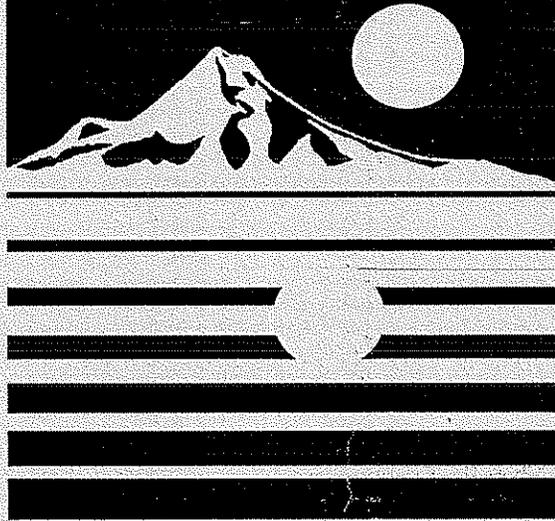


8TH ANNUAL
ENVIRONMENTAL
CLEANUP
REPORT



J A N U A R Y
1 9 9 7



EIGHTH ANNUAL ENVIRONMENTAL CLEANUP REPORT

January 1997

submitted to:

Governor John Kitzhaber
•
Oregon Legislative Assembly
•
Environmental Quality Commission

by:

Langdon Marsh, Director
Department of Environmental Quality

Mary Wahl, Administrator
Waste Management and Cleanup Division

Foreword

1996 has been a year of growth and achievement for The Department of Environmental Quality's (DEQ) Environmental Cleanup Program. DEQ has implemented Oregon's revised cleanup law ensuring maximum environmental protection, certainty, speed and cost-effectiveness; expanded program innovations to maximize cleanups and brownfields redevelopment; and identified options to provide stable funding for the cleanup program.

1997 will be challenging with the adoption and implementation of the new environmental cleanup rules. Other prime focus areas for 1997 include:

- Brownfields redevelopment
- Prospective purchaser agreements
- Partnering with other groups to address local concerns at contaminated sites
- Community outreach
- Dry cleaner response cleanups
- Orphan site cleanups
- Stable funding
- Managing the growing number of voluntary cleanup sites

This report provides highlights of the above and other changes made to the cleanup program, expands on its goals for this biennium and identifies challenges ahead. It also summarizes the accomplishments of the past fiscal year and projects the current year's activity levels. Finally, the report also includes a summary and update of the current four year plan.

Respectfully,

Langdon Marsh, Director
Department of Environmental Quality

Introduction

Oregon's Environmental Cleanup Program was established in 1988 by the Department of Environmental Quality (DEQ) and given the responsibility of implementing Oregon's environmental cleanup law (ORS 465.200-900) and leaking underground storage tank cleanup law (ORS 466.706-845, 895). This report presents cleanup program activities for the past fiscal year (July 1995 - June 1996). It summarizes cleanup actions in progress, those completed during the current fiscal year, and those projected for completion through June 1997. It also includes a summary of the four-year plan through 1999.

ENVIRONMENTAL CLEANUP PROGRAM: CONTINUOUS IMPROVEMENTS

1996 has been a year of growth and achievement for the environmental cleanup program. We developed rules to implement the cleanup law amendments adopted last legislative session, expanded the prospective purchaser and brownfields programs to respond to Oregon's ever-increasing development needs, and worked in partnership with local government, various state agencies and private interests to clean up contaminated areas.

1997 will begin with the proposed new cleanup rules before the Environmental Quality Commission (EQC) in January. We will be working with the legislature to solve funding problems in the orphan site, cleanup, spill response and underground storage tank cleanup programs. Also, in 1997, DEQ will continue implementation of the dry cleaner cleanup program using funds dedicated specifically for cleanups at dry cleaner facilities, as adopted by the 1995 Legislature.

We're ready to meet these challenges and continue to look for better ways to clean up hazardous substance contaminated sites in Oregon while also accommodating economic development needs and the specific and diverse interests of localities.

FOCUS AREAS:

- Implement the proposed new environmental cleanup rules
- Emphasize brownfields redevelopment and prospective purchaser agreements
- Partner with other groups to clean up area wide problems
- Expand community outreach efforts
- Continue orphans site cleanups
- Implement dry cleaner cleanups
- Resolve funding problems

CLEANUP RULES

In July 1995, DEQ began an 18 month process to develop the new cleanup rules required by House Bill 3352, Oregon's revised environmental cleanup law. In October 1996, DEQ released the proposed rules for public notice and comment, after extensive public participation and community outreach efforts. The EQC is expected to adopt these rules at their January 1997 meeting.

The Cleanup Policy and Program Development Section worked with a 13 member advisory group and two 15 member technical work groups during the rule development process. The advisory and work group were made up of representatives from all segments of the affected community, including local government, private consultants, attorneys, environmental groups,

minority groups, and industry. A consensus was achieved in support of the draft rules through a series of mutual agreements aimed at making the rules as workable as possible.

