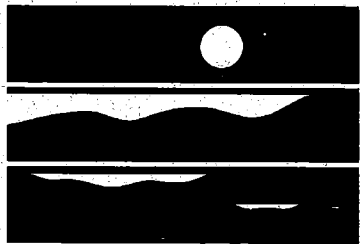
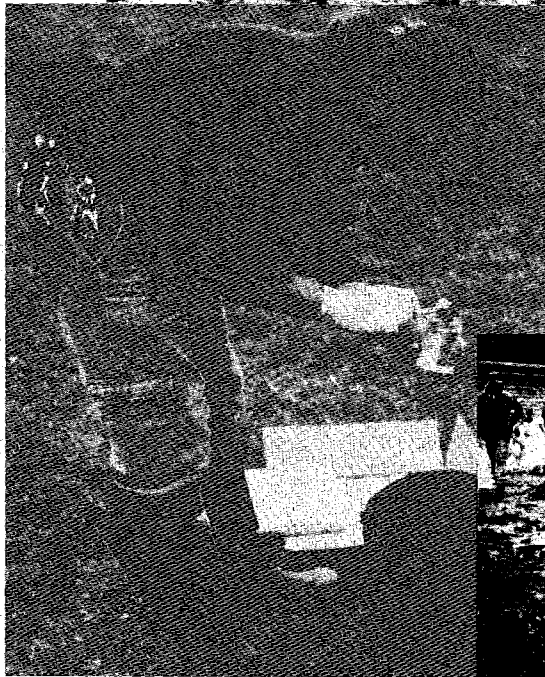
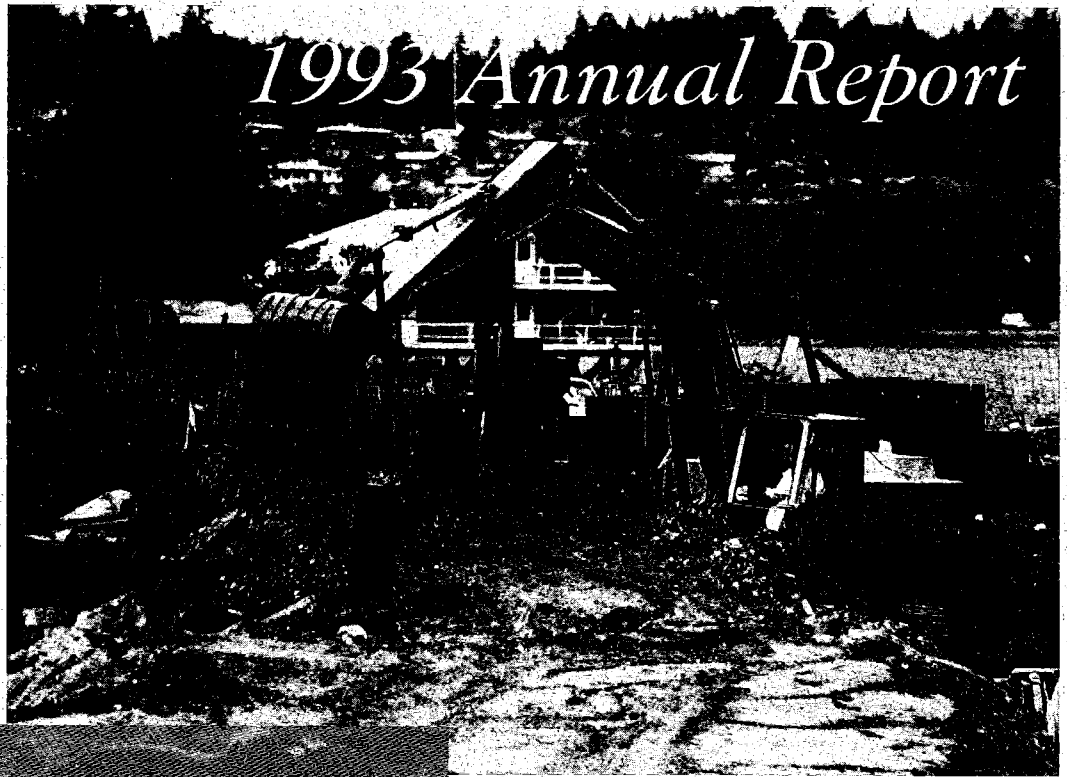


Model Toxics Control Act

1993 Annual Report



WASHINGTON STATE
DEPARTMENT OF
E C O L O G Y

Department of Ecology

The mission of the Department of Ecology is to protect, preserve and enhance Washington's environment and promote the wise management of our air, land and water for the benefit of current and future generations.

To accomplish this mission, Ecology will:

- Recognize its most valuable asset is its dedicated and committed employees and it will provide necessary support, training and professional development.
- Promote prevention and conservation as the most effective ways to preserve our natural resources and protect the environment.
- Enforce environmental laws and regulations in a fair and firm manner.
- Provide public education programs to promote wise use of our natural resources and encourage environmental protection.
- Offer information, technical and financial assistance to help the public, governments, businesses and industries comply with environmental laws and regulations.
- Promote recognition that compliance with environmental laws and regulations is compatible with a sound economy.
- Promote meaningful public involvement in the development of rules, regulations and new initiatives.
- Provide leadership in addressing emerging problems and strive to bring public agencies and diverse interest groups together to address environmental issues.
- Use an integrated approach to resolve environmental issues.
- Place special emphasis on educating and working with youth to create a strong environmental ethic.
- Help state agencies set an example in environmental protection.
- Work with executive and legislative branches to promote sound environmental policy.

(Adopted 1988)

Mission Statement

- "We value environmental stewardship – Stewardship calls us to work with others as trustees to restore, protect and conserve the health, biodiversity and long-term sustainability of our region's ecosystems. As stewards, we recognize and respect nature for nature's sake. We seek to guide all of our actions by looking ahead several generations.
- "We value environmental justice – Environmental justice requires us to account for ethnic, cultural and economic factors in decision-making. We acknowledge and work toward understanding diverse views, interests and values. We seek solutions to competing interests that are consistent and fair, as well as creative and flexible. We strive to balance equitably the voices of the most powerful with those of the least.
- "We value environmental education – Education prepares us for evaluating issues and their consequences. Vital and engaging environmental education clarifies the relationship between people and nature, provides greater understanding of science and is essential to developing the self-discipline necessary for a healthy future. Each of us has a responsibility to provide the knowledge required to make informed choices.
- "We value community spirit – Community spirit brings us together as a team of people striving to achieve a common mission. We depend on a diverse work force to enrich our community, respecting each other's unique expertise and knowledge. We are dedicated to making our work place fulfilling and enjoyable.
- "We value professional conduct and expertise – Professional conduct requires us to apply specialized knowledge and skills in a courteous and considerate manner. As professionals, everyone at Ecology is expected to foster a supportive environment that inspires innovative solutions, quality service and constant improvement. To support this, professional development opportunities are essential. We respect the mission and goals of others as we carry out Ecology's.
- "We value accountability – Accountability requires us to be responsible for our actions and to hold others responsible for theirs. We regulate as well as provide other services. As regulators, we expect voluntary compliance and will work to uphold the law. When providing services, we make the best use of our resources to meet the needs of the public. We will set the example."

Values Statement

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Executive Summary

A Message From the Director



Mary Riveland
Director

Model Toxics Control Act: Year Five

Sometime in the next century, we will look back at the Model Toxics Control Act and see it as a turning point for pollution prevention. Not just cleanup. Prevention.

One-third of Model Toxics money spent in fiscal year 1993 went to programs aimed at pollution prevention. Add to that the high cost of cleaning up contaminated sites and you have a powerful message that has been heard by wise users of hazardous substances: Pollution prevention pays.

That payoff is broader than the bottom lines of clean businesses. Nowhere is it more clear than in the Pacific Northwest that a healthy environment and a strong economy are dependent upon each other.

Cooperation is critical. Programs under the Model Toxics Control Act operate on the assumption that "command and control" regulation can't solve every environmental problem. For example, Ecology's hazardous waste programs target industry groups for assistance rather than enforcement, while household hazardous waste collection is now available statewide thanks to Ecology assistance to local governments.

In pursuit of this approach, we have reorganized Ecology's solid waste, hazardous waste, and recycling efforts into two new programs -- Solid Waste Services and Hazardous Waste & Toxics Reduction. These programs focus on specific clients and waste issues, promote pollution prevention, and emphasize technical assistance.

That doesn't mean we ignore enforcement. While Ecology helps businesses find the most cost-efficient ways to protect the environment, we must also make sure their competitors don't gain the edge by disregarding environmental laws.

As for regulatory reform, Model Toxics Control Act regulations were written with an eye toward eliminating excess detail and reality checked by those who must live with them. This year we are adding to the regulation a new program for reviewing independent cleanups, and we're working on more definitive guidance for lender liability at cleanup sites. We understand that clear decisions by us are needed as new issues arise.

When we look back on Model Toxics 30 years from now, we will see a cleanup operation fading out of business because it is seldom needed, while pollution prevention will be common habit. We are on course for that goal.

Mary Riveland



Carol Fleskes
Manager
Toxics Cleanup Program

Toxics Cleanup Program Overview

Five years ago, 85 percent of Washington residents voting in the November election said they wanted hazardous waste sites in their state cleaned up.

The voters said yes with expectations that ugly scars etched into the state's natural beauty would be healed, that those who caused contaminated sites would clean them up, and that Washington would avoid the bureaucratic and legal tangles that frustrated the federal Superfund program.

Are those expectations being met? Just look around:

In Renton you can drive on Interstate 405 and see a new truck factory on PACCAR Inc's cleaned-up site, while the company continues cleanup on other parts of its property;

In Yakima residents in the southeast part of the city were drinking ground water contaminated with an industrial degreaser. Now, potentially liable persons provide bottled water to them, and a permanent clean water source is under construction;

In Tacoma 28 sources of toxic contamination in Commencement Bay have been cleaned up, including seven sites cleaned up through the formal Model Toxics process;

In Spokane the General Electric site on Trent Avenue will host an innovative new method for entombing PCBs;

In Othello petroleum contamination that threatened a wetland on the west side of town has been removed by Burlington Northern and recycled into asphalt;

In Vancouver a treatment system is removing chromium from a ground water plume headed toward a public well field;

In Seattle a vapor recovery system at the bottom of Queen Anne Hill is clearing gasoline contamination that has threatened the safety of residents in a nearby apartment building.

Altogether, cleanup construction is finished at 50 sites under state oversight, while another 900 independent cleanups have been reported complete. Interim cleanups at 39 sites have reduced risk while the sites are being studied for final solutions.

Since the beginning of fiscal year 1990, potentially liable persons have spent over 18 times more on cleanups than the state spent on the entire cleanup program budget during that same period. Local governments have conducted additional cleanups with the aid of state grants.

Model Toxics Under Review

The legislature, the business community and the public are scrutinizing Washington's cleanup effort as the federal Superfund program faces reauthorization in Congress. The Model Toxics Control Act is based on the federal cleanup law, but has important differences that yielded dramatic results during the past five years:

- By allowing for independent cleanups, Model Toxics and its implementing regulation have encouraged more than 2,800 cleanups that otherwise would wait in line for formal state oversight. Independent cleanups are now being considered for an amended Superfund law.
- Standardized cleanup levels for contaminants can be used, when appropriate, to reduce costs and save time. Superfund requires complex, expensive risk assessments at every site. Model Toxics calls for a risk assessment only when it's needed.

Why Do Cleanups Take So Long?

At complex sites, hazardous substances released into the environment are difficult to track, hard to predict, and sometimes impossible to fully clean up given current technology. Capturing low but insidious levels of toxins in nature's irregular patterns is a labor intensive task.

Potentially liable persons have responded with commendable enthusiasm, although they understandably drive hard bargains with each other and seek what concessions they can from the state. Those initial negotiations often require several months to complete. However, they set the tone for a cleanup project and yield consent decrees and agreed orders that produce cleanups, not lawsuits. In five years, Ecology has never had to delay a cleanup while defending it in court.

Program Evolves to Address Needs

Most of the lawsuits generated by the Model Toxics Control Act are between private parties. The 1993 legislature removed a barrier to cleanups by clarifying the Act to include specific rights for third parties to sue each other to recover cleanup costs.

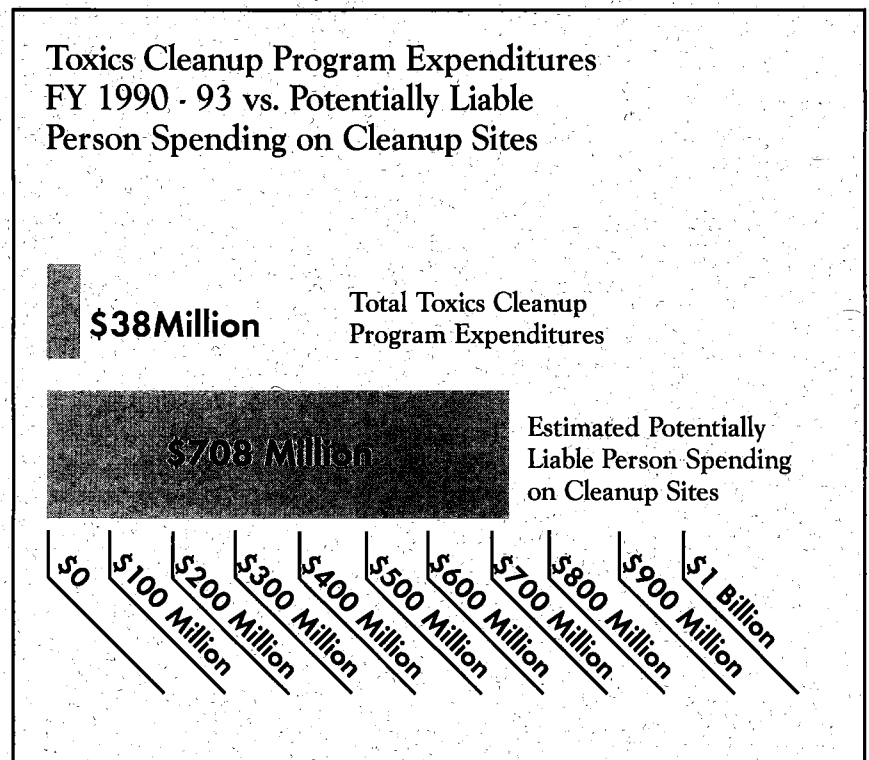
Ecology, meanwhile, has shifted staff from assessing new sites to reviewing the thousands of

independent cleanups submitted to the agency. Independent cleanup reviews are provided for a fee, thus honoring the Model Toxics Act's "polluter pays" philosophy while lending a needed boost to property transactions and re-use of cleaned-up sites. Assessment of new sites continues through state grants awarded to local health agencies to help them find sites in their areas.

Potentially liable persons also have the option to prepay state oversight costs. This is useful for those who want to expedite cleanup of a site that is not a high priority for state resources. Ecology is able to hire additional staff for the project without jeopardizing high priority sites already in the cleanup process.

The people of Washington have made a courageous investment in cleaning up their prized environment. The payoff is long term, but cleanups -- hundreds of them -- are getting done. An effort crafted by innovative citizens has successfully evolved through its first five years and will continue a tradition of constant improvement.

Carol L. Flesher



Rule Amendments

Four amendments to the Model Toxics Control Act Regulation were adopted on November 12, 1993:

Independent Remedial Action Program

The Model Toxics Control Act does not require Ecology review of independent cleanups, exposing owners and operators to the risk of having to do additional work if state standards aren't met. This risk prompted many property owners to request Ecology review in order to expedite the sale or other use of their properties.

In response, Ecology has developed the Independent Remedial Action Program, which provides detailed, timely review of independent cleanup reports in exchange for a fee which ranges from \$1,000 to \$15,000 depending on the cost of cleanup.

Private Rights of Action (Contribution)

In 1992, the Washington Supreme Court ruled the Model Toxics Control Act did not provide liable persons with explicit rights to sue other parties for the cost of cleaning up hazardous sites. During the 1993 session, the legislature passed a bill which provides the "right of contribution" to liable persons.

The new section of the Act states that persons can seek recovery of costs for remedial actions that are "the substantial equivalent of the department-conducted or department-supervised remedial action." A definition of what must be included in a cleanup to be substantially equivalent with technical and public involvement requirements of the Act has been established with adoption of the rule.

Cost Recovery

The "polluter pays" philosophy is central to the Model Toxics Control Act. Ecology, however, has been able to recover from potentially liable persons only the cost of staff members directly involved with a cleanup site plus a pro-rated percentage of administration costs for the agency. Administrative costs for the Toxics Cleanup Program have not been covered.

