Model Toxics Control Account

Fiscal Year 2006 Annual Report

Ecology Publication No. 06-09-044

"The further backward you look, the further forward you can see." – *Winston Churchill*

Photo, this page - Lighthouse on Whidbey Island, Washington
Cover Photo - North Head Lighthouse on Washington Coast

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Where's the Playground?

Second-graders at Manson Elementary School sent thank you notes to the Department of Ecology for cleaning up the school's playground. The playground had been contaminated with lead and arsenic from pesticides applied on old orchard lands in the first half of the 20th century. Site Manager Jeff Newschander oversaw the project which included excavation of about 2,000 cubic yards of the top 8 inches of soil. The contaminated soil was dug up and hauled for disposal to the Okanogan County Landfill. Clean soil was brought in, along with the addition of landscaping and irrigation. In all, lead and arsenic contamination from pesticide use on orchard lands will continue to be cleaned up by Ecology, at some 35 schools in Central Washington over the next several years.

Story by Jeff Newschwander Central Regional Office - Toxics Cleanup Program

Illustrations by 2nd Graders at Manson Elementary

Washington State Department of Ecology's Mission

The mission of the Department of Ecology is to protect, preserve, and enhance Washington's environment. The Department fulfills its mission by promoting the wise management of the state's natural resources for the benefit of current and future generations.

Purpose of this Report

The purpose of this report is to provide a review of the last fiscal year's accomplishments by state agencies and programs that rely upon funding from the Toxics Control Accounts. The fiscal year period of review in this report is July 1, 2005, through June 30, 2006. Specifically, this report will show:

- How much revenue was generated;
- Which state agencies received funding;
- What results were obtained.

Since the Toxics Control Account is divided into two accounts, one State and the other Local, this year's report is also divided into two primary parts:

- Part 1 describes state agency and program accomplishments with funds from the State Toxics Control Account.
- Part 2 describes the accomplishments with funding from the Local Toxics Control Account.

Message From the Director

The Model Toxics Control Account report for fiscal year 2006 focuses on how state and local governments use Toxics Control Account funds to reduce toxic threats and achieve measurable, meaningful results that improve our quality of life and improve Washington's ability to compete successfully in a global economy.

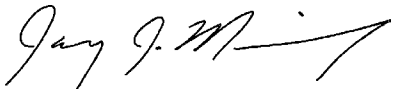
The more we learn about toxic chemicals, the more we realize they are everywhere – in our air, our water, and our soil, in the products we buy and use at home and at work. Infants and children are of special concern when it comes to reducing our exposure to toxic threats. Pound for pound, children breathe more air, drink more water and eat more food than adults. Also, by just being kids – putting their hands and toys in their mouths, playing on the ground – children are exposed to toxics in ways that adults aren't.

During this last year an unprecedented increase in revenues due to rising oil prices allowed the state to ramp up efforts to reduce toxins that threaten human and environmental health. These additional investments include a three-fold increase in environmental cleanup through traditional remedial action grants; safe soils remediation in schools and day-care facilities; education of businesses and the public on the use of safer alternatives to toxic chemicals; enhanced public participation and education efforts; reductions in health risks from the most toxic air pollutants – diesel and woodstove emissions; and support for state efforts to cleanup Hanford. Much of this work is focused on cleaning up Puget Sound.

It takes the commitment and cooperation of several state agencies to meet environmental priorities, including pollution prevention, and protection and preservation of the environment. This report describes in more detail the environmental programs carried out by:

- The Department of Ecology, which focuses on managing hazardous waste, reducing and recycling toxics and waste, preventing and responding to spills, and removing contaminants from the environment;
- The Department of Health, which implements a number of programs and activities with the goal of preventing adverse effects to human health from toxic substances;
- The Department of Agriculture, which works with farmers to reduce and eventually eliminate the use and storage of banned pesticides; and
- The Washington State Patrol, which provides training firefighters need to respond to and eliminate hazardous-materials incidents.

State agencies are working collaboratively – with each other, and with local governments, industry and communities – to ensure and maintain a healthy environment for ourselves and our children.



Citizens Initiative

The citizenry passed Initiative 97 mandating toxics waste cleanup in Washington. In March of 1989, the law known as the Model Toxics Control Act went into effect- --changing the way hazardous waste sites in this state are cleaned up.