Early Implementation

DEQ decided to implement the new cleanup law to the maximum extent possible during rule development, rather than wait until the rules were in place.

Early implementation includes:

- Negotiating prospective purchaser agreements;
- Implementing risk-based cleanups;
- Began developing generic remedies in partnership with industry; and
- Looking at reasonably likely future land use in the determination of site risks.

Early implementation was facilitated by timely discussion and resolution of site specific issues through the Site Clearinghouse, a forum of DEQ project managers, technical staff and program managers.

BROWNFIELDS / PROSPECTIVE PURCHASER AGREEMENTS

The Environmental Cleanup Program has long supported Brownfields concepts through a variety of initiatives implemented over the last seven years. DEQ has developed statewide approaches to remove barriers hindering the reuse of contaminated property. The Voluntary Cleanup Program works cooperatively to provide oversight of investigations and cleanups to allow property transactions to occur in a timely manner.

DEQ negotiates prospective purchaser agreements to encourage cleanups that otherwise would not likely occur. These agreements provide substantial public benefit while relieving purchasers from future cleanup liability and creating greater incentives for banks to finance development. The cleanup program has also facilitated federal and state initiatives to provide grants, long term loans and/or technical assistance to communities and local government involved in cleanups during revitalization efforts. DEQ has worked with the City of Oakridge to assist in the cleanup and redevelopment of a large, abandoned mill. As part of the Governor's community solutions team, DEQ is providing technical assistance and education for the revitalization of inner Northeast Portland through the Martin Luther King Jr. Boulevard redevelopment project. (See below.)

Brownfields Case Study--Salem Riverfront Park

The Salem Riverfront Park site is an 18 acre parcel located on the west side of downtown Salem, adjacent to the Willamette River. The City of Salem owns the site and intends to develop it as a municipal park. The City entered into DEQ's Voluntary Cleanup Program in 1993 to clean up contamination caused by prior industrial uses at the site before development of the park.

The primary environmental concerns at the site are soil and groundwater impacts from past practices and the disposal of wastes. Surface water and sediments were evaluated and were not impacted by contamination at levels affecting human health or the environment.

DEQ divided the cleanup into separate phases to facilitate park development. Cleanup of the northern portion of the site was completed in July 1996, and DEQ issued a "no further action" letter to the City. Phase 2 of the cleanup addresses the southern portion of the site. Cleanup of this area is currently underway. Following completion of Phase 2, the site will be cleared for park development.

Prospective Purchaser Agreements and Orphan Sites

Prospective purchaser agreements are excellent tools for helping to accomplish cleanups at orphan sites. Orphan sites are high environmental priorities because of the nature and extent of contamination; however, responsible parties are either unknown or unable to pay for the cleanup. In these instances, the state finances and conducts the cleanup. Because of limited resources, DEQ is unable to complete cleanups at all orphan sites. Serious threats are removed, but, in some cases, residual contamination remains. Often, costs to clean up the remaining contamination reach or exceed the property value. Potential purchasers or developers are often not willing to take on the cleanup liability of these properties.

Prospective purchaser agreements allow DEQ to partner cleanup efforts at orphan sites with prospective purchasers, mitigating state costs and boosting the potential for redeveloping land. For example, this fall, DEQ signed a prospective purchaser agreement with Pacific Fibre Products, Inc. for the former orphan site, Vadis Pole Yard in North Plains. The most significant terms of the agreement provide for Pacific Fibre to complete the remaining soil cleanup. DEQ has already conducted a major soil removal at the site. Pacific Fibre has also agreed to reimburse the orphan site fund for a substantial portion of the removal costs and make a contribution toward a portion of the future monitoring costs of groundwater at the site. In exchange for the substantial public benefits that Pacific Fibre is providing by significantly contributing toward the cleanup and returning the abandoned property to productive use, DEQ has agreed to limit Pacific Fibre's cleanup liability.

PARTNERING TO ADDRESS ECOSYSTEM CONCERNS

Columbia Slough Cleanup

The Columbia Slough sediment cleanup is one of DEQ's highest priorities. It is a good example of a "place-based" or geographic ecosystem initiative requiring coordination among many groups. DEQ is working with the City of Portland Bureau of Environmental Services, the City of Gresham, Multnomah County, the State Health Division, local Drainage Districts, and other local associations to clean up the Slough.

Asian, Russian and other populations consuming fish from the Columbia Slough may be exposed to PCBs, pesticides and heavy metals exceeding levels safe for protection of human health. Extensive public risk communication efforts are underway, while the City, with DEQ's oversight, completes a remedial investigation and feasibility study to assess human health and ecological impacts and to identify cleanup options.

This partnering effort and ecosystem or geographic approach are essential to fully identify the potential sources of hazardous substances that reach the Slough from many sources. Contamination may be as varied as pollution from sewer overflows, industrial process releases, stormwater outfalls, or contaminated land adjacent to the Slough. Individual site cleanup is being approached comprehensively to prevent continuing contamination and to reduce ongoing public health and environmental risks.