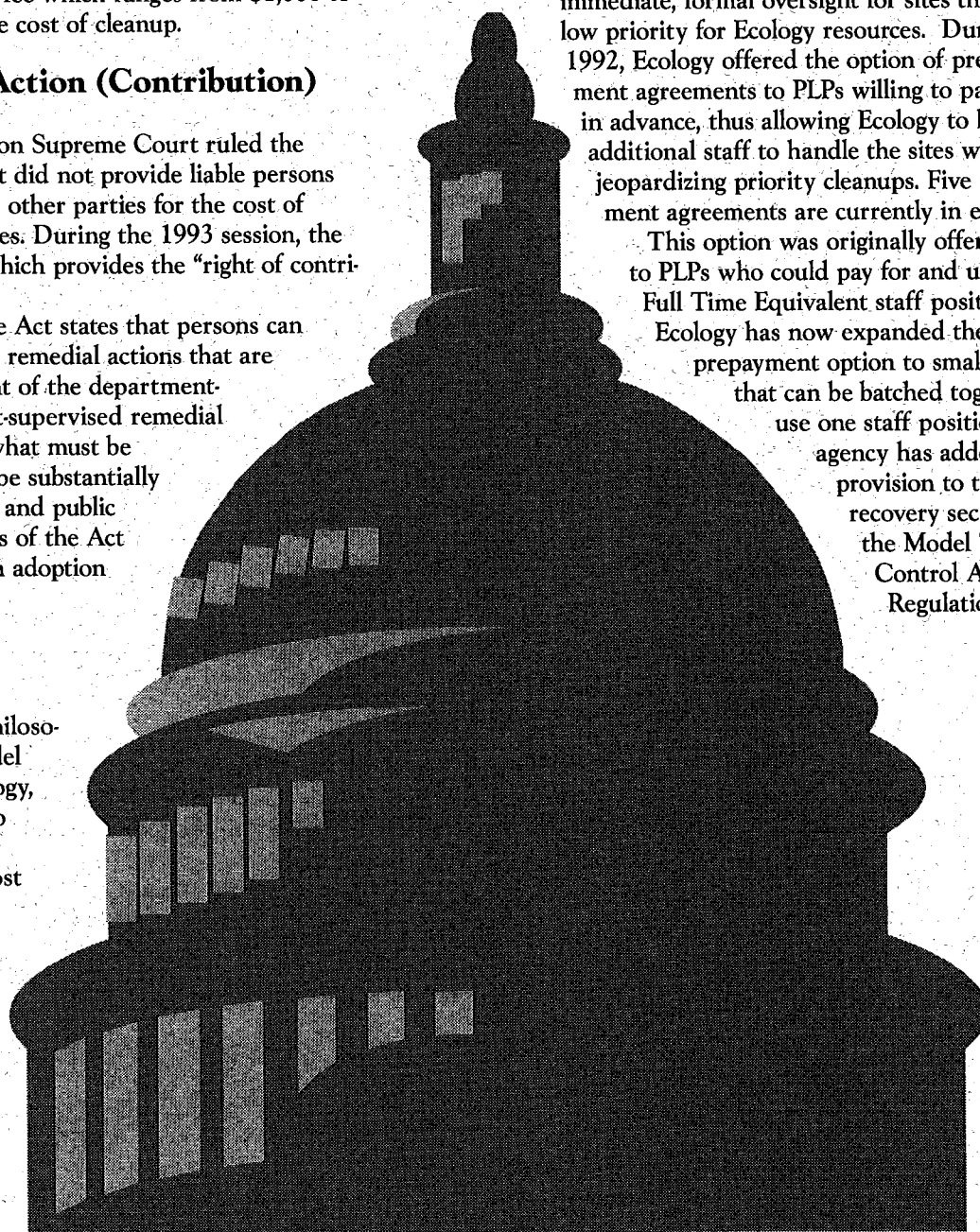
An amendment to the rule allows Ecology to recover costs of program support functions reasonably attributable to sites. These include a portion of clerical support, staff meetings, general technical assistance, contract management, budget and planning reports, the production and publication of the Site Register, administration of the cost recovery program, and site-related training of program employees. The charges will apply beginning January 1, 1994.

Prepayment Option

Some potentially liable persons (PLPs) want immediate, formal oversight for sites that are a low priority for Ecology resources. During FY 1992, Ecology offered the option of prepayment agreements to PLPs willing to pay costs in advance, thus allowing Ecology to hire additional staff to handle the sites without jeopardizing priority cleanups. Five prepayment agreements are currently in effect.

This option was originally offered only to PLPs who could pay for and use one Full Time Equivalent staff position.

Ecology has now expanded the prepayment option to smaller sites that can be batched together to use one staff position. The agency has added this provision to the cost recovery section of the Model Toxics Control Act Regulation.



Policy Development and Revisions

De Minimis Consent Decrees

Ecology has negotiated three *de minimis* consent decrees that minimize cleanup liability for parties whose contribution to contamination at a site is small in both toxicity and volume. Two of these decrees were signed for existing potentially liable persons.

The third, Washington's first pre-purchase *de minimis* consent decree, was negotiated with the Committee for the Seattle Commons and signed in September 1993. This decree allowed the Commons to purchase a piece of property on Lake Union without concern for cleanup liability as long as it fulfills requirements of the decree, which include their best efforts to develop the site for public benefit. The consent decree was patterned after similar agreements entered into by the federal government and other states.

Site Hazard Assessment Grants

Grants made to six local health agencies allow Ecology to fulfill its obligation to assess new sites for the Hazardous Sites List while focusing Ecology staff on site cleanup. An innovative use of Local Toxics Account grant funds enables participating local health agencies to conduct up to ten site hazard assessments per year. The agencies work with their local Ecology regional offices and submit their assessments to Ecology for review and, if needed, ranking on the list.

Future Policy and Guidance Development

Lender Liability

Lenders have asked Ecology to clarify when they could be held liable for cleanup of a contaminated site and provide guidance on how lenders can minimize their exposure to potential liability when foreclosing on contaminated properties. Ecology is addressing this issue with a work group made up of representatives from lenders, insurance firms, environmental consultants, state and local governments, environmental groups, attorneys and others. A draft policy is being developed.

Guidance Documents

Two major guidance documents are currently in development.

Soil cleanup standards are being developed specifically for environmental protection (current standards address only human health). Laboratory protocols have been developed for the standards and are being tested at sites. This work is under review by a subgroup of the Science Advisory Board to assure its scientific validity. Once the lab procedures are validated, a rule revision will likely be required to incorporate program expectations and promulgate standards.

A second major undertaking also involves soil cleanup levels. The Model Toxics Control Act regulations currently require that cleanup levels be protective of direct contact (human ingestion) with both soil and ground water. Protection of the ground water is determined using a multiplier and assumes a certain amount of dilution and attenuation in the soil before the contaminants reach the aquifer. The rule allows for site specific determinations of the appropriate protective level but we have no current guidance for how this determination is to be made. Development of such a guidance document has begun.

Citizen Work Groups

Ecology creates work groups to obtain insight and feedback from both the regulated community and concerned citizen groups on cleanup program activities and emerging issues. Issues addressed by work groups include proposed changes to the regulation such as the independent remedial action program, proposed fees, cost recovery provisions, site listing decision-making, liability issues, and other proposed statutory changes.

How Sites Are Cleaned Up

The Model Toxics Control Act allows a hazardous waste site to be cleaned up through a formal process directly overseen by the state at the expense of potentially liable persons or, when possible, independent of Ecology oversight. Independent cleanups are encouraged for sites such as leaking underground storage tank sites where established methods and technology can be applied predictably.

Formal Process

1 Initial Investigation

The Initial Investigation is Ecology's first look at a contaminated site. Within 90 days of receiving a report of a possible site, Ecology will visit the site and investigate available historical information. Sites are added to Ecology's hazardous sites data base, given a "No Further Action" determination, or passed to the appropriate local, state or federal authority for action.

2 Site Hazard Assessment

A Site Hazard Assessment is Ecology's first chance to characterize a hazardous waste site. Ecology gathers information to: 1) Confirm or rule out contamination, 2) Identify hazardous substances, 3) Identify the site's environmental characteristics, 4) Evaluate potential threats to human health and the environment.

Ecology determines either that no further action is needed or ranks the site relative to others that have undergone the same scrutiny. Sites needing cleanup are placed on the Hazardous Sites List and prioritized for further action.

3 Interim/Emergency Cleanups

The goal of all hazardous waste cleanups is to reduce risk to humans and the environment. Interim and emergency cleanups are used to *reduce risk fast* on portions of a site that pose the greatest threat without waiting for an in-depth study to be finished. Interim or emergency cleanups often occur simultaneously with a phase in the long-term cleanup process.

Public notice and comment required.

4 Remedial Investigation/Feasibility Study

Eliminating human health and environmental impacts at a hazardous waste site is a sizeable engineering project. Careful study and planning are needed to make sure the chosen cleanup method makes sense environmentally and economically.

The remedial investigation provides specific and detailed information about the extent of contamination at a site. During the feasibility study, Ecology and the potentially liable persons use that information to develop and evaluate options for cleanup.

Public notice and comment required.

5 Cleanup Action Plan

Ecology chooses a preferred cleanup option from alternatives in the feasibility study and presents its decision for public comment as a "cleanup action plan". The plan identifies a preferred method of cleanup and specifies cleanup standards ("how clean") and other requirements at the site.

Public notice and comment required.

6 Cleanup Construction

Actual cleanup begins once the cleanup action plan is finalized and a consent decree or enforcement order is issued. Cleanup includes plan design, construction, and the operation and monitoring of cleanup actions.

Ecology requires the use of permanent cleanup methods wherever practical. Preferred techniques for handling hazardous substances on a site are listed in this order:

- 1) Reuse or recycling
- 2) Destruction or detoxification
- 3) Removal and treatment/destruction of contaminants
- 4) Immobilization
- 5) Disposal in a properly designed landfill
- 6) Isolation or containment in place
- 7) Deed/Access controls and monitoring

7 Operation & Maintenance/Monitoring

Before removal from the Hazardous Sites List, all sites go through a period of performance monitoring to make sure the cleanup was effective. Many sites also require operation and maintenance of the chosen cleanup method. For example, cleanup of contaminated ground water often requires operation of a "pump and treat" system for many years.

8 Removal From the Hazardous Sites List

A site may be removed from the list once cleanup standards have been met or containment and control of contaminants have proved effective. Monitoring must be conducted to confirm the long-term effectiveness of the cleanup. The length of the monitoring period depends on the nature of the site and the cleanup methods used.

Public notice and comment required.

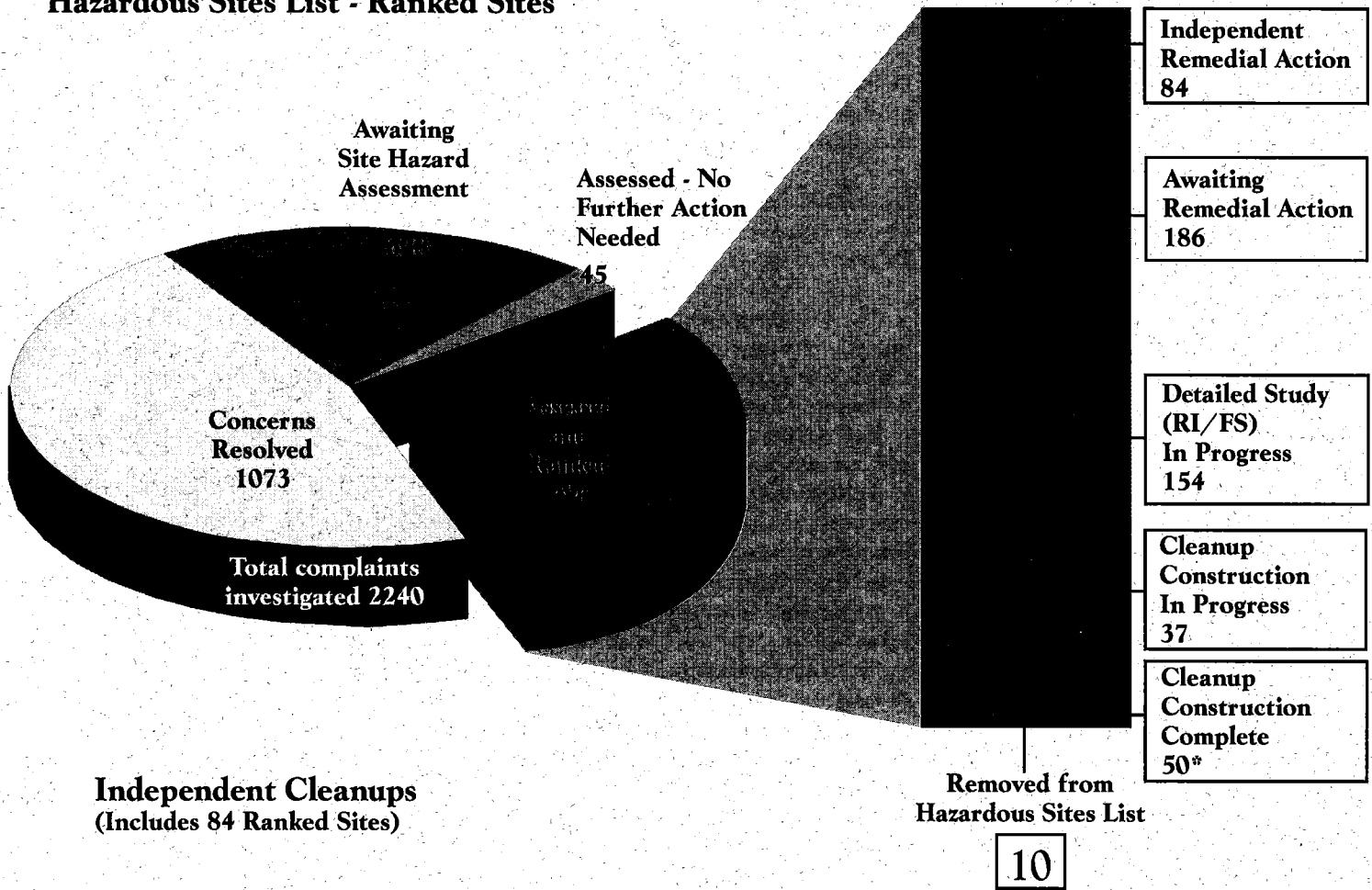
What Happens After a Site is Cleaned Up?

When a site is removed from the Hazardous Sites List or an independent cleanup has passed Ecology review, it is given a status of "No Further Action." This is a formal, public statement by Ecology that it does not intend to pursue additional cleanup work at the site. However, a cleaned-up site can be revisited if it is recontaminated or if previously unknown contamination is discovered.

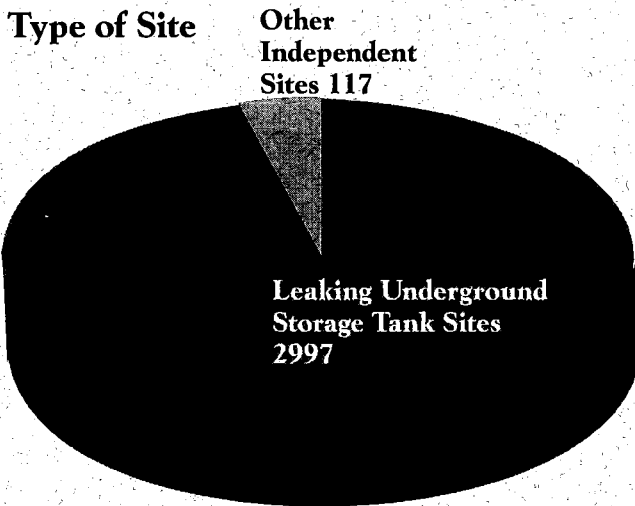
Where We Stand

Toxics Cleanup Program Progress To Date As of June 30, 1993 (State and Federal Sites)

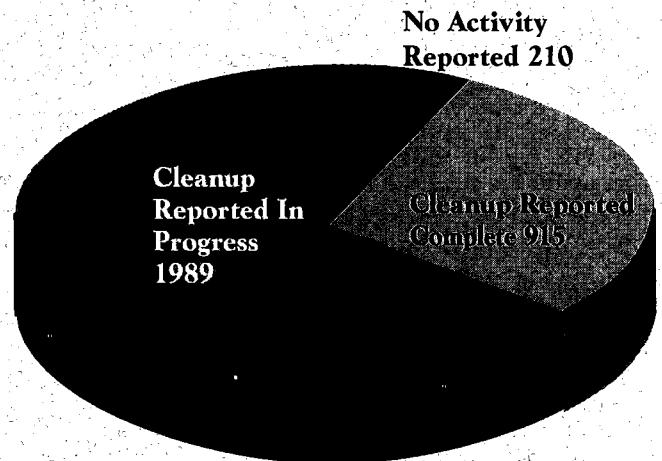
Hazardous Sites List - Ranked Sites



Independent Cleanups (Includes 84 Ranked Sites)



Independent Cleanup Activity



*17 of these sites were not ranked or listed on the Hazardous Sites List because they were started before Ecology's ranking system was established.

