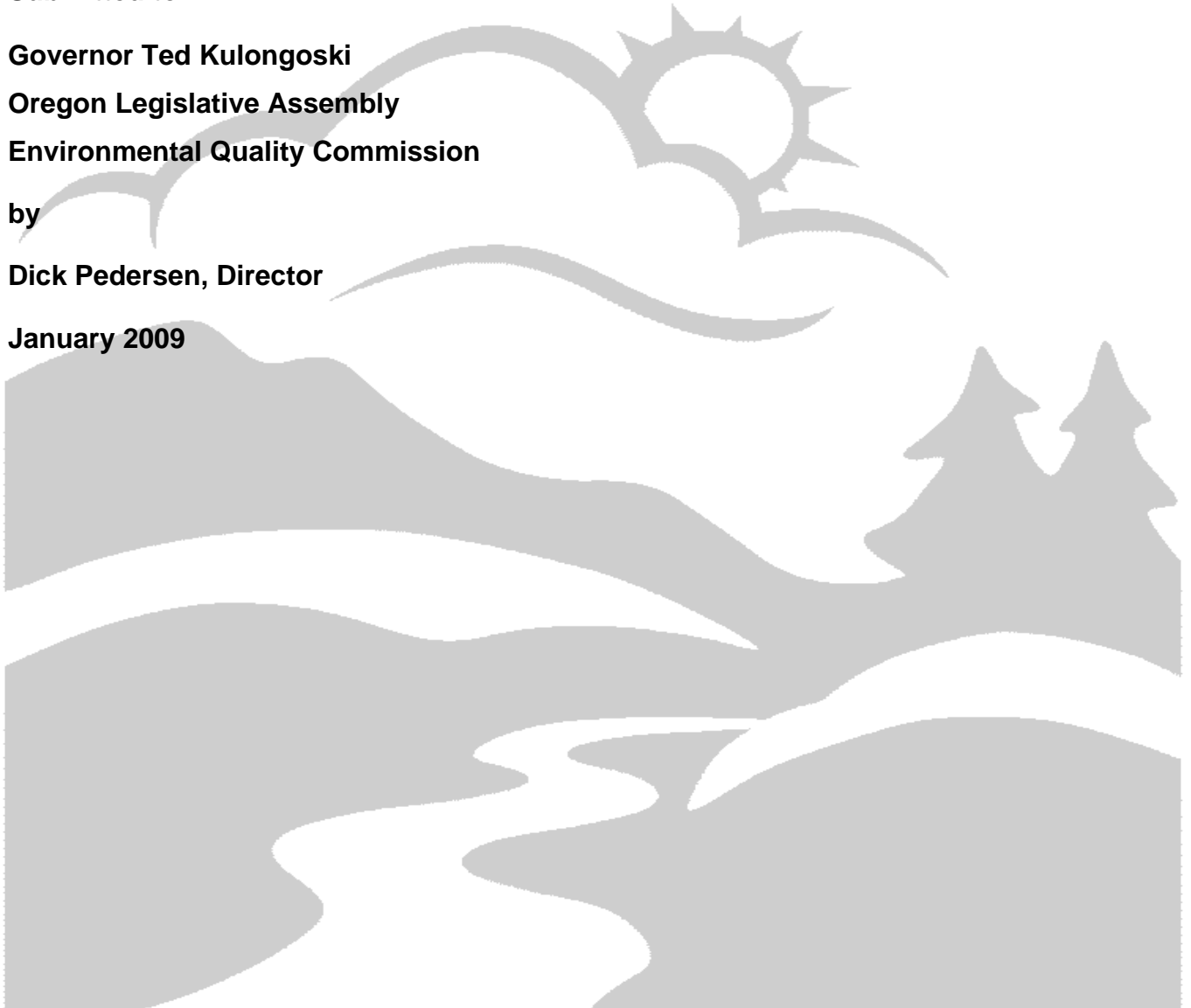
Submitted to:

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

by

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Contents

Introduction & Highlights	1
Accomplishments – Fiscal Year 2008	2
Sites Discovered	2
Sites on the Confirmed Release List	2
Sites on the Inventory	2
Removals	2
Preliminary Assessments	3
Remedial Investigations	3
Feasibility Studies	3
Records of Decision	4
Remedial Actions	4
No Further Actions	4
Brownfield Redevelopment.....	4
Voluntary Cleanups	4
Prospective Purchaser Agreements.....	5
Orphan Sites.....	5
Orphan Funding Shortfall.....	6
For More Information.....	6
Cleanup Phases Initiated and Completed (FY 07 and 08).....	7
4 Year Plan - Actions Projected to be Initiated and Completed: 7/1/07 – 6/30/11.....	8

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.