Martin Luther King Blvd. Redevelopment Project

The Martin Luther King Blvd. project is another example of a "place-based" initiative. As part of the Governor's Community Solutions Team Project, DEQ's Northwest Region cleanup staff joined a multi-agency, community-based task force in June 1996. The task force is called the Martin Luther King, Jr. Blvd. Action Committee. The committee was formed to develop and implement strategies to revitalize properties in Northeast Portland near Martin Luther King Blvd. DEQ conducted a field survey along a three mile stretch of the boulevard as well as file reviews of the area. Based on this information, DEQ staff developed a report to assist both current owners and/or operators and potential site purchasers or developers with the identification of properties having potential environmental liabilities so they can be dealt with early, more efficiently and cost effectively.

COMMUNITY OUTREACH

The environmental cleanup program has conducted many outreach efforts with various groups this year. For example, the Voluntary Cleanup Program continues to conduct surveys of those involved in the program to gauge participant satisfaction and to identify ways to improve the program. As an outgrowth of this effort, the Voluntary Cleanup Program has formed a focus

group which meets twice a year to evaluate and target improvements. The focus group is made up of industry, local government, banking representatives, and current and past voluntary cleanup participants. The focus group has identified several issues which the program has successfully implemented.

DEQ hosted several community discussion groups across Oregon to reach a broad cross section of Oregonians and to solicit their advice during rulemaking for the new Environmental Cleanup Law. Over 300 people attended these sessions and their input was valuable in helping to draft the proposed rules.

DRY CLEANER ENVIRONMENTAL RESPONSE

The Dry Cleaner Environmental Response Program was established by the 1995 Legislature. The law's stated purpose is to prevent future releases of dry cleaning solvent and to clean up existing contamination at eligible dry cleaner sites. The law requires members of the dry cleaning industry to pay fees into an environmental cleanup fund and to practice sound environmental management, in exchange for relief from liability for cleanup costs at their businesses.

Each dry cleaning facility is required to pay \$1000 annually. Dry stores (facilities where dry cleaning is deposited and picked up, but not cleaned) pay \$500 per year. There is also a per gallon fee on the purchase of dry cleaning solvent. Approximately 335 dry cleaners are paying into this account, which will be used to pay for the cleanup of dry cleaning solvent contamination at eligible dry cleaners.

DEQ's initial activities include developing program policy and guidance and visiting approximately 100 dry cleaner sites to offer technical assistance and to inform dry cleaners how the law affects them.

DEQ has issued the first notification of funding availability for site assessment and/or site cleanup. Assessment and/or cleanup of the first eligible sites is anticipated to start in early 1997.

ORPHAN SITE CLEANUPS

Since creation of the program, 21 sites have been declared orphans--those sites where the responsible party is either unknown or unwilling or unable to pay for cleanup. Orphan sites are the state's highest environmental priorities, where state funds pay for cleanup. There are many more sites than 21 sites in Oregon where no responsible parties are available to pay for cleanup. However, only 21 are declared orphans because state funds are used only on the highest priority sites.

DEQ has largely completed cleanup at five sites: Hi Dollar John's, Industrial Battery, Rogue Valley Circuits, Rose City Plating, and Technical Images. The remaining orphan sites are still under investigation and may require significant expenditures of state funds to clean up or

contain contamination threatening human health or the environment. DEQ is working cooperatively with the United States Environmental Protection Agency (EPA) and the City of Sweet Home to track down the source of contamination in the area's groundwater. DEQ is also working with the City of Sweet Home to find funding to connect residents with affected wells to the city water supply. In addition, Springfield Airport has been identified as a potential orphan site. (For orphan site locations, refer to the glossary, Hazardous Substance Cleanup Orphans Map.)

Several milestones in the Orphan Site Cleanup program were achieved last year. In March, DEQ and EPA reached agreement on a final cleanup strategy for the McCormick and Baxter project. EPA declared McCormick and Baxter a federal superfund site and has assumed responsibility for the remaining investigation and cleanup costs. In addition, two cleanup plans addressing shallow and deep groundwater contamination at East Multnomah County were approved. The parties responsible for the contamination have been identified and have agreed to pay for the cleanup. Investigations into the sources of groundwater contamination in the Lebanon area resulted in the discovery of NuWay Cleaners, another high priority orphan site. Removal of contaminated soil took place at Nu-Way Oil (at a cost of \$1.9 million), Astoria Plywood (\$1 million), and Vadis Pole Yard (\$385,000.) Removals at four other sites are planned for Spring 1997.

The Orphan program is also working with prospective purchasers to redevelop or reuse five brownfields orphan sites: The City of Astoria is interested in acquiring the Astoria Plywood site and the City of North Bend is interested in the Chambers Fuel Oil site. Both sites are planned to be used as part of future community redevelopment projects. The Technical Images site in Newberg site purchased by a private company in March 1996. Other private companies have expressed interest in purchasing Rogue Valley Circuits in Medford and Rose City Plating in Portland.