History of the Toxics Control Account

The Model Toxics Control Act became law in 1989 following voter's acceptance of Initiative 97.

The purpose of the state's cleanup law is to:

- Raise sufficient funds to cleanup all hazardous waste sites.
- Prevent the creation of future hazardous waste sites due to improper disposal of toxics wastes.
- Promote the cleanup and reuse of contaminated properties.

The law authorizes the creation of two accounts:

(1) State Toxics Control Account; and

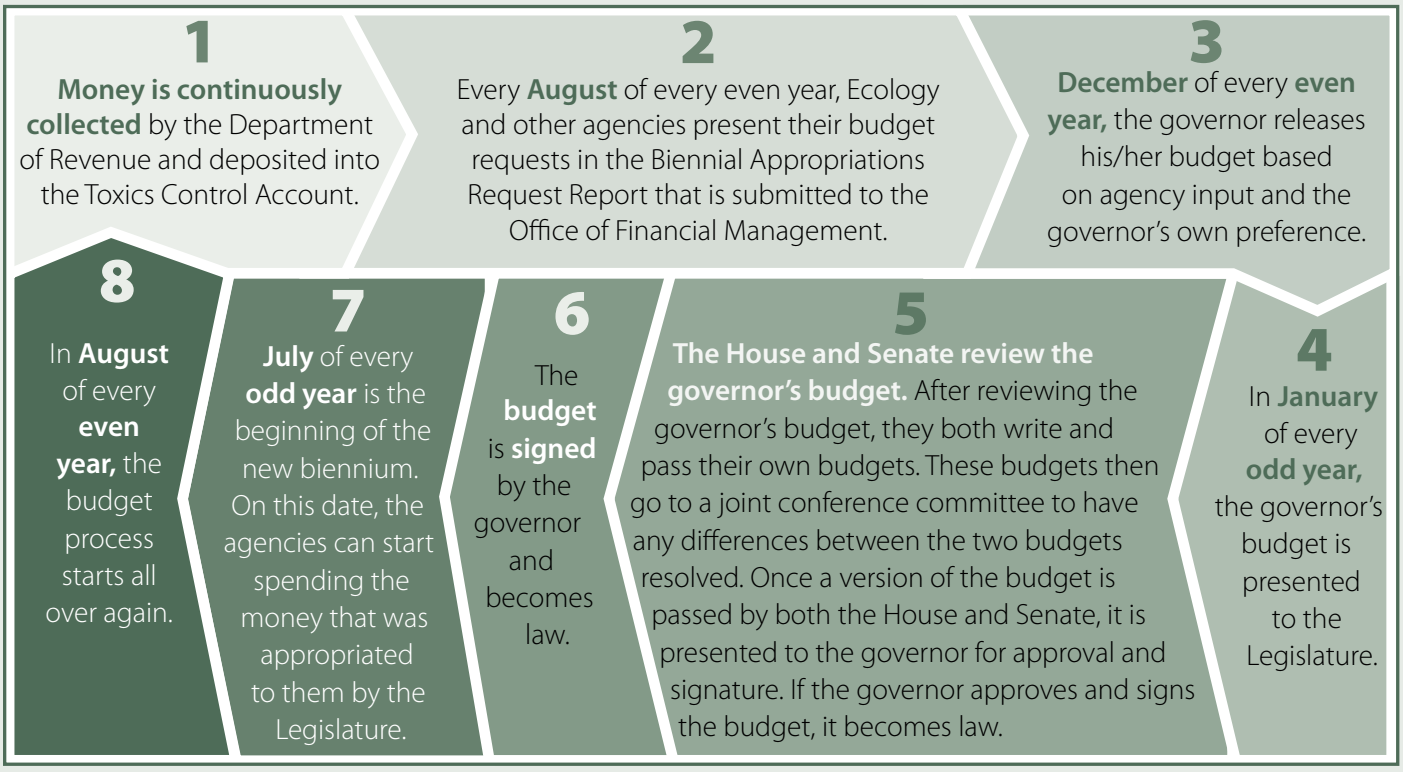
(2) Local Toxics Control Account.

The primary source of money into the accounts is through a hazardous substance tax on the first in-state possession of petroleum products, pesticides, and certain chemicals. Whatever budget is provided to state agencies----Ecology, Health, Agriculture, Revenue, and Washington State Patrol---is appropriated by the legislature through the biennial budget process. See Figure 1 on how state agencies receive appropriations from the Toxics Control Accounts.