Independent Cleanups

Independent cleanups are encouraged by the Model Toxics Control Act Regulation at sites that need cleanup but do not require state oversight. By the end of FY 1993, over five times more sites were in independent cleanup than in the formal state oversight process.

Site owners conducting independent cleanups must report the site to Ecology, follow state requirements, then deliver a completed cleanup report when the work is done.

Starting in FY 1994, Ecology is offering review of independent cleanups in return for a fee to cover the state's costs.

Leaking Underground Storage Tanks

Nearly 3,000 independent cleanup sites are leaking underground storage tank systems. By far the most common type of cleanup in Washington, several of these sites can be found in most towns.

The cleanups are driven not only by the state cleanup law, but also by the Underground Storage Tank Act. This law requires leak detection for all active underground tank systems used for hazardous substances except tanks that are smaller than 1,100 gallons and located at farms or residences. Heating oil tanks are excluded. Market forces that for several years have been converting service stations to other uses have also helped to drive the cleanup effort.

FY 1993 staff funding for leaking underground storage tank cleanups was provided through a \$1.2 million grant from EPA.

Financial Assistance

In 1992, the legislature established an assistance program for remote communities that would be harmed if a local fuel supplier went out of business because of tank maintenance or cleanup requirements. The Underground Storage Tank Community Assistance Program, administered by the Pollution Liability Insurance Agency (PLIA), has provided grants at 58 qualified sites through early FY 1994. Ecology has

supplied cleanup expertise at several of the PLIA projects.

Ecology also has supplied nearly \$1 million in financial assistance to 11 tank cleanup sites whose owners have demonstrated financial hardship. These are not independent cleanups, however, because the owners must agree to state oversight in order to receive assistance.

Site Profiles

Beaver Lodge

The Beaver Lodge site was cleaned up with assistance under the Pollution Liability Insurance Agency "remote and necessary" program.

Ecology personnel were on hand at what was to be a routine tank removal at the resort on Lake Gillette about 20 miles east of Colville. They tested soil from the excavation and identified petroleum contamination.

At Ecology's request, the tank removal contractor continued excavating until approximately 150 cubic yards of soil was removed -- of which, 23 cubic yards was contaminated and properly disposed of. This decision to push beyond a simple tank removal avoided later re-excavation of the site, helping to protect the environment while making more efficient use of tax dollars.

Inland Metals

In 1993, Inland Metals became one of five independent cleanup sites removed from the Hazardous Sites List.

Located adjacent to the Spokane River near downtown Spokane, this site had been used for a scrap metal business since the 1950s. Allegations of transformers being dismantled on the property prompted the previous owner to sample soil for polychlorinated biphenyls (PCBs). The highest levels, 23 parts per million, were found in a dry drainage pathway which empties into the river. The state cleanup level for PCBs in industrial soils is 10 ppm.

The present owner began the initial cleanup in 1987 by removing debris and some oil-stained soil. The site was ranked a "2" on the Hazardous Sites List after an Ecology assessment revealed remaining PCB and lead contamination. Through a series of soil removals and confirmational samplings, this property was cleaned up and is now ready for development in a growing part of Spokane's downtown business area.

Soil is piled out outside of the Beaver Lodge near Colville. State financial assistance helped its owners afford the costs of cleaning up a leaking underground storage tank.



State Oversight Cleanups

Yakima Railroad Area

Yakima residents whose wells have been contaminated or threatened by an industrial solvent now have access to a temporary clean water supply, and construction has started on a permanent replacement.

Ground water in the "Yakima Railroad Area" (named for the tracks that bisect the area) is contaminated with perchloroethylene (PCE), an industrial de-greaser and dry cleaning agent. During testing in 1991, PCE was found in 28 domestic wells in southeast Yakima.

A supply of bottled water paid for by potentially liable persons has been available to affected households for more than a year, serving about 1,000 people at its high point. The cities of Yakima and Union Gap are extending their water systems to the area using grant money from the Local Toxics Control Account. About 450 homes will be connected to the Union Gap system by the end of 1993, and more are slated for next summer.

"De minimis" settlements have been reached with two potentially liable persons who were able to show they made only small contributions to the problem. The \$66,000 obtained through the settlements will be used for the bottled water program, detailed studies of the site, and other cleanup activities.

During an interim cleanup at the Jackson Park Housing Complex, workers hired by the U.S. Navy remove contaminated soil from a 200,000 gallon oil tank slated for demolition.



Jackson Park Housing Complex

In response to Ecology cleanup orders, the Navy has finished three risk-reducing interim cleanups at this military housing complex and has started a detailed, long-term study of the site.

About 3,000 Navy personnel and their families live at Jackson Park, located on Ostrich Bay near Bremerton. The site served as an ammunition depot from 1904 to 1959.

Sampling confirmed that soil on parts of the site is contaminated with metals, petroleum from leaking underground storage tanks, and chemicals used in Navy munitions. The same chemicals were detected in sediment and fish samples collected from the bay.

The main risk to humans is from eating shellfish harvested at local beaches, so the Navy closed the beaches to shellfish harvesting in 1992. Interim cleanups have focused on the leaking tanks and a former ammunition bunker site scheduled for construction of additional housing. Other contamination on the 300-acre site is outside of the residential areas.

Ostrich Bay was added to the National Estuary Program and Jackson Park Housing Complex was nominated to the National Priorities List (Superfund) in June 1993. A tri-party agreement between the Navy, EPA, and Ecology will be negotiated in the future.

Landsburg Mine

Negotiations prompted by Ecology have produced a \$1 million agreement among seven potentially liable persons to finance a remedial investigation/feasibility study at the Landsburg Mine site, approximately 12 miles east of Kent.

In the 1940s and 1950s, coal was mined in this area, leaving a subsidence trench above the mined-out coal seam. Part of this trench was used in the late 1960s and early 1970s as a disposal site for a variety of industrial wastes. These wastes were either contained in barrels or were drained from tanker trucks. Ecology designated the site as a high priority cleanup in 1991. Four potentially liable persons worked together to remove the most easily accessible drums from the trench and restrict access to the site. Three other potentially liable persons joined the process in 1993.

The detailed study is expected to take up to 30 months to complete and will result in a proposed plan for final remediation.

Soil & Crop, Inc.

Ecology has reduced risk to human health and the environment at this site in Othello by completing an interim cleanup action. Sludges and sediment material were removed from part of this facility that was used for mixing, storing and selling fertilizer and pesticides.

Soil & Crop was in business at this four-acre site for 23 years. In 1986, soil and ground water contamination was reported. Ecology's remedial investigation revealed low levels of pesticides (dieldrin, aldrin, and endrin) in the soil as well as limited contamination of a shallow aquifer under the site.

A draft Cleanup Action Plan for final cleanup is scheduled for public comment in autumn, 1993. At this point, the site poses a minimal threat due to the interim cleanup and because monitoring has revealed no movement of ground water contamination off the site.

State Oversight Cleanups

Texaco Puget Sound Refinery

A massive cleanup effort over the past two years has helped reduce environmental and human health risks caused by an oil spill from the Texaco Puget Sound Refinery on Fidalgo Bay in Anacortes. Now Texaco is cleaning up the last, most stubborn remnants of that spill under a Model Toxics Control Act consent decree.

Texaco has operated this refinery since 1958, producing a variety of marketable petroleum products. On February 22, 1991, an estimated 210,000 gallons of Alaska North Slope crude was spilled onto the ground and into the water.

The company has completed a detailed study and interim cleanups under a previous order, including cleanup of part of an adjacent property owner's land and replacement of his home. Texaco will use bioremediation to clean up some of the remaining soil in place, while excavating other areas and applying the same treatment at a facility based at the refinery. Bioremediation is a technique that uses oil-consuming bacteria which occur naturally in the soil.

Commencement Bay Source Control

Sources of contamination at 26 sites in Tacoma's heavily industrialized Commencement Bay have been controlled through creative use of state and federal laws at the disposal of Ecology's Urban Bay Action Team.

Commencement Bay is one of the most complex federal Superfund sites in Washington. Ecology's role in the cleanup is "source control" -- to ensure that waterfront owners and operators stop contamination from a total of 64 sources of pollution that impact the bay. All of those sources will be under control by the end of 1995. EPA has started cleanup of contaminated sediments in Commencement Bay waterways where Ecology's source control work is already finished. Cleanup in the St. Paul waterway was completed by Simpson-Tacoma Kraft and Champion International in 1991, Sitcum Waterway is scheduled for cleanup during the fall of 1993 and other cleanups are scheduled for 1994 and 1995.



Soil is excavated from a leaking underground storage tank site at Arden's Country Store in Malott, Okanogan County.

Former DuPont Works

The DuPont and Weyerhaeuser companies are well into an extensive remedial investigation/feasibility study at the site of a former explosives manufacturing plant.

Weyerhaeuser purchased the 3,000-acre site from DuPont in 1976 and has started development of a planned residential/commercial community. Early environmental studies revealed contamination on part of the property resulting from DuPont's activities on the site.

The RI/FS, conducted under Ecology oversight, was started in 1991. Contaminants found on-site include lead, petroleum-based products, arsenic, mercury, dinitrotoluene, trinitrotoluene, and polynuclear aromatic hydrocarbon compounds.

Numerous interim cleanups have been conducted to remove or isolate heavily contaminated areas. So far, approximately 70,000 cubic yards of soil have been removed for off-site disposal or recycling.

Because more environmental samples and studies are needed than originally estimated, Weyerhaeuser and DuPont have been granted an extension to complete the RI/FS, which should be finished in autumn 1994. During this time, interim cleanups conducted by DuPont and Weyerhaeuser will continue.

Arden's Country Store

Ecology used state funds to clean up gasoline contamination at this store in Malott, Okanogan County.

In March 1988, explosive levels of gasoline vapors at the site prompted an emergency removal of two underground storage tanks. An abandoned well was also sealed and contaminated soil removed.

Gasoline contamination remained in the soil and ground water elsewhere at the site, threatening household drinking water supplies in the immediate area. In May 1991, Ecology issued an enforcement order to the store owner requiring study and preparation of cleanup alternatives. The store owner did not respond, so Ecology paid an environmental contractor to do the work using funds from the State Toxics Control Account. Ecology is attempting to recover its costs.

Thermal desorption and "pump and treat" methods were used to conduct the cleanup. The thermal desorption process heats soil to 600°F, destroying the contamination. Vapors are heated in an afterburner to 1600°F to minimize contaminants released to the air.

Contaminated ground water was pumped to the surface, treated, then returned to the aquifer upstream. Ground water cleanup is expected to take approximately two years.

Monterey Apartments

Last summer, gasoline and vapor recovery systems were installed at this leaking underground storage tank site at the base of Seattle's Queen Anne Hill.

In 1986, Ecology investigated the Monterey Apartments in response to complaints of strong gasoline odors and found petroleum contamination in shallow ground water under the building. Leaking underground fuel tanks at what is now the Manhattan Express gas station/mini mart were identified as the source.

Emergency measures were taken immediately, including installation of ground water monitoring and fuel product extraction wells which recovered an estimated 500 gallons of gasoline. An alarm which detects gasoline vapors was installed in the apartment basement in 1987 when the recovery system became ineffective. This alarm will remain in place until the cleanup is complete.



Ecology's Doug Knowlton extracts a ground water sample from the Monterey Apartments site in Seattle.

The gasoline and vapor recovery system was installed at a cost to the state of \$220,000 and will continue to operate for at least two years. Because of the site's history and complexity, Ecology has not determined when the fuel was released to the environment and has been unable to identify potentially liable persons.

Fairchild Air Force Base

Like most military bases, Fairchild Air Force Base near Spokane has a variety of contaminated sites. The Air Force, with oversight from Ecology and EPA, is conducting four interim cleanups and is studying or designing cleanup methods for 15 more.

An unusual combination of techniques will be employed at a fire training area where both soil and ground water are contaminated with benzene, a component of jet fuel. In a process called "air sparging", air is pumped into the ground water to vent the volatile chemical into the soil gas and speed up the natural activity of microbes that consume petroleum-based products. Through another process called "in-situ bioventing", more air is drawn through the soil to accomplish the same goal. A pilot system should be installed by September 1994.

Elsewhere, the Air Force is helping to supply drinking water to a mobile home park affected by contaminants from the base's Craig Road Landfill. Design of a cover and treatment system for the landfill is scheduled to start in late 1993.

At three other sites, a total of about 3,000 tons of petroleum contaminated soil has been removed and transported to a privately-operated facility for treatment.

Port of Pasco

A Local Toxics Control Account grant of \$510,825 has helped the Port of Pasco install a system to recover petroleum products found in ground water on this site located on the Columbia River's north bank in Pasco. Approximately eight gallons of petroleum product is being removed from the ground water each day in this first phase of cleanup.

In addition to the interim cleanup, the port and Crowley Maritime Corporation are conducting a remedial investigation/feasibility study at this site which housed tank farms that stored gasoline, diesel, and agricultural products. A grain elevator and truck wash are still operating at the site.

Pure diesel was found in two dewatering wells on-site and gasoline and diesel were found in several monitoring wells. Also detected in the soil and ground water on-site was 1,2-dichloropropane, a component of a soil fumigant.

Tanks on-site have been emptied of petroleum products and agricultural chemicals. So far, no soils have been treated or removed.

Fourth Street Mobil

A cleanup experiment in Olympia has shown that bioremediation, under the right conditions, is economical, fast and effective.

Petroleum contaminated soil from the Fourth Street Mobil site was tilled by a newly-developed machine after being mixed with fertilizer and a biodegradable detergent. This treatment made for fast and effective ingestion of the petroleum by bacteria already present in the soil.

Contaminated soil and ground water were found at the site during removal of six underground storage tanks in March 1990. Ecology suggested the new bioremediation method as a means of saving both time and money. So far, soil cleanup has been successful.

Ground water monitoring has revealed that petroleum contamination has not migrated off the site.

Partnerships

Grants to Local Governments

All Washington residents now have access to some form of household hazardous waste collection, thanks in large part to Local Toxics Control Account grants and the efforts of local governments. It's one result of a partnership between Ecology and local governments to clean up contaminated sites and prevent pollution caused by disposal of municipal garbage, demolition debris and hazardous waste.

During fiscal year 1993, Ecology awarded more than \$31.4 million in new grants from the Local Toxics Control Account and an additional \$5.3 million in grant amendments to existing projects. Local governments matched grant funds to pay for more than \$47 million in waste management improvements.

Program Emphasizes Prevention

In FY 1993, Coordinated Prevention Grants aimed specifically at pollution prevention accounted for nearly 60 percent (\$18.5 million) of all new grants. Through these grants, the Local Toxics Control Account helped local governments:

- Plan for their waste management needs,
- Educate and help people generate less waste at home and work, while reducing its toxicity,
- Provide ways for people to properly dispose of hazardous waste from their homes.

Landfill Closure Grants

Coordinated Prevention Grants also helped nine local governments with the expensive task of closing old landfills to meet strict environmental standards. Eight counties and one city received a total of \$3.8 million in landfill closure grants in FY 1993. Landfill closure funds are available through 1995.

Drinking Water Projects and Remedial Action Grants

Ecology and local governments signed agreements for \$12.9 million, excluding amendments, in remedial action grants during FY 1993.

These included:

- \$10 million for projects to protect people from the effects of drinking water contaminated by hazardous substances (Centralia, Union Gap, Vancouver, Yakima),
- \$2.6 million for quick cleanups to reduce risk, longer-term studies, and final cleanups at nine sites, including the Centralia Landfill and the ports of Pasco and Tacoma,
- \$300,000 for preliminary assessment of possible hazards at sites in Yakima, Okanogan and Snohomish counties.

Ecology awarded the drinking water project grants under an emergency amendment to the remedial action grants rule. Interested groups and other agencies worked with Ecology staff on the final version of the amendment, which Ecology plans to adopt in the fall of 1993. The amendment provides for matching grants to extend existing water systems into contaminated areas, drill for new water sources, and treat water system supplies.

Public Participation Grants

Eighteen citizen groups and not-for-profit organizations signed \$416,652 in Public Participation Grants with Ecology during FY 1993. Grant amounts ranged from \$4,840 for a project to get school children and their parents to use durable rather than disposal items for school lunches, to \$42,000 for public education and involvement in the cleanup of Commencement Bay in Tacoma.