SPILL MANAGEMENT

In May 1996, the Spill Management Program was restructured to provide a centralized program combining oil and other hazardous materials spill prevention, planning and preparedness, along with local and federal government coordination and emergency spill response. This structure allows DEQ to administer the program more efficiently and also provides for technical response specialists whose full time jobs are spill response and management.

Spill incident reports to DEQ have increased at a rate of roughly 10% to 15% a year. Currently, the spill program is seeking input from an external advisory group on how best to focus limited resources in future years. Without additional spill prevention education and outreach efforts, the number of spills will continue to rise. Also, whether Oregon is adequately prepared to respond to a spill incident is a significant concern to the program. Geographic response plans are a key spill "preparedness" approach and currently cover only very limited portions of the state.

UNDERGROUND STORAGE TANK CLEANUPS

Risk Based Corrective Action

In April 1996, DEQ issued interim guidance for risk based corrective action (RBCA) at underground storage tank cleanup sites. This is part of a national effort to identify how to reach protective standards without doing more cleanup than necessary. RBCA involves a more detailed evaluation of site contamination and may result in less cleanup effort being required. Industry representatives strongly endorsed adoption of this process.

Heating Oil Tanks

Leaks of residential heating oil tanks are a large concern for homeowners because of the potential threat to their health, the environment and because of concerns about the costs of cleaning up contamination resulting from these leaks. Another concern is that heating oil tank leaks may delay property transactions. DEQ has provided assistance to homeowners with heating oil tank releases; however, there is no authorized funding for this activity. Increasing demand for assistance along with budget limitations have caused DEQ to review its role in this area. This issue is expected to be a topic for discussion during the 1997 legislative session.

FUNDING ISSUES

Funding to continue environmental cleanups at the current level is uncertain in several areas.

Orphan Site Cleanups: Neither of the two fees intended to pay for orphan site cleanups has proved reliable. In 1993, the Attorney General advised DEQ that the petroleum load fee should not be used for this purpose because of a constitutional restriction of petroleum fees for highway purposes. The second fee, a fee on the possession of hazardous substances, has been the subject of criticism from various feepayer groups. The Legislature has continued to support the program with temporary sources, primarily general fund and lottery. In 1995, the Legislature directed DEQ to conduct a review of potential funding alternatives. DEQ convened a blue ribbon task force to provide a framework for addressing this issue and also asked a group of stakeholders to comment on an extensive list of potential alternative funding sources. The results of DEQ's review are presented in a separate report. The task force report also includes program recommendations and is available through DEQ's Waste Management and Cleanup Division in Portland.

Hazardous Substance Contaminated Sites: Funding for the largest part of the cleanup program will also need to be addressed in the coming biennia. The program has been funded by fees on disposal of hazardous waste at the landfill in Arlington and by recovery of oversight costs from responsible parties. The Arlington fee has declined because of decreasing waste from cleanups and other waste streams. The decline in revenue is expected to continue and the rate of decline to possibly increase significantly as early as 1997. DEQ will focus on solving this problem during the 1997-99 biennium.

Spill Response: Initially, spill response activities were intended to be funded by a petroleum load fee. However, as with orphan sites, the attorney general advised in 1993 that use of this fee for any non-highway spill response could violate the state's constitution. Since 1993, spill response funding for other than highway spills (the greater portion of the program) has been drawn from the state's cleanup fund described above.

Underground Storage Tank Cleanups: The primary funding sources for this program are grants from the Environmental Protection Agency. Recoveries from responsible parties for DEQ staff oversight also help to pay for the cleanup of leaking underground storage tanks. There are two major problems in funding these cleanups.

First, the federal grants have declined over the past several years, and in spite of continually improving cost recovery effectiveness, revenues are not sufficient to support the program. The 1996 grant was 40% of the budgeted amount and although Congress is expected to restore some of the program's funding, it is not likely to be returned to 1995 levels. Second, residential heating oil tanks, which are not eligible for federal funds under the underground storage tank cleanup program grants, are a growing issue for homeowners who are concerned about liability, particularly in property transfers.

TABLE A
Projects Completed

PROJECTS	Projected				
	1/88-6/91	7/91-6/93	7/93-6/95	7/95-6/96	7/96-6/97
Site Assessment					
Suspected Releases Added	957	279	293	162	165
Confirmed Release List Additions ¹	33	69	106	29	45
Facilities Added to Inventory ¹	24	39	55	13	22
Site Screenings	126	251	460	229	160
Preliminary Assessments	181	136	175	74	65
Voluntary Cleanup					
Removals and Interim Actions	0	7	12	13	21
Remedial Investigations	1	7	22	9	14
Feasibility Studies	0	2	7	4	8
Remedial Design & Remedial Actions	0	1	7	7	8
Completed Projects	0	10	29	25	30
Site Response					
Removals	11	9	23	14	8
Remedial Investigations	7	21	16	8	9
Feasibility Studies	6	8	6	5	5
Remedial Design & Remedial Actions	6	6	10	6	4
Underground Storage Tank Cleanup					
Regulated Tanks:					
Releases Reported	2487	2004	845	326	400
Cleanups	746	608	299	284	300
Heating Oil Tanks:					
Releases Reported	419	650	1,052	737	900
Cleanups	149	275	245	279	350

Note: Many Voluntary program cleanups do not require completion of all phases of a traditional cleanup. Often, a preliminary assessment or remedial investigation provides sufficient information to determine that the site does not exceed acceptable risk levels. In other cases, the cleanup is performed independently and the phases of the cleanup are not completed with DEQ oversight.