The Hazardous Substance Tax

The Hazardous Substance Tax is a tax imposed on petroleum products, pesticides, and certain chemicals. The tax is calculated at $7 per $1,000 of the wholesale value of the hazardous substance. The State Toxics Control Account receives $3.30 (or 47% of $7) of every $1,000 taxed. With respect to the State Toxics Control Account, other sources of revenue—such as fees, fines, and penalties–also contribute to the moneys in the account. The Local Toxics Control Account receives $3.70 (or 53% of $7) of every $1,000 taxed. This tax is imposed on the first in-state possessor of the hazardous substance. There are currently 8,000 different hazardous substances subject to the tax. More than eighty-five percent (85%) of the revenue in the Toxics Control Accounts is based on petroleum products.

Figure 1: How state agencies receive appropriations from the Toxics Control Account



PART 1 –
State Toxics Control Account

The State Toxics Control Account provides funds to state agencies whose mission is to:

- Cleanup contaminated sites.
- Improve the management of hazardous wastes.
- Prevent future contamination from hazardous substances .

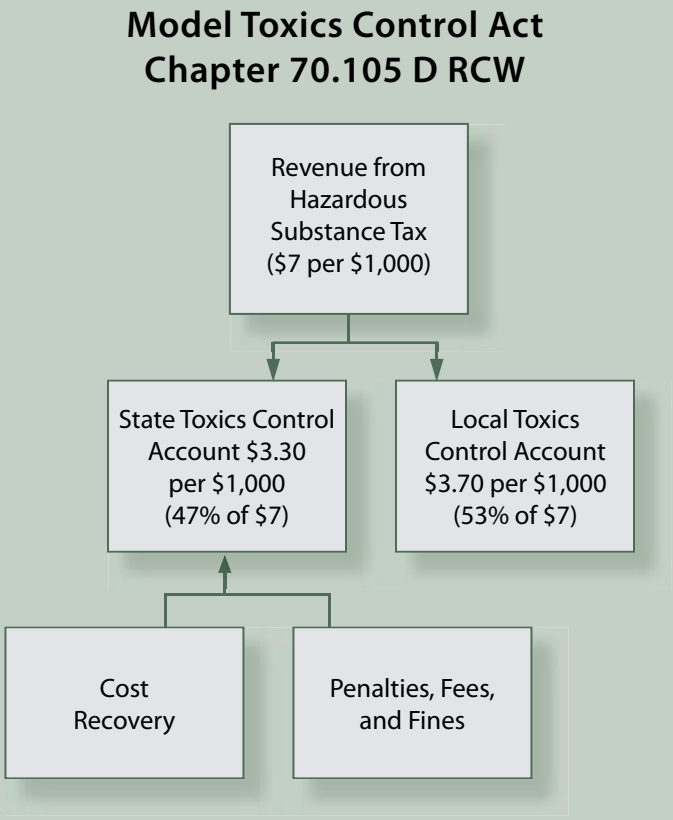
In Fiscal Year 2006, the Departments of Ecology, Health, Agriculture, Revenue, and Washington State Patrol all received funds from the State Toxics Control Account.

In addition to revenue generated by the Hazardous Substance Tax, the State Toxics Control Account receives revenue through the following sources:

- Cost Recovery for cleanups under Decree or Order: Ecology recovers its expenditures or obtains reimbursement for its costs of providing cleanup oversight and approval for the cleanup of contamination at properties under a decree or order.
- Cost Recovery for Technical Assistance and Voluntary Cleanup: Ecology collects its costs from persons who submitted a request for Ecology's services to review a planned or completed cleanup action and Ecology provides a determination of Further Action or No Further Action.
- Fines & Penalties: Ecology issues fines and penalties to liable parties who have not complied with the state's cleanup law.
- Mixed Waste Fees: Ecology collects fees from facilities that manage mixed waste.

See Figure 2 for an illustration on revenue sources.

Figure 2: Revenue sources to the Toxics Control Accounts



This report contains a brief narrative on each agency's or program's accomplishments with funding provided by the State Toxics Control Account in fiscal year 2006. Details on how the funds were spent are provided in Table 2 and Figure 3.