The purpose of the Environmental Cleanup Report is to summarize major developments in the state’s environmental cleanup program, identify accomplishments from fiscal year 2008, and forecast future activities. The Department of Environmental Quality (DEQ) is required by ORS 465.235 to prepare this report annually for the Legislature, the Governor, and the Environmental Quality Commission. Every fourth year, the report must also include an updated four-year plan.

The report includes:

- Statistics on environmental cleanup program activities in fiscal year 2008 and anticipated activities from fiscal years 2009 to 2011;
- Descriptions of environmental cleanup program components; and
- A report on a potential funding shortfall in the Orphan Site Account, and the effects such a shortfall could have on Oregonians and our environment.

Highlights

In the past year, the state’s cleanup program initiated and completed cleanup actions at a large number of sites. Specifically, DEQ:

- Added 181 sites to the database of suspected releases of contaminated sites;
- Completed 12 preliminary assessments and equivalents;
- Completed 8 removal actions;
- Completed 3 remedial investigations;
- Completed 5 feasibility studies;
- Completed 4 records of decisions;
- Initiated 12 final cleanup (remedial) actions; and
- Completed no-further action determinations at 79 sites.

Accomplishments – Fiscal Year 2008

Sites Discovered

DEQ has identified over 4,000 contaminated and potentially contaminated sites in Oregon since 1988. 181 new sites were identified in Fiscal year 2008 (FY 2008). DEQ added these sites to its Environmental Cleanup Site Information System (ECSI) for tracking and public-reporting purposes.

Sites on the Confirmed Release List

Of the approximately 4,350 sites recorded in ECSI, 762 are on the Confirmed Release List. The Confirmed Release List comprises sites where the presence of contamination has been documented (rather than just being suspected). DEQ added 31 sites to the Confirmed Release List in FY 2008. DEQ removed (“delisted”) 6 sites in FY 2008. Sites are delisted when contamination has been eliminated or reduced to levels that pose no unacceptable risks to human health or the environment.

Sites on the Inventory

The Inventory of Hazardous Substance Sites is a list of sites with confirmed contamination that DEQ has determined poses clear risks to human health or the environment. There are 475 sites on the Inventory. In FY 2008, 25 sites were added to the Inventory, and 4 sites delisted. Sites that rely on *engineering or institutional controls* to manage risks (see sidebar at right) must remain listed. All sites on the Inventory are also on the Confirmed Release List.

Removals

At sites with high levels of contamination in limited areas, a removal can be used to prevent further spread of contamination and protect the public. A removal is a cleanup that occurs before (or in lieu of) a Remedial Investigation and Feasibility Study. In FY 2008, 11 removals were initiated under DEQ supervision, and 8 were completed. Because some removal actions may take months or years to complete, the number of removals completed during a fiscal year is not always the same as the number started.

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. However, if an emergency situation exists, a **removal action** 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 options for cleaning up the site. From this information, DEQ determines whether the site needs to be cleaned up, and if so, how it should be done. A **removal action** 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, a formal cleanup decision (called a **Record of Decision**) will be adopted by DEQ 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 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 and its surroundings. The history of a site is reviewed, and a walk-through is conducted, to determine whether contamination may be present and what its effects could be. Sampling of environmental media is usually not conducted. Characteristics of the site vicinity (land use and population, nearby streams, depth to groundwater, etc.) are also reviewed to determine the likelihood of contamination migrating off-site. DEQ uses this information to determine the site's priority for further investigation and cleanup.