¹ Additions only; has not been reduced for 4 sites removed (delisted) from each of lists.

TABLE B
Projects Initiated

PROJECTS	Projected				
	1/88-6/91	7/91-6/93	7/93-6/95	7/95-6/96	7/96-6/97
Site Assessment					
Site Screenings	118	93	473	240	180
Preliminary Assessments	91	170	193	73	80
Voluntary Cleanup					
Removals and Interim Actions	1	8	18	19	20
Remedial Investigations	2	28	53	15	16
Feasibility Studies	0	2	28	5	7
Remedial Design & Remedial Actions	0	5	21	6	7
Operations and Maintenance	0	0	1	1	1
Site Response					
Removals	14	18	23	6	8
Remedial Investigations	43	19	32	7	3
Feasibility Studies	18	6	7	4	2
Remedial Design & Remedial Actions	15	11	14	7	5
Operations and Maintenance	2	2	4	8	1
Underground Storage Tank Cleanups					
Regulated Tanks	1172	1209	873	206	250
Heating Oil Tanks	287	457	500	539	600

Four Year Environmental Cleanup Plan

A four-year plan of action for the environmental cleanup program is required by ORS 465.235 beginning in 1991. The 6th Annual Environmental Cleanup Report (1995) included the first update to the original plan, covering the 1995-97 and 1997-99 biennia. The following is a condensed version of that report.

The plan estimates the number of preliminary assessments, remedial investigations, feasibility studies and remedial actions to be initiated and completed during the four year period. It also includes information about leaking underground storage tank cleanups.

The four-year plan was predicated on the 1995-97 budget request. Five new Site Response positions requested in that budget were not approved. The Voluntary Cleanup program, while completing more projects than projected, has not completed the number of project phases, as noted in Table A.

TABLE C: 4-Year Plan

PROJECTS	COMPLETED		INITIATED	
	7/95-6/97	7/97-6/99	7/95-6/97	7/97-6/99
Site Assessment				
Suspected Releases Added	300	300	N/A	N/A
Confirmed Release List Additions	60	60	N/A	N/A
Facilities Added to Inventory	35	35	N/A	N/A
Site Screenings	350	350	356	356
Preliminary Assessments	120	120	138	138
Voluntary Cleanup				
Project Development	50	50	50	50
Removals	5	5	5	5
Remedial Investigations	12	12	25	25
Feasibility Studies	12	12	12	12
Remedial Design & Remedial Actions	22	33	22	33
Site Response				
Removals	16	20	30	30
Remedial Investigations	14	18	16	16
Feasibility Studies	14	16	16	16
Remedial Design & Remedial Actions	6	8	12	12
Underground Storage Tank Cleanup				
Releases Reported	1000	1200	N/A	N/A
Cleanups	400	500	800	900

TABLE D

ENVIRONMENTAL CLEANUP PROGRAM

GOVERNOR'S RECOMMENDED BUDGET

(1997-1999)

ACTIVITY	FTE	BUDGET	FUNDING SOURCES
Hazardous Substance Cleanups (High priority enforcement, Orphan Site, Voluntary)	95.90	12,970,093	HSRAF ¹ including cost recoveries
		8,640,614	Orphan Site Account
		701,657	Federal Funds
Superfund Cleanup (McCormick and Baxter)	1.50	11,760,400	Federal Funds
UST Cleanup	22.75	1,346,639	Grant cost recoveries, HSRAF ¹
		1,665,089	Federal Funds
Emergency Response (Spills)	10.00	564,083	General fund, petroleum load fee, other spill revenue
		657,387	HSRAF ¹ , including cost recoveries
		596,698	Oil Spill Planning
		100,000	Illegal drug lab funds
Dry Cleaner Cleanup Program ²	3.00	1,797,678	Dry Cleaner Emergency Response Fund