Table 1: REVENUE - State Toxics Control Account - Fiscal Year 2006

State Toxics Control Account	Revenue $	Percent %
Hazardous Substance Tax	48,205,704	85%
Mixed Waste Fees	4,558,023	8%
Cost Recovery	3,068,301	5%
Voluntary Cleanup Program	613,014	1%
Fines & Penalties	16,834	<.5%
Miscellaneous	3,609	<.5%
Total Revenue	**$56,465,485**	**100%**

Table 2: EXPENDITURES – State Toxics Control Account - Fiscal Year 2006

Department of Ecology	$ Amount	% of Total
Toxics Cleanup Program	10,846,088	30
Hazardous Waste & Toxics Reduction Program	5,901,023	16
Nuclear Waste Program	4,504,920	12
Agency Administration, Facility, & Related Costs	4,183,267	11
Spill Prevention, Preparedness, & Response Program	3,241,610	9
Solid Waste & Financial Assistance Program	2,612,817	7
Water Quality Program	1,333,525	4
Environmental Assessment Program	1,191,711	3
Total - Department of Ecology	**$33,814,961**	**92%**
Other State Agencies		
Department of Health	1,272,662	3
Department of Agriculture	1,290,559	4
Washington State Patrol	214,975	<.5
Department of Revenue	35,762	<.5
Total - Other Agencies	**$2,813,958**	**8%**
GRAND TOTAL – All State Agencies	**$36,628,919**	**100%**

In Fiscal Year 2006, the Toxics Cleanup Program was appropriated about one-fourth of the funds in the State Toxics Control Account. The Program contributed nearly $4 million in revenue to the Toxics Control Account through cost recovery and technical assistance. The top twenty-five (25) cost recovery sites by invoice amount are shown in Table 3.

Table 3: Top-Most Cost Recovery Accounts for FY06 – Formal Oversight Sites

Site Name	Paid	$ Total
BNRR-Skykomish Maintenance	Y	568,293.68
Pelican Express Inc	N	176,302.28
Reichhold Inc	Y	169,019.28
Boeing Everett	Y	127,224.90
Occidental Chemical	Y	116,960.22
Lower Duwamish Waterway	Y	109,733.33
ITT Rayonier	Y	100,509.56
Holden Mine	N	90,372.95
BEI Philip Georgetown	Y	74,606.38
Boeing Auburn	Y	73,334.95
Briggs Nursery	Y	70,999.70
North Lake Union Sediments	Y	65,966.54
Lehigh Portland Cement Co	Y	65,728.59
Port of Vancouver	Y	54,252.84
Spokane River	Y	49,009.32
Little Squalicum Park	Y	49,002.52
Lilyblad Petroleum	Y	46,123.46
Cadet Manufacturing Co	Y	45,576.69
GE Aviation	Y	44,709.52
Pacific Wood Treating	Y	44,373.31
ST Services	Y	43,821.15
BNSF Oil Pipeline	Y	43,477.45
South Wilbur Petro	Y	35,594.08
Landsburg Mine	Y	38,311.40
Intalco Beach Landfill	Y	31,017.20
	Total	**$2,337,321.30**

Did you know?

Although Ecology has the authority to order a liable party to clean up contaminated property, the Department prefers to achieve cleanups cooperatively.