In FY 2008, DEQ or parties working with DEQ initiated Preliminary Assessments at 13 sites, and completed assessments at 12 sites. Because Preliminary Assessments generally take just a few months to complete, the majority of assessments started in FY 2008 were also completed in FY 2008.

Remedial Investigations

A Remedial Investigation is an extensive sampling effort at a site to determine the contaminants that are present, their locations, concentrations, and migration patterns. Remedial Investigations typically include an evaluation of risks that contamination poses to human health and the environment. DEQ reviews and approves the investigations. DEQ initiated 7 Remedial Investigations in FY 2008, and completed 3. 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

Feasibility Studies provide detailed comparisons of different methods to clean up a site. Because various approaches or technologies can be used, each is evaluated for effectiveness, protectiveness, and cost, among other criteria. A preferred option is then chosen and recommended as the final cleanup strategy. In FY 2008, DEQ began 4 Feasibility Studies and completed 5. Because Feasibility Studies often take more than a year to complete, the number of studies started and completed during a given time period may differ.

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 complexity of the project and the amount of oversight they need.

DEQ also "discovers" contaminated properties through **Site Assessment**. DEQ learns about potential contamination from phoned-in complaints, unsolicited reports, and from other government agencies, in addition to conducting its own inquiries. Sites are evaluated and ranked 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 **Dry Cleaner** sites are also addressed through their own separate account.

Other types of cleanups are conducted under separate statutory authority. Hazardous material spills are cleaned up through **Emergency Response**. Releases of petroleum from regulated **Underground Storage Tanks (USTs)** are likewise addressed via the UST Program.

Records of Decision

A Record of Decision documents the cleanup approach that DEQ will use at a site, 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 that will be used to implement a remedy. DEQ initiated 7 Records of Decision in FY 2008, and completed 4. It takes several months for a Record of Decision to be written, released for public comment, and approved. As a result, for a given period of time, the Records of Decision started are generally not the same as those completed.

Remedial Actions

A Remedial Action is the final cleanup action taken at a site; it may involve eliminating contamination from a site, or isolating the contamination through institutional controls such as deed restrictions, or engineering controls such as caps, fencing, or barrier walls. In FY 2008, DEQ initiated 12 Remedial Actions, and completed 12. Because Remedial Actions may take years, 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 suspected contamination at the site does not present an unacceptable risk. Since its inception in 1988, DEQ's cleanup program has issued No Further Action letters for 1,342 sites. This amounts to nearly one-third of all sites in the ECSI database. During FY 2008, DEQ issued No Further Action decisions at 79 sites.

Brownfields Redevelopment

A brownfield is a vacant or underused property where actual or perceived environmental contamination is hindering 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. While DEQ has no stand-alone brownfields program, the cleanup program supports brownfield identification and cleanup, and seeks to partner with local communities and prospective purchasers to develop the strategies and resources needed to return abandoned sites to productive use.

DEQ works with local governments, nonprofit groups and staff from the Oregon Economic and Community Development Department to find state and federal funding for brownfields investigation and cleanup. In FY 2008, DEQ's cleanup program provided technical assistance to five local governments that won EPA brownfield grants worth over \$1 million. DEQ also distributed \$250,000 in EPA grant money to evaluate and clean up contamination at eligible brownfield sites. Brownfields redevelopment is a key objective of the Oregon's *Economic Revitalization Team* efforts that DEQ actively supports and participates in.

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. This process allows parties to proceed at a pace that suits their needs. 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 428 active Voluntary Cleanup sites, with 324 sites following the traditional pathway, and about 104 in Independent Cleanup. Since 1991, Voluntary Cleanup has issued No Further Action decisions for 713 sites, far more than Site Response alone could have completed.

Prospective Purchaser Agreements

DEQ uses Prospective Purchaser Agreements as a tool to facilitate the cleanup and productive use of properties contaminated with hazardous substances. A Prospective Purchaser Agreement (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 Prospective Purchaser Agreement provisions by Oregon’s Legislature in 1995, DEQ has negotiated more than 100 PPAs throughout Oregon, including 6 in the most recent fiscal year, notably the Reynolds Metal site in East Multnomah County, which facilitated construction of a multi-million dollar Fed Ex distribution center.

PPAs have clearly 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 an Orphan Site Account 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 25 of which are currently active.