¹ Hazardous Substance Remedial Action Fund

² Includes waste minimization portion of program

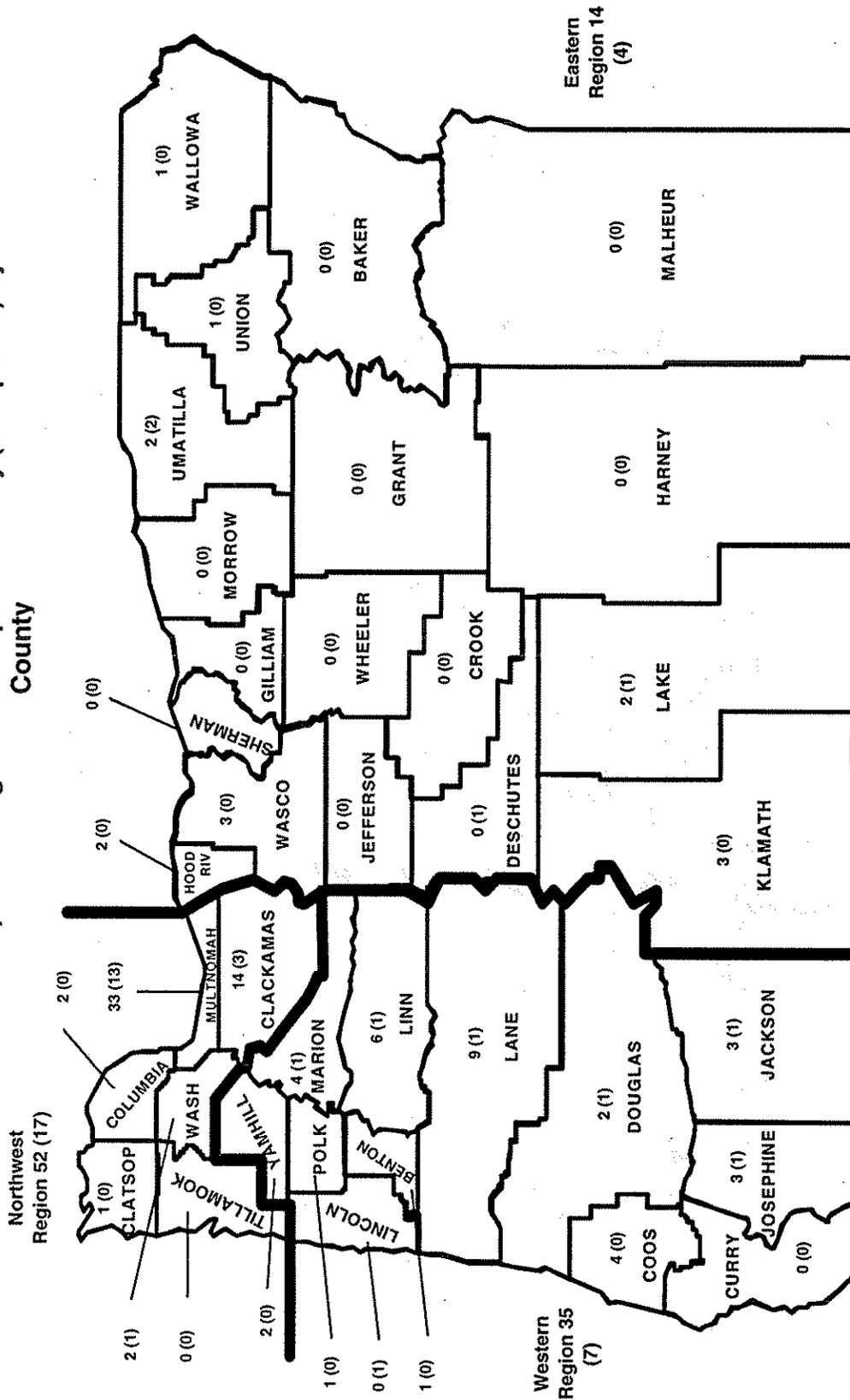
Appendix

Maps of Site Locations:

- Total Sites on Environmental Cleanup Database
- Site Screenings and Preliminary Assessments
- Site Response Sites
- Voluntary Cleanup Sites
- Sites Contaminated by Petroleum Tanks
- Permitted Underground Storage Tanks
- Hazardous Substance Cleanup Orphans