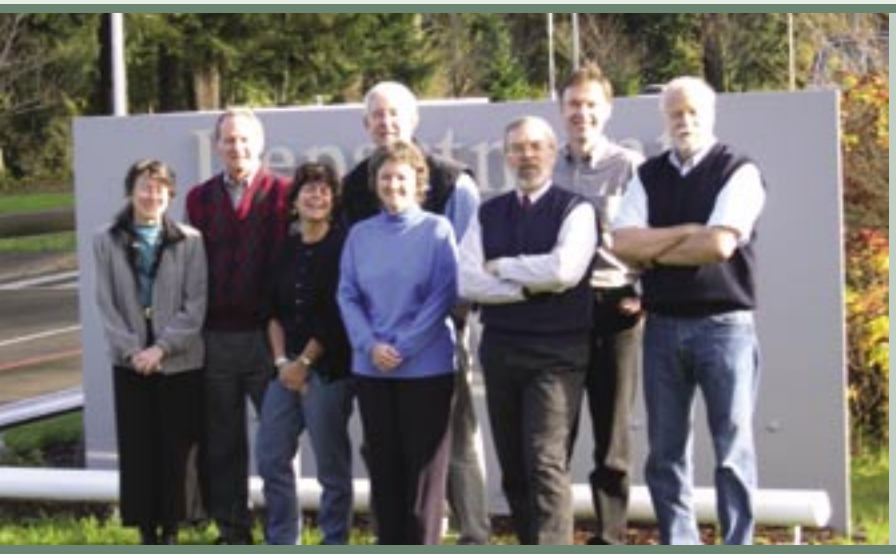
Toxics Cleanup Program

During Fiscal Year 2006, the Toxics Cleanup Program's budget from the State Toxics Control Account was distributed among several of the following activities:

- Cleaning up high-priority contaminated sites (rank 1, 2, or Superfund).
- Cleaning up lower-priority contaminated sites (rank 3, 4, or 5).
- Providing technical assistance to those cleaning up contaminated sites.
- Providing technical assistance on contaminated sediments.
- Investigating, and if necessary, ranking new sites.
- Providing program support to staff that work on the above activities.

The Toxics Cleanup Program staff maintain a list containing information about sites in the State where cleanups are pending, cleanups are in progress, or cleanups have been provided a No Further Action determination. See Figure 4 for the distribution of cleanup activities at known and suspected contaminated sites.

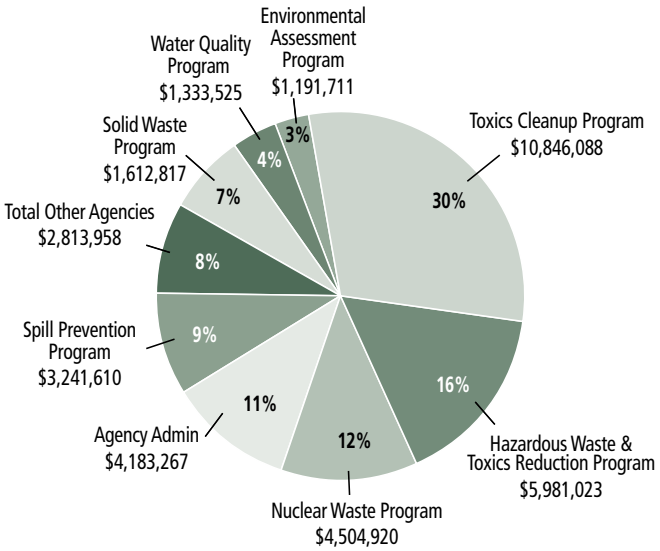
The Toxics Cleanup Program has achieved significant success in the reduction of cleanups pending and cleanups in progress with substantial increase in No Further Action determinations.



Toxics Cleanup Program Management Team:

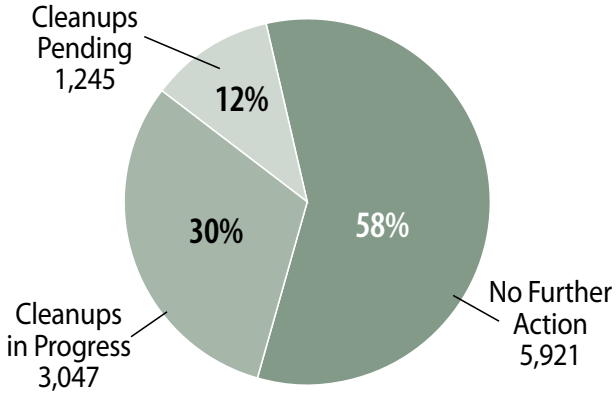
Dawne Gardiska-Shepard, Program Planner; Jack Glatz, Financial Manager; Flora Goldstein, Section Manager – Eastern; Tim Nord, Section Manager – Land & Aquatics Cleanup; Rebecca Lawson, Section Manager – Southwest; Jim Pendowski, Program Manager; Steve Alexander, Section Manager – Northwest; Don Abbott, Section Manager – Central; not shown in photo: Dave Bradley, Acting Section Manager – Information & Policy.