DEQ designated two sites as Orphans in FY 2007, and six more in FY 2008. The Account is funded 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 \$41.6 million including \$4.8 million authorized by the 2007 Legislature.

Orphan Funding Shortfall

Oregon faces a looming shortfall in revenue available for cleanup of Orphan Sites, and DEQ is taking steps now to prudently manage available funds in the 2009-11 biennium. DEQ anticipates the beginning balance of the Orphan Site Account available for project work will be approximately \$3.4 to 3.7 million.

Of this amount, approximately \$700,000 will be needed in the 09-11 biennium for federal requirements. Specifically, the State of Oregon is required to pay 10% of the cost of federal Superfund National Priority List (NPL) remedial action costs for remedies. Oregon is also required to pay for 100% of the long-term operation and maintenance costs of these sites once the U.S. Environmental Protection Agency (EPA) completes a final remedy. These NPL Superfund sites include McCormick and Baxter, Taylor Lumber, and NW Pipe and Casing.

An additional estimated \$1 million in the 2009-11 biennium will be required to maintain other previously-constructed remediation systems such as engineered soil and sediment caps as well as groundwater treatment systems. These sites include: Surgichrome (Clackamas County), Keno Areawide (Klamath County), NuWay Oil (Multnomah County), Lebanon Areawide (Linn County) Frenchglen (Malheur County), Nyssa (Malheur County), and Lone Elk Market (Wheeler County). In most cases, these already installed systems provide ongoing protection of drinking water supplies. Typical operation, maintenance and associated monitoring costs at these sites range from \$10,000 to \$75,000 per year per site.

DEQ has also identified nearly \$2.3 million of work needed in the 09-11 biennium for investigation and cleanup of other known highly-contaminated sites where a final remedy has not yet been constructed. Because of limited available Orphan Site Account funds, DEQ intends to restrict spending in the 2009-11 biennium to less than half this amount for activities at only the very highest priority sites. It should be noted that DEQ has always held some Orphan Site Account funds in reserve for environmental emergencies or as-yet-unidentified sites.

While DEQ is taking steps to responsibly manage the limited funds available in the 2009-11 biennium, we plan to request authorization in 2011 for a bond sale, or recurring revenue source, to pay for future Orphan Site work. For example, the known obligation of the State of Oregon for Superfund NPL site matching funds alone in the 2011-13 biennium is estimated to be between \$1.0 and \$2.4 million, and Legislative action will be needed to meet these State obligations.

For More Information

More information about specific cleanup projects and programs is available from the Environmental Cleanup section of DEQ's web site at <http://www.deq.state.or.us/lq/cu/index.htm>. 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 2008 (Actuals) and 2009 (Projections)**

Site actions	Fiscal Year 2008 (Actual)		Fiscal Year 2009 (Forecast)	
	Initiated	Completed	Initiated	Completed
Suspected Release Sites Added to Database	NA	181	NA	165
Added to Confirmed Release List	NA	31	NA	30
Added to Inventory	NA	25	NA	22
Site Screenings	53	46	50	45
Preliminary Assessments & Equivalentents	13	12	18	18
Removal Actions	11	8	8	10
Remedial Investigations	7	3	7	6
Feasibility Studies	4	5	5	5
Records of Decision	7	4	5	7
Remedial Actions	12	12	10	10
No Further Action Determinations	NA	79	NA	80

Note: Projections for initiated and completed cleanup phases were established in the 2007 - 2011 "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 below. The current four year plan is unchanged from last year's Annual Report.

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

Site actions	2007-2009 Biennium		2009-2011 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 & Equivalent	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 assumes stable program funding through June 30, 2011. Projections are based on: 1) the number of actions initiated and completed between July 2003 and June 2007; and 2) the effects of an approximately 25% FTE reduction in DEQ's Cleanup Program during 2005 and 2006. Voluntary Cleanup sites are both more numerous and (generally) simpler than Site Response sites; therefore, they move more quickly through the investigation and cleanup process. DEQ often makes *No Further Action* determinations during the site screening and preliminary assessment phases, and there are fewer removals, remedial investigations, etc. conducted at these sites.