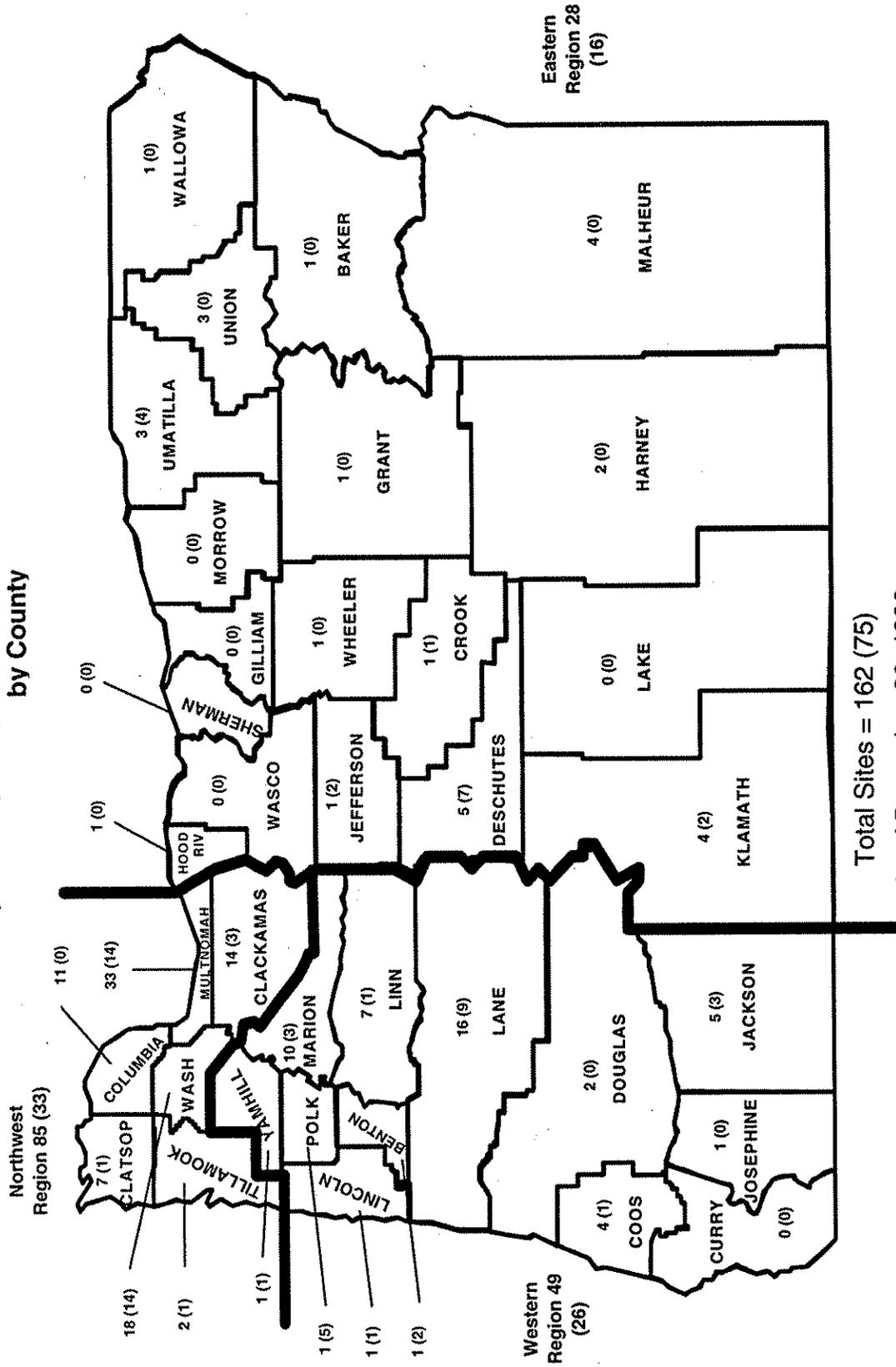
GLOSSARY

Site Response Program Cleanups Underway (Completed) by County



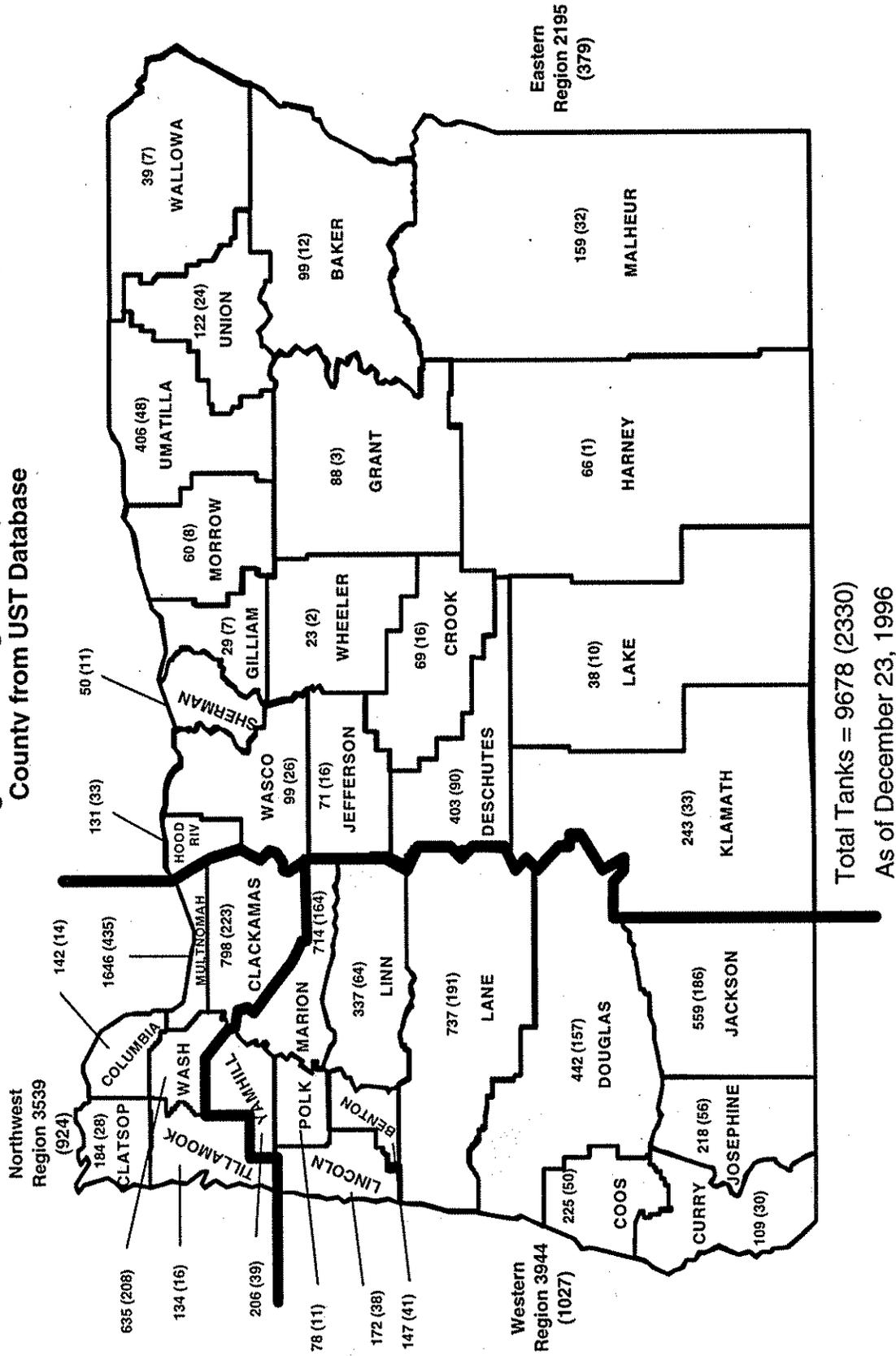
Total Sites = 101 (28)
As of December 23, 1996