Figure 3: State Toxics Control Account Expenditures



Total Revenue $36,628,919

Figure 4: Known and suspected contaminated sites (as of July 19, 2006)



10,211 Total Sites

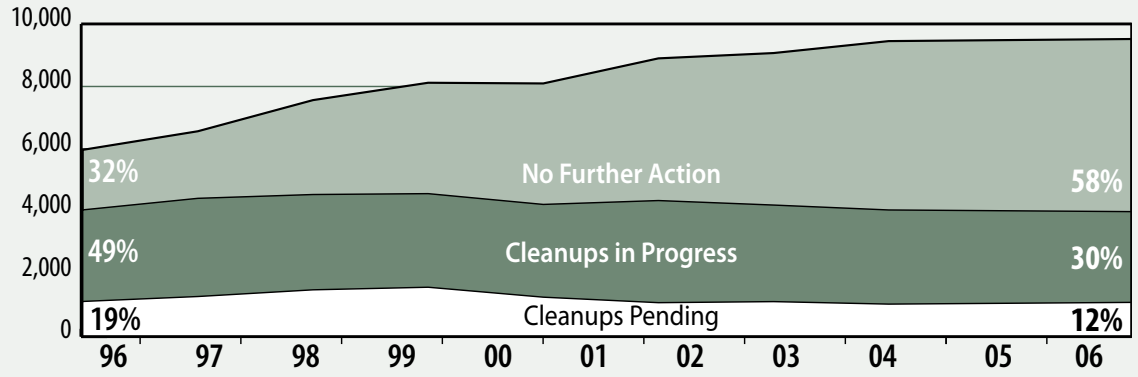
See Figure 5 for cleanup progress the last ten years.

The Toxics Cleanup Program receives funding from other sources besides the State Toxics Control Account. For example, several program-wide activities include:

- Underground storage tanks funded by a permit fee.
- Brownfields and voluntary cleanup program development and administration funded by a grant.
- Cleanup of a large number of federal facilities funded under cooperative agreements and grants with the Environmental Protection Agency and Department of Defense.

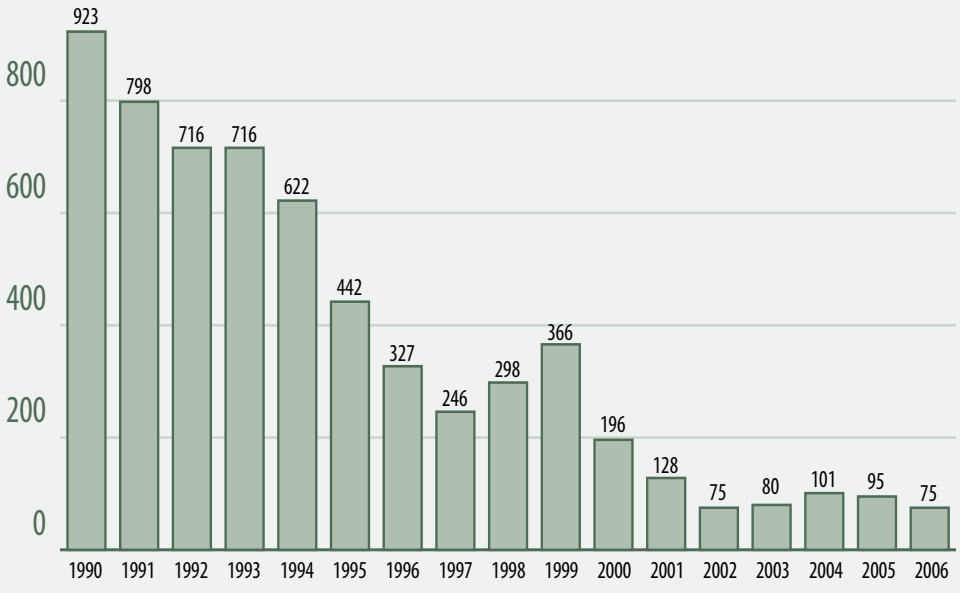
The many accomplishments under these programs are not part of this annual report as information here is limited to achievements with funding from the State Toxics Control Account. However, of particular mention about the Underground Storage Tank Program is the fact that the number of releases – and, therefore, cleanup – from underground storage tanks has declined significantly since 1999. This decline is due in large part to the emphasis placed on "prevention" through technical assistance inspections, compliance inspections, and increased enforcement. Consequently, less tax payer money from the State Toxics Control Account is being used for tank cleanups. Figure 6 shows the decline in releases from underground storage tanks.