Contract workers prepare a trench for new water lines that will serve residents in Union Gap who have been drawing drinking water from a contaminated aquifer.



Public Involvement At Hazardous Waste Sites

Public involvement is required, and actively pursued, at all sites being cleaned up under state oversight. Ecology public involvement specialists make sure that people who are directly affected by a cleanup are well informed and able to communicate their concerns. Often, they take advantage of resources provided by potentially liable persons or the community at large.

Here are two examples of how public involvement works:

Citizens OVER-C Navy Sites

The Olympic View Environmental Review Council, or "OVER-C", is an environmental group studying cleanups at U.S. Navy facilities in Bangor and Keyport. Working closely with Ecology, EPA, and the Navy, OVER-C is pursuing effective impact on cleanup activities.

OVER-C gives guidance to new citizen groups and helps experienced groups needing a fresh focus. They are also working with Ecology and other environmental group members to produce a directory listing citizen groups in the state that work on hazardous waste sites.

Yakima Railroad Area

More than 1,000 households in Yakima and Union Gap get their drinking water from shallow ground water which is contaminated with an industrial solvent. The potentially liable persons, in cooperation with Ecology, are providing free bottled water to those residents who want it.

Despite numerous mailers and public meetings, only about half of the residents had signed up for bottled water as of last autumn. Ecology targeted those who had not responded through TV and radio ads accompanying a direct mail campaign. In addition, bilingual Ecology staff answered questions on a Spanish-language radio talk show. The result was 300 more households drinking safe water, all at minimal cost thanks to contributions from public spirited citizens and media outlets.

Citizen Advisory Committees

Ecology seeks to stay in touch with general public opinion about hazardous waste cleanup through Citizen Advisory Committees in each of the agency's four regions. Committee members act as sounding boards for citizen and community concerns and give Ecology staff a "reality check" on important issues.

The committee members seek out citizen concerns, represent citizen interests concerning cleanup issues, review policies under development, and recommend ways for Ecology to respond to public needs. One regional committee, for example, monitored three cleanups and Ecology's response to concerns about cases of brain cancer in Onalaska. Another committee worked to attract public interest to a cleanup in Pasco.

Citizen Advisory Committee Members

Southwest Region

Virginia Clark
Bruce Lachney
Jack Micheau
Mark Miller
Linda Rawlings
Jack Roberts
Scott Sedberry
Tom Waltz
Diedre Young

Northwest Region

Reuben Baybars
John Drotts
Janet Ferguson
Debra Hughes
Michael Jeffers
Kim Klink
Michael Kundu
Michael McNickle
Peg Monaghan
Ron Nohrenberg
Lisa Stone
Jim Woessner

Eastern Region

Lloyd Bourne
Ralph Carter
Marty Gilchrist
Dr. Robert Hager
David Hoppens
Dr. Eric Kincanon
Sandra Morton
Sally Simmons
Micki Tuttle
Frank Yuse

Central Region

Wally Budke
Bruce Howard
Harold Jones
Kurt Layman
Laura Miracheck
Ken Neher
Cindy O'Halloran
Jan Secunda
Daniel Snipes
Herman
Thoennissen
Don Weins
Dean Wells

At the end of fiscal year 1993, Ecology reorganized its Solid and Hazardous Waste Program and Waste Reduction, Recycling and Litter Control Programs into two new programs called Solid Waste Services, and Hazardous Waste and Toxics Reduction. The goals are to focus each program on specific clients and waste issues, promote pollution prevention, and emphasize technical assistance.

Department of Ecology Hazardous Waste and Toxics Reduction Program

The new Hazardous Waste and Toxics Reduction Program will promote pollution prevention and facilitate hazardous waste regulatory understanding and compliance. Technical assistance is a high priority for the program. Each region will have non-regulatory toxics reduction staff who are separate from the hazardous waste compliance staff.

In FY 1993 the two programs that now comprise the Hazardous Waste and Toxics Reduction Program spent \$4.84 million from the State Model Toxics Control Account, and \$28,823 from the Local Toxics Control Account, to fund 63 FTEs.

In 1993, Ecology staff helped generators of hazardous wastes learn about technical and regulatory issues as well as assistance opportunities through workshops, the *Shoptalk* newsletter, and other materials.

Ecology staff held pollution prevention workshops for target audiences such as printers and

paintings/coatings businesses, compliance inspectors from federal, state and local enforcement programs, and permit writers from state, federal and local governments as well as air and water authorities.

Staff responded to more than 700 Hotline requests for information, plus about 20,000 other calls and letters statewide. There were 1,175 technical assistance site visits performed, 110 of them to persons who had newly notified Ecology of their status as hazardous waste generators.

The automotive "Shop Sweeps" campaign included 1,065 mini-audits by Ecology staff, plus another 1,000 performed by Ecology-trained county representatives. At the request of automotive trade associations, they visited automotive repair shops statewide and provided quick, basic hazardous waste management information and education materials to help find and fix waste handling problems rather than fixing blame.

Staff helped more than 300 businesses prepare pollution prevention plans and identify waste reduction opportunities through on-site visits, workshops, presentations and one-on-one meetings.

An additional 180 federally mandated or state priority inspections were conducted. Most facilities were sent informal warning letters. Twelve compliance/enforcement orders were issued and eleven penalties for non-compliance were assessed, totalling \$663,500.

Partnerships

In the past year, the number of household used motor oil collection sites has increased about 50 percent thanks to cooperation between Ecology, local governments and businesses. Local governments work directly with businesses to establish collection sites, and in many cases are purchasing equipment for the sites with support from Ecology grants.

Department of Ecology Solid Waste Services Program

The new Solid Waste Services Program will carry on a range of activities to support and supplement efforts by local governments to handle "moderate risk waste" -- that is, hazardous waste which comes from households or from businesses that generate only small quantities of hazardous waste. This effort was handled in FY 1993 by the former Ecology Waste Reduction, Recycling and Litter Control Program using \$642,648 of State Toxics Control Account funds.

Ecology's Darin Rice (left) helps service shop operator Ray Taylor identify the hazardous materials he uses. "Shop Sweep" visits by Ecology staff help business owners learn to recycle or properly dispose of hazardous waste.



Through the use of its toll-free, 1-800-RECYCLE information line, Ecology provided waste reduction and recycling guidance to both households and businesses in Washington.

Information on household hazardous waste collection events was provided to more than 5,000 callers, greatly increasing citizen awareness of these services offered by local governments.

Businesses calling the toll-free line were provided information and referral regarding toxic waste reduction or recycling opportunities. A majority of the businesses served were small quantity generators who were served in coordination with local government moderate risk waste activities.

In addition to providing verbal advice, Ecology also distributed a wide range of printed materials developed by Ecology staff or by local governments for use in campaigns which the agency was supporting.

Partnerships

All jurisdictions in the state now have an approved and current plan for locally managing solid and hazardous wastes thanks to Ecology assistance. The plans allow governments to better manage hazardous wastes generated in small quantities by businesses and households (known as "moderate risk waste") and interpret standards for landfills.

In FY 1993, Ecology helped local governments establish and/or operate 28 permanent or mobile moderate risk waste collection systems, host 60 household hazardous waste collection events, host four collection events for small businesses, and develop local hazardous waste plans.

Department of Agriculture Waste Pesticides Program

The Department of Agriculture's Waste Pesticide Program has completed five years of activities focused on waste prevention, including collection and proper disposal of unusable pesticides at farms, ranches, and similar sites.

During this time, more than 162 tons of unusable pesticides, some dating back to 1913, have been collected and properly disposed of from 1,028 participants at 21 collection events.

In fiscal year 1993, more than 26 tons of unusable pesticides were collected from 182 participants at a total contractor cost of

\$307,628. Regional collections were held in Yakima, Walla Walla, and Goldendale.

Special site collections also were held at 33 separate farms, where nearly 8,000 pounds of pesticides were collected and taken away for proper disposal. The department has placed a high priority on identifying chemicals in the often unmarked containers found at these sites because they present a special hazard in case of a spill or inadvertent contact with humans or animals.

Partnerships

The program purchased an industrial grade portable plastics chipper to support and encourage the recycling of plastic pesticide containers. The recycling effort is spearheaded by the Washington Pest Consultants Association (WPCA). This non-profit group runs the recycling program through donation of labor by its members and financial contributions from agricultural chemical dealers and other similar businesses.

In the first six-months of the program, the WPCA recycled more than 25,000 plastic containers ranging in size from one quart to more than 250 gallons. The WPCA is responsible for maintenance and operation of the chipper and will eventually own it through an agreement with the state which sets a value for each container recycled.

Waste pesticide collection centers such as this one in Wenatchee have enabled the Department of Agriculture to collect more than 162 tons of unusable pesticides.



Department of Natural Resources

State Toxics Control Account funding of \$324,000 allowed the Department of Natural Resources (DNR) to address contamination of state-owned intertidal and submerged lands (known as "aquatic lands"). DNR's Division of Aquatic Lands, with support from the Attorney General's office, advised the Department of Ecology on issues involving these lands, worked with potentially liable persons to investigate and clean up hazardous waste sites, conducted a wastewater outfall sediment impact study, and assisted Ecology at a contaminated nearshore landfill site.

Sediment Impact Zone Study

DNR is working with Ecology to evaluate a model which will be used to predict the extent of sediment contamination at wastewater outfalls. DNR funded a study to collect sediment quality data adjacent to a wastewater outfall. These data will be used by Ecology to test and calibrate the model which will be used to predict sediment impact zones.

Work With Potentially Liable Persons

DNR used leasing opportunities to secure indemnification for the state from dischargers, and negotiated environmentally protective measures into leases which reduce sources of contamination to state-owned lands.

DNR reviews Ecology's hazardous waste site lists and uses information collected on contaminated sites to identify impacts on state lands. Environmental assessments of state-owned aquatic lands have been conducted or are planned by potentially liable persons (lessees) as requested by DNR.

In December 1992, DNR signed a memorandum of agreement with Ecology concerning contaminant source control and sediment cleanup. The memorandum is designed to ensure effective integration of the state's proprietary and regulatory authorities for prevention, investigation, and cleanup of contaminated sediment sites.

State Liability

The U.S. Environmental Protection Agency (EPA) has named the State of Washington a "potentially responsible party" at the Eagle Harbor, ASARCO Smelter, Harbor Island, and Commencement Bay Superfund sites. DNR represents the state as potentially responsible party in its capacity as land manager, and as a natural resource trustee. DNR worked with the EPA and Ecology to deal with sediment contamination and the state's potential liability for cleanup at these sites by reviewing and offering comments on proposed cleanup and restoration plans.

The Department of Natural Resources Sediment Management Staff provided aquatic land managers with technical advice to ensure that property transactions do not increase the state's liability for contaminated sediments.

Advisory Committees

DNR serves as a member of several committees advising Ecology on issues related to contamination of state-owned aquatic lands. Staff provided policy and technical input on the implementation of the state's Sediment Management Standards and the impacts of stormwater discharges from municipalities and industries. DNR participated in the development of the Stormwater and Sediment Liability Study Report.

Lower Columbia River Bi-State Water Quality Program

The Bi-State Program is a cooperative effort between the states of Washington and Oregon, with additional support from public ports in both states and the Northwest Pulp & Paper Association. Water quality in a 146-mile stretch of the lower Columbia River from Bonneville Dam to the Pacific Ocean is being studied and characterized during this four-year project.

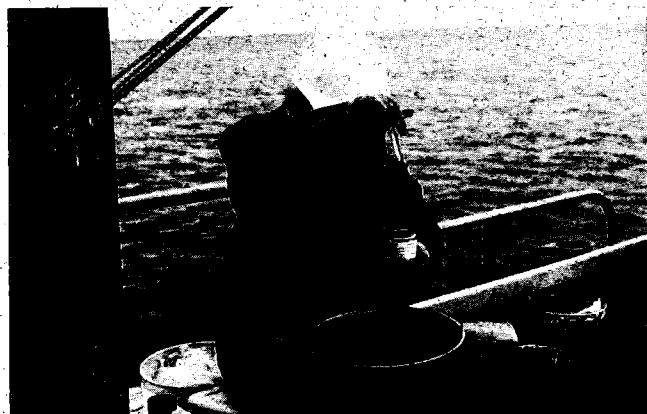
The goal of the program is to assess the health of the lower portion of the river, then develop a joint strategy for managing water quality in this shared resource. This information will help resolve long-standing issues between the two states and industries using the river.

The first phase, a reconnaissance survey, has been completed. Samples were taken of water, sediments and tissue from fish. The samples were collected over a wide geographic area and tested for a broad range of contaminants.

The results are being used to develop more focused studies on pollutants, fish and wildlife, and risks to human health, as well as additional reconnaissance work in backwater areas.

Project Has Been Expanded

The 1993 legislature expanded Washington's share of the Bi-State Program. An additional \$679,000 has been approved for studies, and a second staff position has been created to help develop and supervise the studies. The Oregon legislature has appropriated additional funding as well. The life of the program, originally slated to end in March 1994, will probably be extended to June 1995 to allow a more thorough evaluation of water quality.



Consultants hired by DNR search for contaminated sediments north of Bellingham Bay near Ferndale. Samples are dredged from the bottom, carefully preserved, and sent to a lab for analysis

Office of Marine Safety

Vessel Oil Spill Contingency Plans

Washington's Office of Marine Safety (OMS) is an independent agency of the state established by the legislature in May 1991 after the Exxon Valdez disaster in Prince William Sound. In FY 1993, OMS received \$149,000 from the State Toxics Control Account to be used strictly for vessel oil spill contingency planning. These funds were used to:

- Promulgate, monitor, and revise rules requiring cargo, passenger, and tank vessels to comply with state law requiring contingency plans,
- Inform industry of the necessary requirements,
- Organize and conduct public hearings related to rules,
- Evaluate contingency plans for completeness,
- Evaluate and approve completed contingency plans,
- Negotiate safety provisions with industry (as appropriate),
- Approve primary spill response contractors,
- Evaluate required spill exercises,
- Coordinate monthly contingency plan review meetings with Department of Ecology and Oregon Department of Environmental Quality.

During OMS' first year, 46 vessel oil spill contingency plans were received by the agency's Operations Division. By mid-summer, all three of the major plans, which cover most of the vessels entering Washington waters, had been reviewed and a number of the corporate plans were also complete.

Partnerships

In 1993, the Office of Marine Safety's Operations Division worked cooperatively with the Department of Ecology to approve nine spill response contractors. Ecology, OMS, and the Oregon Department of Environmental Quality also worked collaboratively to develop response planning benchmarks that identify the amount and type of spill response equipment necessary to protect Washington waters as well as the time allowed for deployment.

The agencies are now developing a process to conduct major contingency plan exercises. These exercises are being designed to test the key elements of contingency plans, including possible deployment of equipment and resources.

Department of Health

The Washington State Department of Health and Department of Ecology share common concerns about the disposal of hazardous substances. The Department of Health performs specific health assessment activities concerning how exposures to hazardous substances in the environment effect the people of Washington. Those activities include:

- Public health assessments,
- Health consultations concerning specific hazardous substance exposures,
- Health information services,
- Health studies of communities exposed to hazardous substances,
- Health education activities,
- Monitoring drinking water supplies surrounding potential or identified hazardous waste sites,
- Testing of drinking water supplies for organic chemicals.

The Department of Health received \$1,480,000 of State Toxics Control Account funding to support these services during FY 1993.

Drinking Water Activities

During FY 1993 an estimated 17,800 people were affected at sites where the Department of Health detected contaminants in drinking water. The monitoring staff collected 725 samples at 37 sites. Contaminants were present at a sufficient level to warrant Department of Health response to eliminate or limit human exposure at 17 of those sites.

For example, at the Port of Pasco the department confirmed the presence of volatile organic compounds at concentrations exceeding drinking water standards, resulting from ground water contamination at the port. Bottled water is being provided and the Port of Pasco water supply is no longer used for drinking. The port is pursuing an alternate permanent water supply.

Public Health Assessment Activities

The Office of Toxic Substances staff, within the Department of Health, provides health assessments and health consultations to communities exposed to hazardous substances. The office is currently involved in five community environmental health assessments throughout the state. It also has conducted 47 public health assessments and investigations surrounding hazardous waste sites. These assessments have led to additional activities such as pilot health studies, medical care and testing, and health advisories.

For example, the department is working in partnership with Ecology, B.C. Environment, Cominco Smelter and the Northeast Tri-County Health Department to investigate airborne lead exposure of citizens in the Northport area of the state.

Cluster Investigation Studies

The department has expanded its health studies to include cluster investigation studies. These cluster investigations are investigations of reported clusters of similar symptoms to determine whether the cases represent an unexpected excess in the number of cases within a particular community. If an unusual disease occurrence is identified, the agencies explore possible sources and environmental factors for the cause.