Voluntary Cleanup Program Cleanups Underway (Completed) by County



Total Sites = 162 (75)
As of December 23, 1996

**Permitted Underground Storage Tanks (New Installations) by
County from UST Database**



**Total Tanks = 9678 (2330)
As of December 23, 1996**

Environmental Cleanup

GLOSSARY

aquifer: an underground bed or layer of earth, gravel or porous stone that contains water.

background: the level of hazardous substance occurring naturally in the environment prior to a spill or release.

brownfield: vacant, contaminated property that is typically industrial and is located in a developed urban area.

confirmed release list: a list of properties where it has been verified that a hazardous substance has been released into the environment. Sites on the confirmed release list do not necessarily require any cleanup action.

consent order: A legal document that specifies a responsible party's obligations when entering into a cleanup settlement with the state.

corrective action plan: a work plan specifying exactly how a site contaminated with petroleum products will be cleaned up.

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act--commonly known as Superfund; the federal law passed in December 1980 authorizing identification and cleanup of abandoned hazardous waste sites.

DEQ: Department of Environmental Quality; the Oregon state agency established to restore, enhance, and maintain the quality of Oregon's air, water and land.

EPA: United States Environmental Protection Agency; the agency responsible for enforcing federal laws protecting the environment.

EQC: Environmental Quality Commission; the five-member citizen panel appointed by the Governor to set the environmental policies and regulations for Oregon.

feasibility study (FS): a study conducted to determine different options for cleaning up a site; it is based on information gathered during the "remedial investigation." The FS examines different levels of cleanup, cost effectiveness, permanence and level of protection, as well as available technology.

groundwater: the mass of water in the ground that fills saturated zones of material such as sand, gravel or porous rock.

inventory: the list of sites where release of a hazardous substance has been confirmed and further investigation is necessary.

LUST: leaking underground storage tank.

NPL: National Priorities List; the EPA's official list of hazardous waste sites nationwide to be addressed under the Superfund law.

numeric cleanup standards: a matrix used in simple soil cleanups that defines "how clean is clean" by setting a pre-approved cleanup level.

orphan site: a site contaminated with hazardous substances where the owner/operator is unknown, unwilling or unable to pay for cleanup.

plume: the extent or boundaries of the spread of contamination in groundwater.

preliminary assessment (PA): the initial determination to confirm whether a hazardous substance has been released into the environment, and whether further action is necessary.

presumptive remedy: a preferred cleanup technology for common categories of sites.

release: a hazardous substance that has spilled, leaked or otherwise been discharged into the environment.

remedial action (RA): work done at a contaminated site to permanently clean up, control or contain the hazardous substances.

remedial investigation (RI): an environmental investigation that includes information on the types and concentrations of hazardous substances, the geology and hydrology of the area, and an evaluation of potential risks to human health and the environment.

removal: work done at a contaminated site to clean up or remove a release of hazardous substances, including but not limited to security fencing or other means of limiting access and instigating measures to prevent contamination spread.

risk assessment: a comprehensive evaluation that examines potential risk to human health and the environment in terms of routes of exposure, populations at risk, and degree of harmful effects.

SARA: Superfund Amendments and Reauthorization Act (1986); federal law reauthorizing and expanding the jurisdiction of CERCLA.

site investigation: an environmental investigation that includes information to determine whether a site should proceed to the next stage of investigation or whether it should be placed in a No Further Action status. A site investigation may be performed when a full RI/FS is not required.

Superfund: see CERCLA

ust: underground storage tank

work plan: a detailed report including a schedule for completing an investigation, a description of sampling methods, quality control measures, and safety procedures.