Figure 5: Historical Cleanup progress 1996 to 2006



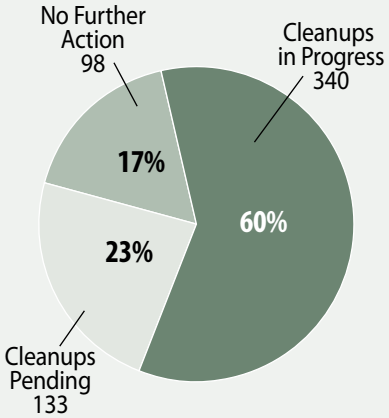
Trend in the cleanup of known and suspected contaminated sites (data as of July 19, 2006)

Figure 6: Number of releases from underground storage tanks



Trend in the Prevention of Pollution (data as of July 19, 2006)

Figure 7: Status of Superfund & State Ranked 1 or 2 Sites (as of July 19, 2006)



571 Total Rank 0, 1 or 2 Sites

Cleaning up High-Priority Contaminated Sites

High-priority sites are comprised of Superfund sites and sites Ecology has ranked 1 or 2 using the hazard ranking system. Due to greater health and environmental concerns, Ecology primarily devotes funds from the State Toxics Control Account to the number 1 and 2 ranked sites. All of these sites are included on Ecology's Hazardous Sites List and put onto the Program's strategic plan.

Under Washington's hazard ranking system, "high-priority" is determined by:

- Amount of contaminant(s).
- Type of contaminant(s).
- How easily a contaminant or contaminants could come into contact with people and the environment.

Public concern and a need for immediate response may also affect which sites get top-priority attention from the Program.

There are currently 571 high-priority sites in the state of Washington. See Figure 7 for the status of cleanup activity at the high-priority sites.

- Three hundred and forty (340) of these sites are undergoing a cleanup.
- One hundred and thirty three (133) sites have a cleanup action that is pending.
- Ninety eight (98) sites have received a "No Further Action" determination from Ecology.

There were three (3) high-priority (rank 0, 1, or 2) sites that were removed from the State's Hazardous Sites List in FY 06. See Table 4, for the high-priority sites that were removed from the ranked list.

Hazardous Sites List

The Hazardous Sites List is a list of sites that have been assessed and ranked using the state's Washington Ranking Method. Sites are ranked on a scale of one to five, with one representing the highest level of concern and five the lowest. When ranking a site, the primary exposure routes (air, surface water, and ground water) that could pose a risk to the public and the environment are taken into consideration. Every six months, Ecology updates and publishes the Hazardous Sites List which can be found at www.ecy.wa.gov/program/tcp/cleanup.html.

There were fourteen (14) priority sites where the cleanup met the substantive requirements of the cleanup law; therefore, those sites were removed from the Hazardous Sites List during Fiscal Year 2006. See Table 4 for a list of sites that were removed from the ranked list.

We are aligning resources with clearly established results that citizens can expect from state government. A combination of strategies will be used to speed up toxic site cleanup and preserve the health of Puget Sound as a vital component of the region's recreation and economy. *Jim Pendowski, Toxics Cleanup Program Manager - Department of Ecology*

Table 4: Sites considered cleaned up and removed from the Hazardous Sites List during Fiscal Year 2006

Site Name	City	County	VCP	Priority
Alpine Veneer Plant	Ronald	Kittitas	Y	5
Banks Property	Yakima	Yakima	N	3
Birkholz Property	Everett	Snohomish	Y	5
Cascade Helicopters	Cashmere	Chelan	N	2
Gebber Farms	Brewster	Okanogan	N	1
Mikes Aussie Machine Shop	Seattle	King	Y	5
NW Pipeline North Bend MS	Issaquah	King	Y	3
NW Pipeline Redmond MS	Redmond	King	Y	3
NW Pipeline Snohomish MS	Monroe	Snohomish	Y	5
Premier Offset Web Sales LLC	Marysville	Snohomish	Y	3
River Front Properties	Spokane	Spokane	Y	5
Simplot Soilbuilders Prosser	Prosser	Benton	Y	4
Soushek Property	Kent	King	Y	2
WA DNR Lacey Compound	Lacey	Thurston	Y	4

Last Area-Wide School Cleanup of the Season

Naches Intermediate School, located approximately 10 miles northwest of Yakima, was the last of eight schools selected for cleanup in central Washington during the summer of 2006. The district's varsity baseball and multi-use fields are located adjacent to the Intermediate School and were included as part of the project. At six acres, Naches Intermediate was one of the largest properties Ecology encountered during this year's cleanups. Project scheduling was of utmost concern for school officials as the school district's summer break wound to a close and the project had yet to be completed.