For example, the department is investigating cases of childhood brain cancers that have occurred in and around Onalaska (Lewis County). The department continues to assess environmental data provided by Ecology and the local health department and work with the community in evaluating and interpreting health data.

Hazardous Waste Emergencies

Department of Ecology Emergency Spill Response

Although funding was reduced in FY 1993, Ecology Spill Response maintained its vital service to the state by using innovative techniques and cooperating with industry and other government agencies.

Spill responders handled 3,757 oil and hazardous substance emergency calls in FY 1993 while sustaining a \$350,000 cut in State Toxics Account funding. That account now funds 20 full-time employees for spill planning and response activities at an annual cost of \$1,345,355, including cleanup contractor costs.

"Haz Catting"

Ecology reduced the cost of responding to hazardous waste emergencies by using private cleanup contractors less frequently. Spill responders now carry a field kit which allows them to do advance testing of a suspect substance in cases where risk to the responder's health and safety is minimal. In many cases, the material is deemed to be safe for disposal without expensive, specialized equipment. In FY 1993, environmental cleanup contractors were called out to 178 incidents; a 28 percent reduction from the previous year.

Preparation and Planning

The key to successful spill response is advance planning and cooperation with other responders. During FY 1993, Ecology:

- Incorporated the Statewide Master Oil and Hazardous Contingency Plan into the Northwest Area Plan, which consolidates the Coast Guard, EPA, Washington, Oregon and Idaho contingency plans into a single regional plan;
- Began developing Geographic Response Plans that help responders prepare advance strategies for areas vulnerable to natural resource damage from oil and hazardous substance spills;
- Reviewed 55 facility contingency plans and participated in 16 emergency response drills with other agencies and industry;
- Studied the need for regional HAZMAT emergency response teams in the state;
- Studied the environmental risks of water transport of bulk hazardous substances across Washington's waters. As a result, Ecology has suggested changes in proposed federal regulations rather than development of parallel state requirements.

Department of Community Development

Hazardous Materials Training Program

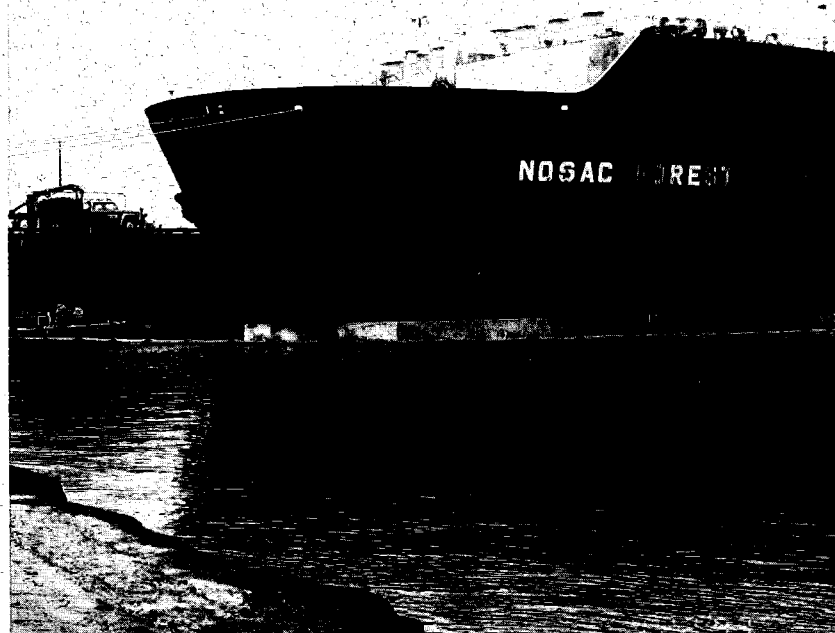
The Hazardous Materials Training Program provides critical "hands-on" training for those who are the first to arrive at hazardous waste emergencies. These types of personnel are generally from local fire departments.

The program, made up of 13 separate course titles, enhances preparedness planning and the response skills necessary to safely deal with hazardous wastes incidents and is vital to minimizing loss of life and property for all citizens involved. These courses provide a unique opportunity for firefighters to prepare for situations involving pesticides, flammable liquids, combustible metals, drug labs, and many more emergency situations.

During fiscal year 1993, classes were taught to approximately 7,000 firefighters in Washington state, which equates to more than 6,000 hours of student contact time.

The State Toxics Control Account provided \$517,450 for hazardous materials training in FY 1993 and is the most significant source of funds for this work. Other federal or local fund sources have virtually been eliminated. Without continued financial support, the program would be unable to meet the required training for the state's 25,000 firefighters.

Contractors hired by the owner of the Nosac Forest clean up oil that spilled off the ship and into Tacoma's Commencement Bay due to an error during refueling.



Financial Analysis

Hazardous Substance Tax

As with other revenue sources, the Hazardous Substance Tax is reflecting Washington's flat economy.

The Department of Revenue oversees collection of the tax, which is imposed on the first in-state possessor of hazardous substances at a rate of .7 percent, or \$7 per \$1,000 of wholesale value. More than 85 percent of receipts from the tax come from petroleum products.

Current trends indicate slower growth:

- FY 1993 Hazardous Substance Tax collections amounted to \$40,095,856, a 12.9 percent increase over FY 1992.
- FY 1994 collections are projected to be \$40,388,836, a 0.7 percent increase over FY 1993.
- Actual first quarter collections for FY 1994 are 6.5 percent lower than the same quarter of FY 1993.

Cost Recovery

At the end of FY 1993, Ecology was pursuing active cost recovery actions on 97 sites, as compared to 86 sites a year before. Unlike FY 1992, there were no major settlement agreements to boost the total dollar amount. Recovery remained stable at \$2.4 million.

Fiscal year 1994 begins with 120 sites in cost recovery, an increase of 23 sites. Cost recovery provisions are written into orders and decrees negotiated for major phases of the cleanup process. Ecology generally pursues cost recovery when a site reaches the Remedial Investigation/Feasibility Study (RI/FS) phase, although an Interim Action which is conducted before the RI/FS phase may trigger cost recovery earlier. Ecology then invoices the potentially liable persons, usually on a quarterly basis, for the state's oversight costs. The first invoice may include costs accrued for a longer period.

Increased Recovery Rates in 1994

Costs recovered by Ecology are expected to increase by about \$1 million per year because of changes in the types of state expenses eligible for cost recovery plus an expected increase in the number of cost recovery-eligible sites. Changes include recovery of vacation leave, sick leave, and holiday benefits earned by employees working directly on cleanup sites, and program support costs. In addition, an option for potentially liable persons to prepay oversight costs has been expanded.

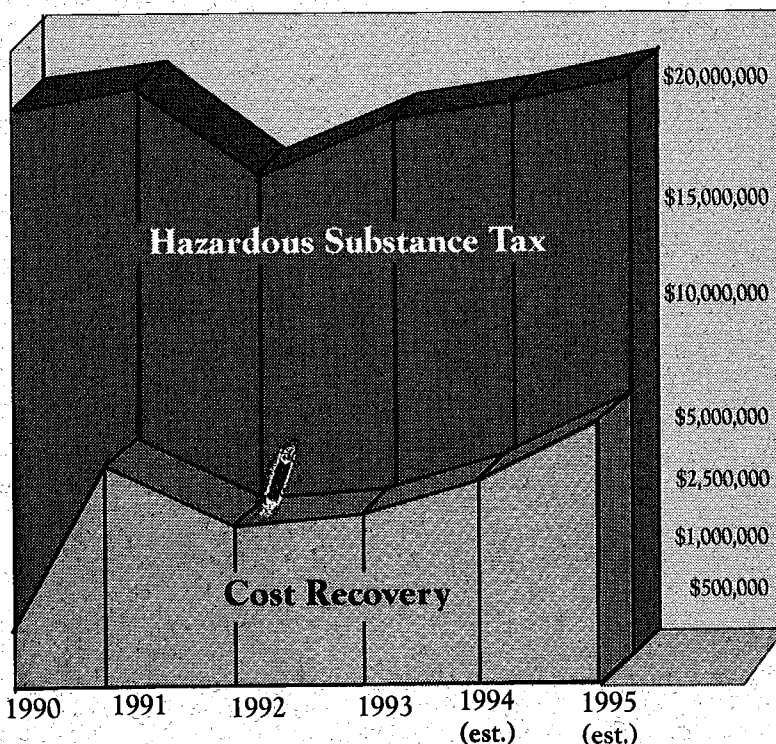
How The Money Is Spent

Money from the Hazardous Substance Tax is dispersed into two accounts. Fifty-three percent goes to the Local Toxics Control Account for grants to help local governments with hazardous waste cleanup, planning and prevention projects. Local Toxics Control Account activities are described on page 12. The remainder (47%), plus all cost recovery funds, is sent to the State Toxics Control Account to be distributed by the legislature for a variety of solid and hazardous waste activities performed by seven state agencies.

Legislative appropriations of State and Local Toxics Control Account funds are based on expected balances in the accounts as well as revenue estimates. The legislative process determines which agencies and programs have priority for funds.

This chart compares the amount of tax funding used to support state hazardous waste prevention and cleanup programs with funding obtained through recovery of costs from potentially liable persons.

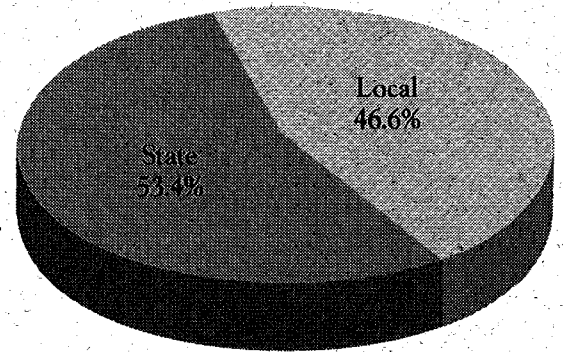
State Toxics Control Account Revenue



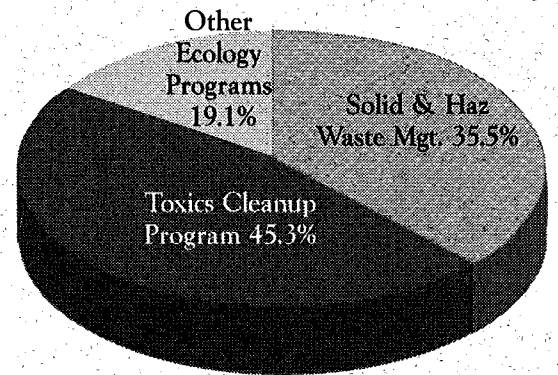
Statement of Revenue and Expenditures

TOXICS CONTROL ACCOUNT	LOCAL	STATE
REVENUE		
Tax Collection	\$21,262,172	\$18,830,229
Cost Recovery	\$0	\$2,380,377
Penalties	\$0	\$160,206
Hanford Consent Decree	\$0	\$3,781,566
Miscellaneous	\$2,718	(\$807,725)
TOTAL REVENUE	\$21,264,890	\$24,344,653
EXPENSES		
Air Program	\$0	\$0
Agency Administration	\$482,521	\$4,027,805
Central Program/Spill Response	\$0	\$1,589,518
Environmental Investigations & Lab Services	\$0	\$612,079
Water Quality	\$0	\$159,477
Nuclear & Mixed Waste	\$0	\$3,044,068
Solid & Hazardous Waste Management	\$14,277,463	\$4,496,374
Toxics Cleanup Program	\$18,241,089	\$10,002,669
Waste Reduction, Recycling & Litter Control	\$6,112,468	\$638,403
Waste Management Grants Administration	\$1,070,640	\$0
TOTAL DEPARTMENT OF ECOLOGY	\$40,184,181	\$24,570,393
Other Agencies:		
Department of Agriculture	\$0	\$431,943
Department of Community Development	\$0	\$491,325
Department of Health	\$0	\$1,608,785
Department of Revenue	\$0	\$38,675
Department of Natural Resources	\$0	\$450,072
Office of Marine Safety	\$0	\$120,266
TOTAL EXPENDITURES, ALL AGENCIES	\$40,184,181	\$27,711,459
DETAILS OF TOXICS CLEANUP PROGRAM EXPENDITURES		
Oversight of Potentially Liable Person Conducted Cleanups:		
Interim Action	\$1,785,435	\$4,706
Pre-Remedial/Site Hazard Assessments	\$300,000	\$307,069
Remedial Investigation/Feasibility Studies	\$1,616,521	\$864,029
Cleanup Actions	\$14,539,133	\$449,887
Permits, Natural Resource Damage Assessments, Operations & Maintenance	\$0	\$179,358
Total Potentially Liable Person Cleanups	\$18,241,089	\$1,805,049
Ecology Conducted Activities:		
Technical Assistance	\$0	\$1,925,057
Pre-Remedial/Site Hazard Assessments	\$0	\$169,065
Remedial Investigation/Feasibility Studies	\$0	\$95,900
Cleanup Actions, including Interim Actions	\$0	\$1,058,242
Urban Bay Action Team Activities (funded by STCA)	\$0	\$120,993
Ecology Match for Federal Grants	\$0	\$119,600
State Leaking Underground Storage Tank Activities	\$0	\$1,467,664
Total Ecology Conducted Cleanups:	\$0	\$4,956,521
General Support and Management:		
Administrative Support	\$0	\$721,227
Public Information	\$0	\$147,070
Program Development	\$0	\$711,548
Program Support	\$0	\$467,737
Management	\$0	\$741,582
Regional Directors	\$0	\$6,348
Training	\$0	\$445,587
Total General Support and Management:	\$0	\$3,241,099
TOTAL TOXICS CLEANUP PROGRAM EXPENDITURES	\$18,241,089	\$10,002,669

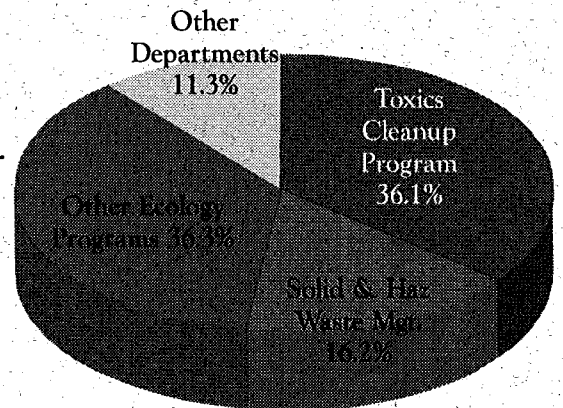
Toxics Control Revenue



Local Toxics Control Account Expenditures



State Toxics Control Account Expenditures



Grants Status Report

CITIZEN PROponent
NEGOTIATION

HAZARDOUS
WASTE
IMPLEMENTATION

PUBLIC
PARTICIPATION

REMEDIAL
ACTION

SOLID WASTE
PLANNING

RECIPIENT	GRANT #	TOTAL PROJECT COST \$	LTCA FUND \$	SIGNATURE DATE
GRANT COUNTY BOARD OF COMM.	G9300077	100,000	100,000	5/22/93
		100,000	100,000	
BENTON COUNTY	G9200323	111,756	70,599	7/16/92
KITTITAS COUNTY	G9200304	68,028	39,906	7/17/92
GRAYS HARBOR COUNTY	G9200306	90,404	54,804	7/23/92
PEND OREILLE COUNTY	G9200305	58,443	33,471	7/23/92
FERRY COUNTY	G9300035	56,857	32,379	8/2/92
FRANKLIN COUNTY	G9300034	72,741	43,338	8/2/92
WHATCOM COUNTY	G9200069	124,899	77,658	10/17/92
OKANOGAN COUNTY	G9200204	71,823	42,363	11/11/92
		654,951	394,518	
CLARK COUNTY NEIGHBORS	G9200269	25,000	25,000	7/2/92
WASHINGTON CITIZENS FOR RECYCLING	G9300055	26,992	26,992	9/2/92
COLUMBIA RIVER UNITED	G9300209	24,000	24,000	3/21/93
LATONA SCHOOL UNITED PARENTS	G9300201	4,840	4,840	3/21/93
HEART OF AMERICA NORTHWEST	G9300222	15,000	15,000	3/31/93
ENVIRONMENTAL RESOURCE SERVICES	G9300233	17,552	17,552	4/7/93
GROWTH & PREVENTION THEATRE CO, THE	G9300239	40,000	40,000	4/18/93
CITIZENS FOR A HEALTHY BAY	G9300198	42,000	42,000	4/23/93
PACIFIC ENERGY INSTITUTE	G9300236	20,812	20,812	4/23/93
COLUMBIA RIVER BIOREGIONAL ED PROJ	G9300200	10,000	10,000	4/26/93
SUSTAINABLE BLDG COLLABORATIVE	G9300268	26,908	26,908	5/31/93
KING COUNTY NURSES ASSOCIATION	G9300283	15,611	15,611	6/2/93
MEETING GROUND	G9300288	10,070	10,070	6/2/93
WASHINGTON CITIZENS FOR RECYCLING	G9300284	33,340	33,340	6/7/93
HANFORD EDUCATION ACTION LEAGUE	G9300246	15,000	15,000	6/9/93
SPOKANE INDIAN RESERVATION SWAC	G9300269	35,527	35,527	6/21/93
GOODWORKS, INC.	G9300313	34,000	34,000	6/27/93
WASHINGTON ENVIRONMENTAL COUNCIL	G9300306	20,000	20,000	6/29/93
		416,652	416,652	
YAKIMA AIR TERMINAL	G9200294	207,084	103,542	7/22/92
CHELAN CO BOARD OF COMMISSIONERS	G9200163	52,000	26,000	9/2/92
SEATTLE, CITY OF	G9200311	512,710	256,355	9/25/92
VANCOUVER, CITY OF	G9300115	3,943,002	3,943,002	10/1/92
UNION GAP, CITY OF	G9300113	1,547,056	1,547,056	10/5/92
YAKIMA, CITY OF	G9300117	4,499,912	4,499,912	10/5/92
CENTRALIA, CITY OF	G9300127	40,140	40,140	10/21/92
TACOMA, THE PORT OF	G9300145	1,075,726	537,863	12/16/92
GRAYS HARBOR COUNTY	G9300150	45,000	35,000	12/28/92
OKANOGAN CO HEALTH DIST	G9300147	100,000	100,000	12/28/92
SEATTLE, CITY OF	G9300134	663,000	331,500	12/28/92
SNOHOMISH HEALTH DISTRICT	G9300146	100,000	100,000	1/23/93
YAKIMA HEALTH DISTRICT	G9300185	100,000	100,000	2/23/93
CENTRALIA, CITY OF	G9300195	867,400	650,550	3/7/93
PASCO, PORT OF	G9300194	1,021,650	510,825	3/27/93
CENTRALIA, CITY OF	G9300248	212,740	159,555	4/23/93
		14,987,420	12,941,300	
KING COUNTY	G9300060	200,000	100,000	11/11/92
WHITMAN COUNTY	G9300208	100,000	50,000	3/23/93
		300,000	150,000	

NOTE: This table does not include \$5.3 million in amendments made to existing grants during FY 1993.

**COORDINATED
PREVENTION**

RECIPIENT	GRANT #	TOTAL PROJECT COST \$	LTCA FUND \$	SIGNATURE DATE
STEVENS COUNTY	G9200336	769,230	500,000	7/23/92
ADAMS COUNTY HEALTH DISTRICT	G9200194	58,574	38,073	7/26/92
GRAYS HARBOR COUNTY	G9200339	485,487	340,914	8/2/92
LONGVIEW, CITY OF	G9200312	155,664	116,748	8/6/92
STEVENS COUNTY	G9200340	342,649	234,437	8/6/92
OKANOGAN COUNTY	G9300046	980,500	500,000	8/11/92
PEND OREILLE COUNTY	G9300053	262,507	176,180	8/17/92
CARNATION, CITY OF	G9200326	288,584	173,150	8/18/92
KENT, CITY OF	G9200185	142,606	85,564	8/18/92
KITSAP CO. PUBLIC WORKS DEPT.	G9200338	433,067	259,840	9/2/92
SNOHOMISH CO. SOLID WASTE	G9200266	253,600	126,800	9/2/92
KLICKITAT COUNTY	G9200267	217,534	146,275	9/13/92
TACOMA, CITY OF	G9300067	3,080,599	1,416,562	9/30/92
TACOMA PIERCE CO HEALTH DEPT	G9300062	311,844	202,699	10/1/92
WHITMAN COUNTY	G9300094	398,000	233,780	10/5/92
SKAGIT CO PUBLIC WORKS DEPT	G9300063	453,553	253,249	10/6/92
KING COUNTY SOLID WASTE DIVISION	G9300038	1,095,000	500,000	10/9/92
SEATTLE, CITY OF	G9300086	2,197,670	1,318,602	10/9/92
MOSES LAKE, CITY OF	G9300078	185,000	138,750	10/16/92
SKAMANIA COUNTY PUBLIC WORKS DEPT	G9300089	204,500	153,375	10/16/92
BENTON COUNTY	G9300107	564,620	338,403	10/22/92
ENUMCLAW, CITY OF	G9300108	33,800	20,280	10/26/92
FRANKLIN COUNTY	G9300125	355,390	244,093	11/14/92
COWLITZ COUNTY	G9300121	303,990	201,993	11/24/92
OKANOGAN COUNTY	G9200242	296,060	191,378	11/24/92
PORT ANGELES, CITY OF	G9300132	26,000	19,500	12/13/92
KING COUNTY SOLID WASTE DIVISION	G9300104	2,533,830	1,520,298	1/6/93
EPHRATA, CITY OF	G9300157	131,544	98,658	1/7/93
SKAGIT COUNTY HEALTH DEPT	G9300103	57,627	35,786	1/12/93
SNOHOMISH COUNTY	G9300124	263,400	158,040	1/12/93
FERRY COUNTY	G9300133	135,037	93,778	1/14/93
GARFIELD COUNTY	G9300164	132,430	86,401	1/23/93
SNOHOMISH COUNTY	G9300165	1,873,256	500,000	1/23/93
KING CO COMM/MRKETING RECYCLABLES	G9300151	81,540	48,924	2/23/93
JEFFERSON COUNTY	G9300178	229,000	126,350	2/25/93
KLICKITAT COUNTY	G9200327	744,700	500,000	3/2/93
KING COUNTY DEPT OF PUBLIC HEALTH	G9300135	4,861,014	2,726,121	3/7/93
LINCOLN CO PLAN & BLDG DEPT	G9300193	94,315	61,305	3/7/93
KITTITAS COUNTY	G9300196	354,622	243,716	3/13/93
PIERCE COUNTY	G9300170	1,184,230	769,749	3/31/93
CHELAN COUNTY	G9300261	500,000	325,000	4/23/93
SAN JUAN COUNTY	G9300207	273,520	167,063	4/23/93
CLARK COUNTY DEPT OF P.S.	G9300226	913,987	594,092	5/19/93
EVERETT, CITY OF	G9300238	412,738	247,643	5/19/93
WHATCOM COUNTY	G9300218	555,000	333,000	5/22/93
SNOHOMISH COUNTY	G9300247	603,900	362,340	6/9/93
YAKIMA COUNTY	G9400001	720,000	500,000	6/9/93
		30,551,718	17,428,909	

GRAND TOTAL 47,010,741 31,431,379

**BREAKDOWN OF
COORDINATED
PREVENTION GRANTS
BY TASK:**

Hazardous Waste Planning & Evaluation	81,713
Hazardous Waste Health & Safety Training	29,889
Household Hazardous Waste Education & Information	461,455
Household Hazardous Waste Compliance	3,409
Household Hazardous Waste Collection & Disposal	6,229,039
Small Quantity Generator Education & Information	81,500
Small Quantity Generator Technical Assistance & Compliance	152,921
Small Quantity Generator Collection	13,950
Solid Waste Planning	245,108
Solid Waste Enforcement	87,398
Waste Reduction & Recycling	5,999,303
Groundwater Monitoring	212,074
Landfill Closure	3,831,150
TOTAL	17,428,909

Hazardous Sites List

State sites on the Hazardous Sites List have undergone a preliminary study called a Site Hazard Assessment, which provides Ecology with basic information about a site and contaminants which may be on it.

Ecology then uses the Washington Ranking Method to estimate the potential threat to human health and the environment if the problem isn't corrected. The estimate is based on the amount of contaminants, how toxic they are, and how easily they could come into contact with people and the environment. Sites are ranked relative to each other on a scale of one to five, with a score of one representing the highest level of concern and five the lowest.

Information about sites is published in the Site Register. Additions to the list are announced by Ecology twice each year. Owners, operators and potentially liable owners and operators of hazardous waste sites are notified when their site is ranked and placed on the list. Placement of a site on the Hazardous Sites List does not, by itself, imply that persons associated with the site are liable under Chapter 70.105D RCW.

Hazard Ranking and Cleanup

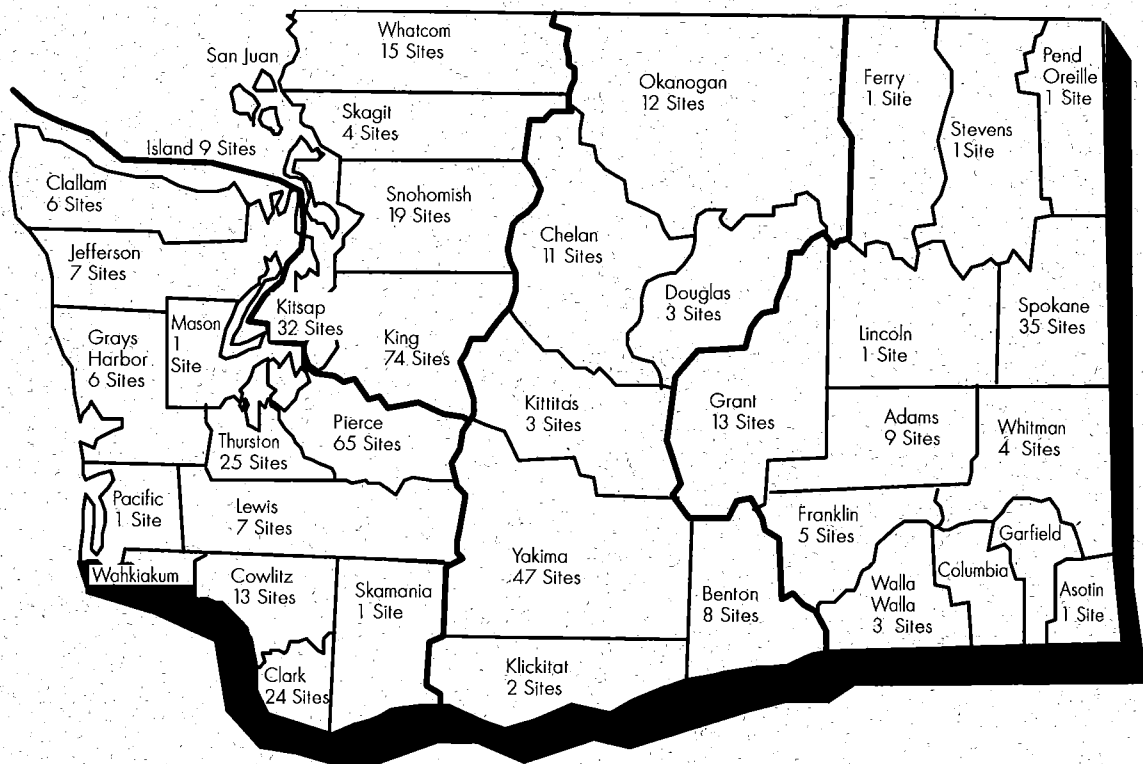
Hazard ranking helps Ecology target where to spend cleanup funds. However, a site's actual impacts on human health and the environment, public concern, a need for an immediate response, and available cleanup staff and funding also affect which sites get first priority for cleanup.

Of the 217 sites on the Hazardous Sites List where cleanup work has been completed or is underway:

- 151 sites (70%) are on the National Priorities List (EPA Superfund) or #1 rank state sites,
- 27 sites (12%) had remedial actions underway before the Hazardous Sites List was created,
- 18 sites (8%) were given higher priority because separate federal funding was available,
- 13 sites (6%) are part of a larger high-priority cleanup such as Commencement Bay or Elliott Harbor,
- 9 sites (4%) have been raised in priority due to site-specific factors.

You can place your name on the Site Register mailing list by contacting Sherrie Hanson at (206) 407-7200 or (800) 458-0920.

State Cleanup Sites on the Hazardous Sites List



KEY:

*Rank: Highest relative risk = 1 and lowest = 5. Note: A site's rank may change when the HSL is updated because a site's relative placement may change.

**National Priorities List: Sites ranked under the Federal Hazard Ranking System (HRS).

■ Federal (EPA) lead, ● State lead, ▲ Co-lead, ★ Federal Facilities Agreement (FFA)

***Status: Remedial Action (RA)

◇ Groundwater is the only affected pathway at this site. Ecology may choose to give these sites priority when drinking water is affected.

New site added to the ranked list September, 1993.

@ New site added to the National Priorities List.

CENTRAL REGION

Contact Person: Mark Peterschmidt (509) 454-7840

COUNTY	SITE NAME	NEAREST CITY	RANK*	STATUS***	
Benton	Ben Franklin Transit Co.	Richland	5◇	Independent RA	
	CENEX	Kennewick	4◇	Independent RA	
	J.R. Simplot Co.	Prosser	4	Independent RA	
	New City Cleaners	Richland	1	Awaiting RA	
	Oggie's Mini-Mart	Prosser	5◇	Independent RA	
Chelan	#Wellsian Way Wellfield	Richland	4◇	Awaiting RA	
	Cascade Helicopter	Cashmere	2	RA in Progress	
	Cashmere Landfill	Cashmere	1	Awaiting RA	
	Dryden Landfill	Dryden	4	Awaiting RA	
	Glacier Park	Leavenworth	1	RA in Progress	
	Holden Mine Tailing/Wenatchee	Holden	1	Independent RA	
	Manson Landfill	Manson	2	Awaiting RA	
	Unocal Bulk Plant #0082	Chelan	1	Awaiting RA	
	Unocal Bulk Plant #0853	Wenatchee	1	Awaiting RA	
	Unocal Service Station #4942	Wenatchee	4◇	Awaiting RA	
Douglas	WSU Tree-Fruit Research Unit	Wenatchee	3	Independent RA	
	Beebe Orchard Dump	Chelan Falls	5	Awaiting RA	
	Inland Air Service (Fancher Field)	East Wenatchee	4	Awaiting RA	
	Silicon Metaltech (Lab. Site)	Rock Island	5	Awaiting RA	
Kittitas	Silicon Metaltech (Lagoon Site)	Rock Island	4	Awaiting RA	
	Big B Mini Mart	Ellensburg	4	Awaiting RA	
	Bingo Fuel Stop	Thorp	2	RA in Progress	
Klickitat	Mid-State Aviation	Ellensburg	3	Independent RA	
	Town Pump Station	White Salmon	1	RA in Progress	
Okanogan	Alder Mill	Twisp	2	Independent RA	
	Arden's Country Store	Malott	3	RA in Progress	
	Brett Pit	Grand Coulee Dam	2	Awaiting RA	
	Eisen's Chevron	Oroville	2	RA in Progress	
	Gebbers Farm	Brewster	1	Awaiting RA	
	Minnie Mine	Carlton	2	RA in Progress	
	Molson Dump	Molson	5	Awaiting RA	
	Oroville Dump	Oroville	5	Independent RA	
	Pariseau Farm	Brewster	2	Awaiting RA	
	Tonasket Post & Rail	Tonasket	5	Awaiting RA	
	USDOI-BLM Kaaba Texas Mine	Nighthawk	1	RA in Progress	
	Yakima	#Alder's Chevron	Yakima	4◇	Awaiting RA
		Bay Chemical	Yakima	2	RA in Progress
		Bee-Jay Scales	Sunnyside	1	Awaiting RA
	Briar Development Company	Yakima	2	Awaiting RA	
Note: This site received a DeMinimis Settlement for perchloroethylene (PCE) issues only.					
	#Buena LUST	Buena	4◇	Awaiting RA	
	CMX Corporation	Yakima	3	Awaiting RA	
	Cascade Natural Gas	Sunnyside	1	RA in Progress	
	Circle "L"	Sunnyside	1	Independent RA	
	Cliff's Battery Service	Sunnyside	4	Awaiting RA	
	Comet Trailer	Selah	1	Awaiting RA	
	Consolidated Freightways	Yakima	4	Independent RA	
	Evergreen Products	Parker	3	Awaiting RA	
	Irwin Research and Development	Yakima	2	Awaiting RA	
	Jackpot Station	Union Gap	4◇	Awaiting RA	
	Johnny's Texaco	Sunnyside	4	RA in Progress	
	#Kelley Oil	Yakima	5◇	Awaiting RA	
	Kellogg's Korner	Sunnyside	1	RA in Progress	
	La Rosita	Sunnyside	4◇	Awaiting RA	
	Maid O'Clover -1524 Yakima Valley Hwy	Sunnyside	3	Awaiting RA	
	Maid O'Clover -1802 E. Nob Hill	Yakima	2	Independent RA	
	Manhole 34	Sunnyside	1	RA in Progress	
	Northwest Truck Repair	Union Gap	5◇	Awaiting RA	
	Old Selah Dump	Selah	5◇	Awaiting RA	
	Outlook School	Outlook	5◇	Independent RA	
	Pederson Farm	Moxee	3	Independent RA	
	Pit Stop	Naches	4	Awaiting RA	
	Rainier Plastics Co.	Yakima	3	Awaiting RA	
	Richardson Airways, Inc.	Yakima	2	RA in Progress	
	#Roza Irrigation (District Maint. Shop)	Sunnyside	5◇	Awaiting RA	
	Section 18 Dump	Wapato	3	Awaiting RA	
	Shields Bag and Printing Co.	Yakima	5◇	Awaiting RA	
	Snipes Mountain Landfill	Sunnyside	4	Awaiting RA	
	Southgate Laundry	Yakima	3	Awaiting RA	
	Sunnyside Municipal Well	Sunnyside	5◇	Awaiting RA	
	Superior Asphalt	Yakima	1	RA in Progress	

Tiger Oil (16th and Nob Hill)	Yakima	2	Awaiting RA
Tiger Oil (24th and Nob Hill)	Yakima	1	RA in Progress
Tiger Oil (North 1st Street)	Yakima	3	Awaiting RA
Toppenish School District (#202 Bus Garage)	Toppenish	4 ◊	Awaiting RA
Valley Dry Cleaners	Sunnyside	2	Awaiting RA
VanCleave Body Shop	Yakima	1	Awaiting RA
Yakima Railroad:			
Cameron-Yakima, Inc.	Yakima	1	RA in Progress
Crest Linen (former)	Yakima	1	RA in Progress
Frank Wear Cleaners	Yakima	1	RA in Progress
Hahn Motor Company	Yakima	5	RA in Progress
Nu-Way Cleaners	Yakima	1	RA in Progress
Paxton Sales Corporation	Yakima	1	RA in Progress
Woods Industries (Crop King)	Yakima	1	RA in Progress
Yakima Valley Spray Co.	Yakima	1	RA in Progress
Zwight Logging	Yakima	3	Awaiting RA

EASTERN REGION
Contact Person: Patti Carter (509) 456-6167

COUNTY	SITE NAME	NEAREST CITY	RANK	*STATUS**
Adams	Adams Co. Maintenance Shop	Othello	5 ◊	Independent RA
	Burlington Northern-Othello	Othello	1	RA in Progress
	CMC Real Estate	Othello	5	Awaiting RA
	Harold's Deli	Othello	5	RA in Progress
	Puregro	Othello	5	Awaiting RA
	Puregro	Ritzville	5	Awaiting RA
	Soil & Crop	Othello	2	RA in Progress
	T-16 Ranch	Lind	5	Independent RA
	WWT Batum Facility	Batum	5	Awaiting RA
Asotin	Asotin County Landfill	Clarkston	5 ◊	Awaiting RA
Ferry	Hecla Knob Hill Mine	Republic	5	Awaiting RA
Franklin	Glen's Metals	Pasco	5 ◊	Awaiting RA
	Pasco Landfill	Pasco	**●	RA in Progress
	Port of Pasco	Pasco	1	RA in Progress
	Puregro	Pasco	1	Awaiting RA
	Smith Canyon Haz Waste Site	Pasco	5	Independent RA
Grant	#City of Moses Lake - Maintenance Facility	Moses Lake	4 ◊	Independent RA
	Duncan Crane Service, Inc.	Moses Lake	4 ◊	Independent RA
	Ephrata Landfill	Ephrata	5	Awaiting RA
	Grant Co. Dangerous Waste Site	Royal City	5 ◊	Awaiting RA
	International Titanium	Moses Lake	4	Awaiting RA
	Larson Substation - Grant Co. PUD	Moses Lake	4	Awaiting RA
	#Port of Moses Lake - Pumphouse #1	Moses Lake	4 ◊	Independent RA
	Puregro	Moses Lake	5	Awaiting RA
	Puregro	Quincy	5	Awaiting RA
	Puregro	Warden	5	Awaiting RA
	Vista Corner Texaco	Moses Lake	3	RA in Progress
Lincoln	Puregro	Wilbur	5	Awaiting RA
Pend Oreille	Cusick School District	Cusick	5 ◊	RA in Progress
	(Note: Source of contamination was removed. Ground water monitoring wells continue to be sampled.)			
Spokane	Alaska Steel and Supply	Spokane	4	Awaiting RA
	Aluminum Recycling Corp.	Spokane	2	Awaiting RA
	American Tar Company	Spokane	5 ◊	Awaiting RA
	Argonne Road	Spokane	3	RA in Progress
	B.J. Carney and Company	Spokane	4 ◊	Awaiting RA
	Burlington Northern-Hillyard	Spokane	4	Awaiting RA
	Cummins Northwest	Spokane	5 ◊	Independent RA
	Four Lakes Tire Fire	Four Lakes	5 ◊	Awaiting RA
	Geiger-Conoco Fuel Storage	Spokane	5 ◊	Awaiting RA
	Geiger- SIA-Fire Training Area	Spokane	4	Independent RA
	Geiger-SIA-Fuel Farm	Spokane	5 ◊	Independent RA
	Geiger-SIABP-COE - Geiger Field	Spokane	2	Independent RA
	Geiger-SIABP-Corrections Facility	Spokane	5 ◊	Awaiting RA
	Geiger-SIABP-Shamrock Paving	Spokane	5 ◊	Awaiting RA
	General Electric - Old Site	Spokane	**●	RA in Progress
	Greenacres Landfill	Greenacres	**●	RA in Progress
	Inland Empire Plating	Spokane	1	Independent RA
	Inland Pit	Spokane	**●	Awaiting RA
	Koch Materials Company	Spokane	3	Awaiting RA
	Marshall Landfill	Marshall	4	Awaiting RA
	Mica Landfill	Mica	**●	RA in Progress
	North Market Street	Spokane	**●	RA in Progress
	Sticilia Trucking	Spokane	3	Awaiting RA
	Sparks and Buttercup Subdivision	Spokane	2	Independent RA
	Spokane Junk Yard	Spokane	3	Awaiting RA
	Spokane Transit Authority (Bus Barn)	Spokane	5 ◊	Independent RA
	United Parcel Service	Spokane	5 ◊	Awaiting RA
	Washington State Dept. of Transportation-Mayfair	Spokane	5 ◊	Awaiting RA
Stevens	Whitten Oil Exxon	Colville	3	RA in Progress
Walla Walla	#Corps of Engineers Motorpool	Walla Walla	4 ◊	Independent RA
	Pantorium Cleaners	Walla Walla	5 ◊	Independent RA
	Walla Walla Farmers Coop	Walla Walla	1	Cleanup Conducted
Whitman	Endicott School District	Endicott	4	RA in Progress

Garfield School District	Garfield	5◇	RA in Progress
Palouse Producers	Palouse	1	RA in Progress
WA State Univ. Landfill	Pullman	4	Awaiting RA

INDUSTRIAL SECTION

Contact Person: Paul Skyllingstad (206) 586-0583

COUNTY	SITE NAME	NEAREST CITY	RANK*	STATUS***
Clallam	Daishowa America Co.	Port Angeles	5	Independent RA
	#ITT Rayonier Finishing Room	Port Angeles	2	RA in Progress
Clark	ALCOA (Vancouver Smelter)	Vancouver	**●	RA in Progress
	Columbia Marine Lines	Vancouver	4	Cleanup Conducted
Cowlitz	Longview Fibre	Longview	5	Awaiting RA
	Reynolds Metals	Longview	5	Awaiting RA
	Weyerhaeuser - Longview	Longview	1	RA in Progress
Klickitat	Columbia Aluminum Corp.	Cliffs	3	Awaiting RA
Pierce	Kaiser Aluminum Chemical Corp.	Tacoma	4	Cleanup Conducted
Skagit	#Texaco Feb. 22 Oil Spill	Anacortes	2	RA in Progress
Spokane	Kaiser Aluminum Mead Works	Mead	**●	RA in Progress
Whatcom	Georgia Pacific Biotreatment Lagoon	Bellingham	2	Awaiting RA
	Georgia Pacific Corporation	Bellingham	5	Awaiting RA

NORTHWEST REGION

Contact Persons: Judy Aitken (206) 649-7135
Elaine Atkinson (206) 649-7042

COUNTY	SITE NAME	NEAREST CITY	RANK*	STATUS***
Island	UNOCAL/Coupeville Bulk Plant	Coupeville	1	Independent RA
King	Ace Galvanizing Inc.	Seattle	4	Awaiting RA
	Advance Electroplating	Seattle	5	Awaiting RA
	Alaska Pacific Fisheries	Seattle	1	Awaiting RA
	ARCO Tank Farm	Seattle	2	RA in Progress
	Asko Processing Inc.	Seattle	5◇	Independent RA
	Auburn Abandoned Fire Station	Auburn	3	Independent RA
	Balmer Yard -			
	Burlington Northern Railroad	Seattle	5	Independent RA
	Boeing Co. Plant #2	Seattle	1	Independent RA
	Borden Chemical Company	Kent	1	Independent RA
	Burlington Northern Rail Yard	Skykomish	1	RA in Progress
	C and F Auto Wrecking	Duvall	1	Awaiting RA
	Cedar Hills Landfill	Maple Valley	5	Independent RA
	Central Painting	Seattle	2	RA in Progress
	(Note: Site was cleaned up, but further contamination has been discovered. Remediation for new contamination is awaiting.)			
	Champion International - Ballard Mill	Seattle	1	RA in Progress
	Chemcentral Solvents Co.	Kent	1	Independent RA
	Christensen Petroleum	Enumclaw	1	Independent RA
	Eastern Supply Co.	Seattle	2	RA in Progress
	GACO Western Inc.	Tukwila	5◇	RA in Progress
	Gas Works Park	Seattle	1	RA in Progress
	General Electric Apparatus Srv Ct	Kent	3	Independent RA
	Harbor Island	Seattle	**■	RA in Progress
	#Great West Steel/Hydraulic Repair and Design	Kent	5◇	Independent RA
	Interbay/BNR	Seattle	1	Independent RA
	J.H. Baxter and Company Inc.	Renton	1	RA in Progress
	James Oil Co.	Enumclaw	1	Awaiting RA
	Kenmore Industrial Park	Kenmore	1	Awaiting RA
	Kent Highlands Landfill	Kent	**●	RA in Progress
	Kent Sewage Lagoons	Kent	4	Independent RA
	Laidlaw	Seattle	4	Awaiting RA
	Lake Union Dry Dock Co.	Seattle	1	Awaiting RA
	Lake Union Steam Plant	Seattle	5	Independent RA
	Lake Washington School Dist.	Kirkland	5	Cleanup Conducted
	Landsburg Mine - Rogers Seam	Black Diamond	1	RA in Progress
	LIDCO	Kent	1	RA in Progress
	Lindal Property	Kent	4	Awaiting RA
	Lockheed Ship Building Co. - Yard 2	Seattle	1	RA in Progress
	Longview Fibre Co.	Seattle	5	Independent RA
	Malarkey Asphalt Co.	Seattle	1	Independent RA
	Maralco	Kent	2	RA in Progress
	(Note: Ecology has been cleaning up this site, but work has been suspended until further funding is available.)			
	Marine Vacuum Service Inc.	Seattle	3	Awaiting RA
	Markey Property - Parcel 4	Seattle	3	Independent RA
	Metro Lake Union Facility	Seattle	1	Awaiting RA
	Metro South Base	Seattle	1	Independent RA
	Midway Landfill	Kent	**●	RA in Progress
	Mobil/BP Bulk Facility	Renton	5	Independent RA
	Monterey Apartments Site	Seattle	3	RA in Progress
	Newcastle/Coal Creek Landfill	Newcastle	5	Awaiting RA
	Northwest Cooperage Co. Inc.	Seattle	4	Awaiting RA
	Northwest Powder Coats	Kent	5◇	Awaiting RA
	Old Lawson Road	Black Diamond	2	Awaiting RA
	PACCAR (Pacific Car & Foundry Co.)	Renton	**●	RA in Progress
	Pioneer Enamel Manufacture	Seattle	5	Awaiting RA
	Precision Engineering	Seattle	1	Independent RA

	Quendall Terminals	Renton	1	RA in Progress
	Reichhold Chemical/Lone Star	Seattle	1	Awaiting RA
	S. 252nd/Pacific Highway South	Kent	4	Awaiting RA
	Shell Oil, Old Terminal 18	Seattle	5	RA in Progress
	Shell Tank Farm	Seattle	4	RA in Progress
	Slag Disposal/Beckwith Property	Kent	3	RA in Progress
	Sternoff Metals	Seattle	5	Independent RA
	Sunset Park/Tub Lake Dump	SeaTac	3	Independent RA
	Texaco Marketing and Refining	Seattle	2	RA in Progress
	UNIMAR	Seattle	4	RA in Progress
	Union Station Site	Seattle	5◇	Awaiting RA
	Unocal Seattle Market Terminal	Seattle	4	RA in Progress
	VIOX	Seattle	5◇	Independent RA
	Western Batteries Inc.	Seattle	3	Independent RA
	Zandt Brass Foundry	Seattle	4	Awaiting RA
	(Note: Previous status was in error.)			
Kitsap	Bainbridge Island Landfill	Bainbridge	1	RA in Progress
	Bethel - (former Texaco)	Bethel	5◇	RA in Progress
	Chevron Tank Farm	Bremerton	2	Independent RA
	Country Junction Store	Port Orchard	4	RA in Progress
	Day Road Industrial Park	Bainbridge Island	5	Awaiting RA
	Hansville Landfill	Little Boston	1	RA in Progress
	Lothus Bulk Plant	Bremerton	1	Awaiting RA
	Norseland Site	Port Orchard	2	RA in Progress
	Olympic View Sanitary Landfill	Port Orchard	2	Independent RA
	Stone Property	Bainbridge Island	4	Awaiting RA
	Strandley/Manning Site	Port Orchard	3	RA in Progress
Skagit	Butler Hill Lagoon	Burlington	4	RA in Progress
	(Note: This site has been transferred to another Ecology program for solid waste closure under RCRA minimum functional standards.)			
	#Skagit Manufacturing Machine and Paint Shops (former)	Sedro Woolley	3	Independent RA
	Unocal/Mt. Vernon Bulk Fuel	Mt. Vernon	1	Independent RA
Snohomish	East Waterway	Everett	2	Awaiting RA
	#Everett Gas Works (Washington Natural Gas)	Everett	5◇	Awaiting RA
	Everett Smelter/Slag Site	Everett	1	RA in Progress
	Everett Landfill Tire Fire	Everett	1	RA in Progress
	Fisherman's Boat Shop Inc.	Everett	3	Awaiting RA
	J.H. Baxter & Company	Arlington	4	Awaiting RA
	Ken's Radiator Service	Lynnwood	2	Independent RA
	Lynnwood Plating	Lynnwood	4	Awaiting RA
	Nord Door Co.	Everett	5	Independent RA
	#Parson's Diesel	Snohomish	5	Awaiting RA
	Pump Crete	Lynnwood	5	Awaiting RA
	Rubatin's Truck Care	Everett	5	Independent RA
	Snohomish Co. PUD -Lynnwood Station	Lynnwood	2	Independent RA
	#Unocal Bulk Plant	Arlington	4◇	Independent RA
	Unocal - Edmonds Bulk Plant	Edmonds	1	RA in Progress
	US Defense Fuel Supply Point	Mukilteo	1	RA in Progress
Whatcom	Wallace River Park Well	Startup	4	Cleanup Conducted
	Weyerhaeuser	Everett	1	Independent RA
	Boulevard Park	Bellingham	1	Awaiting RA
	Cornwall Avenue Landfill	Bellingham	2	Awaiting RA
	Georgia Pacific Airport Landfill	Bellingham	4	Awaiting RA
	Murray Chris-Craft Cruisers	Bellingham	2	Independent RA
	Oeser Cedar (Little Squalicum Creek)	Bellingham	1	Awaiting RA
	R.G. Haley International Corp.	Bellingham	3	Awaiting RA
	Sunshine Cleaners (former)	Bellingham	2	Independent RA
	Trans Mountain Pipeline	Bellingham	1	RA in Progress
	Whatcom Waterway	Bellingham	1	Awaiting RA
	Wilder Landfill	Ferndale	1	Awaiting RA

NUCLEAR AND MIXED WASTE PROGRAM -
HANFORD PROJECT
Contact Person: Dave Jansen (206) 438-7021

COUNTY	SITE NAME	NEAREST CITY	RANK*	STATUS**
Benton	Hanford 100-Area (USDOE)	Richland	**★	RA in Progress
	Hanford 1100-Area (USDOE)	Richland	**★	RA in Progress
	Hanford 200-Area (USDOE)	Richland	**★	RA in Progress
	Hanford 300-Area (USDOE)	Richland	**★	RA in Progress

SITE CLEANUP SECTION
Contact Person: Tim Nord (206) 407-7226

Sites managed by the Site Cleanup Section are large and complex sites. To make them more manageable, these sites are often divided into smaller units referred to as "operable units." If a site has "operable units," they are listed below (along with their status) under the corresponding site name.

COUNTY	SITE NAME	NEAREST CITY	RANK*	STATUS**
Clark	Frontier Hardchrome Inc.	Vancouver	**■	RA in Progress
	US Bonneville Power Administration	Vancouver	**★	RA in Progress
	Operable Unit A			RA in Progress
	Operable Unit B			RA in Progress

	Vancouver Wellhead #4	Vancouver	**■	RA in Progress
Grant	Moses Lake Wellfield	Moses Lake	**■	RA in Progress
Island	US Navy-NAS Whidbey Is-Ault	Whidbey Island	**★	RA in Progress
	Operable Unit 1			RA in Progress
	Operable Unit 2			RA in Progress
	Operable Unit 3			RA in Progress
	Operable Unit 4 (Seaplane Base)			RA in Progress
	Operable Unit 5			RA in Progress
	Hazardous Waste Evaluation Study (HWES)			RA in Progress
Jefferson	Port Hadlock (Indian Island)	Chimacum	1	RA in Progress
	Areas 10 & 21			RA in Progress
	Area 11			RA in Progress
	Area 12			RA in Progress
King	Queen City Farms	Maple Valley	**■	RA in Progress
	4 Tek (former solvent recycler)			RA in Progress
	Buried Drum Area			RA in Progress
	Initial Remedial Measure (IRM)			RA in Progress
	Western Processing Co. Inc.	Kent	**■	Cleanup Conducted
Kitsap	Eagle Harbor	Bainbridge Island	**■	RA in Progress
	East Harbor			RA in Progress
	West Harbor			RA in Progress
	Wyckoff			Awaiting RA
	Puget Sound Shipyard	Bremerton	1	RA in Progress
	Operable Unit A			RA in Progress
	Operable Unit B			RA in Progress
	Operable Unit C			RA in Progress
	Interim Action 106			RA in Progress
	Interim Action 588			RA in Progress
	Tanks			RA in Progress
	USN Jackson Park	Bremerton	1	RA in Progress
	Upland Area			RA in Progress
	Shoreline Area			RA in Progress
	USN Keyport Center	Keyport	**★	RA in Progress
	USN Sub Base Bangor	Silverdale	**★	RA in Progress
	Operable Unit 1 (Bangor Ordnance Disposal)			RA in Progress
	Operable Unit 2			RA in Progress
	Operable Unit 3			RA in Progress
	Operable Unit 4			RA in Progress
	Operable Unit 5			RA in Progress
	Operable Unit 6			RA in Progress
	Operable Unit 7			RA in Progress
	USN Supply Center - DRMO Yard	Bremerton	1	RA in Progress
Lewis	American Crossarm & Conduit Co.	Chehalis	**■	RA in Progress
Okanogan	Silver Mountain Mine	Loomis	**■	Cleanup Conducted
Pierce	ASARCO	Tacoma	**■	RA in Progress
	Offshore			RA in Progress
	Smelter			RA in Progress
	Smelter Demolition			RA in Progress
	Commencement Bay- Ruston/N. Tacoma	Tacoma	**■	RA in Progress
	Lakewood/Ponders Corner	Lakewood	**■	Cleanup Conducted
	McChord AFB (Area D/ALG)	Tacoma	**★	RA in Progress
	McChord AFB (Wash Rack/Treatment)	Tacoma	**★	RA in Progress
	South Tacoma Field (Tacoma Swamp)	Tacoma	**■	RA in Progress
	Tacoma Landfill	Tacoma	**▲	RA in Progress
	Tacoma Tar Pits	Tacoma	**■	RA in Progress
	US Army-Fort Lewis	Fort Lewis	**★	RA in Progress
	Landfill #4/SRCPP			RA in Progress
	Landfill # 5			Cleanup Conducted
	Logistics Center			RA in Progress
	Multiple Sites Study			RA in Progress
	Park Marsh			RA in Progress
	Well-12A	Tacoma	**■	Cleanup Conducted
Skagit	EDB 2 (Skagit County)	Mount Vernon	1	Cleanup Conducted
Skamania	USA COE Hamilton Island Landfill	North Bonneville	**★	RA in Progress
Snohomish	Tulalip Landfill	Marysville	**■	Awaiting RA
Spokane	Colbert Landfill	Colbert	**▲	RA in Progress
	Mica Peak/Fairchild AFB	Spokane	4	RA in Progress
	Northside Landfill	Spokane	**■	Cleanup Conducted
	USAF Fairchild Air Force Base	Spokane	**★	RA in Progress
	Craig Road Landfill			RA in Progress
	Priority 1 Site			RA in Progress
	Priority 2 Site			RA in Progress
Thurston	EDB 1 (Thurston County)	Olympia	2	Cleanup Conducted
	Restover Truck Stop	Tumwater	3	RA in Progress
Whatcom	EDB 3 (Whatcom County)	Lynden	3	Cleanup Conducted
	Northwest Transformer	Everson	**■	RA in Progress
	Mission Pole			RA in Progress
	Harkness Street			RA in Progress
Yakima	FMC-Farm Machinery Corp.	Yakima	**■	Cleanup Conducted
	Yakima Plating	Yakima	**■	Cleanup Conducted

SOUTHWEST REGION
Contact Person: Dick Heggen (206) 586-8618

COUNTY	SITE NAME	NEAREST CITY	RANK*	STATUS***	
Clallam	Chevron Bulk Plant	Port Angeles	1	Awaiting RA	
	PenPly (ITT Rayonier)	Port Angeles	5	RA in Progress	
	Port of Port Angeles Log Yard	Port Angeles	1	Awaiting RA	
	Truck Town	Port Angeles	3	Awaiting RA	
Clark	Unocal Bulk Oil Storage Terminal #0601	Port Angeles	1	Independent RA	
	AIRCO Industrial Gases	Vancouver	1	RA in Progress	
	Burlington Northern Maint. Yd	Vancouver	1	Awaiting RA	
	Carborundum Company	Vancouver	1	Awaiting RA	
	Chevron Bulk Plant #61001854	Vancouver	1	Awaiting RA	
	Circle "C" Landfill	Ridgefield	1	Cleanup Conducted	
	Custom Care Cleaners (Griffiee)	Vancouver	5	Awaiting RA	
	GATX Terminals Corporation	Vancouver	1	Awaiting RA	
	General Chemical Corporation	Vancouver	5	Awaiting RA	
	L & C Deli	Vancouver	4	Cleanup Conducted	
	Larch Mountain (DNR)	Washougal	2	Independent RA	
	Leichner Brothers Landfill	Vancouver	3	RA in Progress	
	Orbit Industries	Washougal	4	Awaiting RA	
	Pacific NW Plating - Boomsnub Corp	Vancouver	1	RA in Progress	
	Robertson's Paint Shop	Vancouver	5	Awaiting RA	
	Tidewater Barge Lines Inc.	Vancouver	2	Independent RA	
	#Time Oil/Handy Andy #8	Vancouver	1	RA in Progress	
	Vancouver Wellfield #1 and #3	Vancouver	4	RA in Progress	
	(Note: Vancouver Wellfield #1 has been proposed to the Federal National Priorities List.)				
	Cowlitz	Chevron USA, Longview	Longview	1	Awaiting RA
Cliff Koppe Metals		Kelso	2	Awaiting RA	
Gardner Forest Products		Longview	4	Independent RA	
Mt. Solo Landfill (Radakovich)		Longview	1	Awaiting RA	
Olympic Pipeline Company		Castle Rock	1	Awaiting RA	
Ostrander Rock Disposal		Longview	4	Awaiting RA	
Reed Landfill		Kelso	1	Awaiting RA	
Unocal Bulk Plant #0321		Kelso	1	Awaiting RA	
West Coast/Mobil Oil Co.		Longview	1	RA in Progress	
Grays Harbor		#Hungry Whale Grocery	Westport	4	RA in Progress
	ITT Rayonier (Sawmill)	Hoquiam	2	Independent RA	
	Most Western Laundry	Hoquiam	1	Awaiting RA	
	Roderick Timber Co.	Junction City	1	Awaiting RA	
	#Saginaw Mill	Aberdeen	1	Awaiting RA	
	Snook Residence	Oakville	1	Awaiting RA	
	Jefferson	Chevron Bulk Plant	Port Townsend	1	Independent RA
Olympic Testing Lab		Quilcene	2	Awaiting RA	
Port Townsend Texaco		Port Townsend	2	Awaiting RA	
Lewis	Centralia Landfill	Centralia	**	RA in Progress	
	#Cowlitz BP - Mulford Road	Toledo	2	RA in Progress	
	#Grange Supply/CENEX, Ltd.	Chehalis	1	RA in Progress	
	Packwood Lumber Company	Packwood	4	Awaiting RA	
	Trailer Village	Centralia	4	Awaiting RA	
	Utility Transformer Service	Pe Ell	4	Awaiting RA	
	Allstar Aerospace (Certified Aerospace Inc.)	Shelton	4	RA in Progress	
Mason Pacific	Weyerhaeuser Truck Shop	Raymond	1	RA in Progress	
	B & L Woodwaste Landfill	Milton	1	Cleanup Conducted	
Pierce	Buffalo Don Murphy-Waller Rd.	Tacoma	1	Awaiting RA	
	Calhoun's Service Station	Tacoma	2	Awaiting RA	
	Camp Murray (Associated Military)	Tillicum	1	Independent RA	
	Cascade Pole-McFarland/Sitcum	Tacoma	4	RA in Progress	
	Cascade Pole-Tacoma	Tacoma	1	RA in Progress	
	Cascade Timber #1	Tacoma	1	RA in Progress	
	Chevron Bulk Plant	Tacoma	3	Independent RA	
	Comm Bay-Near Shore/Tide Flats	Tacoma	**	RA in Progress	
	Cascade Timber #3 - (Port of Tacoma)	Tacoma	1	RA in Progress	
	Cascade Timber #3 - (US Oil)	Tacoma	1	RA in Progress	
	PRI Northwest	Tacoma	1	RA in Progress	
	Sound Battery	Tacoma	1	RA in Progress	
	Superior Oil	Tacoma	1	RA in Progress	
	Tacoma Coal Gasification	Tacoma	1	Awaiting RA	
	Taylor Way Properties	Tacoma	1	RA in Progress	
	USG Plant Site	Tacoma	1	Awaiting RA	
	Conan Fuel Service	Gig Harbor	1	RA in Progress	
	Coski Industrial Dump	Tacoma	5	Awaiting RA	
	"D" Street Petroleum	Tacoma	4	Cleanup Conducted	
	Dorman Tire Yard (Fire)	Roy	2	Awaiting RA	
	Elf Atochem Corp (2901 Taylor Way)	Tacoma	1	Cleanup Conducted	
	Frederickson Industrial Park (Brazier Forest Products)	Tacoma	1	RA in Progress	
	General Metals	Tacoma	1	RA in Progress	
Hidden Valley Landfill (Thun Field)	Puyallup	**	RA in Progress		
Landscaping by Pat Boring	Tacoma	4	Awaiting RA		
Lincoln Avenue Ditch	Tacoma	3	Awaiting RA		
Louisiana-Pacific	Tacoma	1	RA in Progress		
Manke Lumber Co.	Sumner	5	Awaiting RA		
Murray Pacific No. 1	Tacoma	1	RA in Progress		
Music Machine, The	Tacoma	4	RA in Progress		
Nalley's Fine Foods	Tacoma	2	Independent RA		

National Oil Dump	Tacoma	4	Awaiting RA	
Occidental Chem. - Marine View	Tacoma	3	Awaiting RA	
Parkland Cleaners	Tacoma	3	Independent RA	
Petroleum Reclaiming Service	Tacoma	2	Awaiting RA	
Puget Power (Electron) (Sound Power & Light)	Orting	2	Independent RA	
Rhone-Poulenc/Basic Chemical	Tacoma	3	Awaiting RA	
Robert Rosch Property	Roy	1	Awaiting RA	
Summit Exxon	Tacoma	1	Awaiting RA	
Sumner National Auto Parts	Sumner	1	Awaiting RA	
Tacoma Metals Inc.	Tacoma	2	Awaiting RA	
Tacoma Storm Drains	Tacoma	1	RA in Progress	
TAM Engineering Corporation	Tacoma	1	Awaiting RA	
Union Pacific RR - Tunnel	Tacoma	3	Awaiting RA	
Valley Refinishing	Bonney Lake	1	Awaiting RA	
Wasser Winters	Tacoma	1	RA in Progress	
Weyerhaeuser-Dupont	Dupont	2	RA in Progress	
WSU Buckley Dairy	Buckley	1	Awaiting RA	
Xytec Plastics	Tacoma	2	Independent RA	
Skamania Thurston	Unocal Bulk Plant #0761	Stevenson	1	Awaiting RA
	Black Lake Grocery	Olympia	2	RA in Progress
	Cascade Pole-McFarland	Olympia	1	RA in Progress
	Cedar Creek Corrections (DNR)	Littlerock	2	Independent RA
	Fourth Street Mobil	Olympia	4	RA in Progress
	Hytec - Littlerock	Littlerock	4	Awaiting RA
	Hytec - Tumwater	Tumwater	3	Awaiting RA
	Lacey Compound (DNR)	Lacey	4	Independent RA
	Lacey Laundromat	Lacey	1	Awaiting RA
	Lacey Valve Grinding	Lacey	5	Awaiting RA
	Minitrie Tire Fire	Rochester	1	Awaiting RA
	Monarch Bullet	Rochester	1	Independent RA
	Old Olympia Municipal Dump	Olympia	4	Awaiting RA
	Pattison Lake EDB	Lacey	4	Cleanup Conducted
	Puget Sound Power & Light	Olympia	5	Independent RA
	Rhodes Chemical (Barn)	Rochester	3	Awaiting RA
	Rhodes Chemical (Dump)	Rochester	3	Awaiting RA
	Texaco Bulk Plant	Tumwater	3	Independent RA
	Unocal/HULCO	Olympia	4	Awaiting RA
	Weyerhaeuser Box Plant	Olympia	4	Awaiting RA
	Wolph's Second Hand Store	Olympia	2	Awaiting RA
	Wood Fabricators	Yelm	4	Awaiting RA

SITES REMOVED FROM THE HAZARDOUS SITES LIST BY REGION

Ecology may remove a site from the list only after determining that all remedial actions except confirmational monitoring have been completed and compliance with the cleanup standards has been achieved at the site, or the listing was erroneous.

CENTRAL REGION

Contact Person: Tony Grover (509) 454-7838

COUNTY	SITE NAME	LOCATION ADDRESS	NEAREST CITY
Yakima	Boise Cascade	N. 7th & H St.	Naches

EASTERN REGION

Contact Person: Flora Goldstein (509) 456-7693

COUNTY	SITE NAME	LOCATION ADDRESS	NEAREST CITY
Spokane Whitman	Inland Metals Oakesdale City Well #4	E. 528 Trent Ave. Maple St. & Steptoe	Spokane Oakesdale

SITE CLEANUP SECTION

Contact Person: Tim Nord (206) 407-7226

COUNTY	SITE NAME	LOCATION ADDRESS	NEAREST CITY
Yakima	USDA Pesticide Laboratory	3706 W. Nob Hill Rd.	Yakima

SOUTHWEST REGION

Contact Person: Megan White (206) 753-0147

COUNTY	SITE NAME	LOCATION ADDRESS	NEAREST CITY
Clark Pierce	Port of Vancouver Elf Atochem Corp McNeil Island Washington Tree Service	3103 NW Lower River Rd. 3009 Taylor Way P.O. Box 900 9716-26th Ave. S.	Vancouver Tacoma Stellacoom Tacoma
Thurston	West Coast Saws American Fiberglass	2733 Ash St. 8904 Kimmie Rd. SW	Tacoma Tumwater

Cover Photos (top to bottom)

A trench for a ground water extraction and treatment system is dug through contaminated soil and ground water at the Cascade Pole site in Olympia.

Ecology site inspector Norm Peck takes a soil sample at a site in King County.

An underground storage tank is pulled from the ground during an independent cleanup in Grapeview, Mason County.



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