When children arrived for their first day of class this fall, most of their school was fenced off and unusable. Only one small play area, approximately 150 by 100 foot, remained. Fortunately, Naches High School is located just across the street and was available for use during recess and physical education classes. This was a viable temporary solution as Ecology staff hurried to complete the project. Of highest priority for school officials was providing safe, useable play space for children.

Project specifications called for hydro-seeding as the most economic method of turf replacement. However, Ecology staff chose to sod work areas adjacent to the school to speed up progress. Even though sod is more expensive it allowed the field to be ready for use more quickly than traditional or hydro-seeding. Sod was also chosen for use on the varsity baseball field to ensure that it would be ready with quality turf before the following baseball season. Providing children areas with playground equipment was also a priority. The equipment had been moved so the soil could be remediated.

Work was completed at Naches Intermediate less than two weeks after school started. Although he expressed some concern with project scheduling, Duane Lyons, Superintendent described Ecology staff as "great to work with" and "very responsive." Mr. Lyons also said it was good to "know that arsenic and lead are low enough to make sure that kids are safe."

Natural Resource Damage Assessments (NRDA)

A site becomes involved in the Natural Resource Damage Assessments process when natural resources (such as fish and shellfish) or services provided (edible fish or recreational fishing days) become damaged or lost as a result of contamination.

To date, sites with natural resources damage assessment activities have been mainly in marine areas and are often federal Superfund sites. With the exception of petroleum-only contamination (handled by Ecology's Spills Program), assessments and settlements of liability for natural resource damages are negotiated with potentially liable parties by entities known as Natural Resource Trustees. The Trustees consist of representatives from the State – always Ecology and often the Washington Department of Fish & Wildlife and/or the Department of Natural Resources--- local Native American Tribes, and federal resource agencies such as the National Oceanic and Atmospheric Administration and the United States Fish and Wildlife Service. The Trustees operate by consensus under an inter-agency Memoranda of Agreement and form geographically-based Trustee Councils.

The Councils can require compensation for the injury caused, from the time of release to the time of full recovery. Compensation is used to restore, replace, or acquire equivalent habitat.

Cleaning up Lower-Priority Contaminated Sites

The Toxics Cleanup Program provided oversight or technical assistance at 716 contaminated sites with a state ranking of 3, 4, or 5. The Program continued to experience an increase in requests for assistance in the last fiscal year. See Figure 8 for the status of cleanup activity at lower-priority sites.

In terms of process, the distribution of sites is as follows:

- Two hundred and forty nine (249) of these sites were undergoing cleanup.
- Eighty seven (87) sites received a "No Further Action" determination from Ecology.
- Three hundred and eighty (380) sites were pending cleanup action.

In Fiscal Year 2006, 11 lower-priority sites were removed from the Hazardous Sites List. See Table 4 for the lower-priority sites that were removed from the ranked list.

Ecology is mindful of the fact that the Voluntary Cleanup Program is "voluntary." Nnamdi Madakor, Statewde Coordinator - Voluntary Cleanup Program

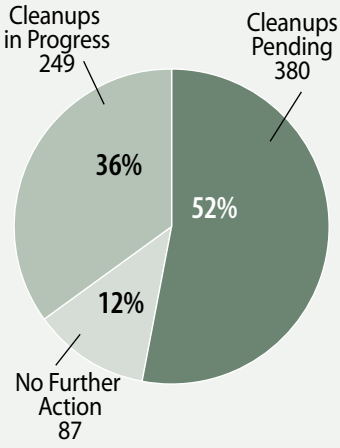
Ecology Consultations under the Voluntary Cleanup Program

Ecology consultations are usually best suited for routine cleanups where cleanup technology is easily identified. Back when the Program was started, the majority of cleanups were from leaking underground storage tanks. However, with the decline in petroleum-only cleanups, the Program now includes commercial and industrial properties that are undergoing economic redevelopment. Even high-priority sites are entering the program. In Fiscal Year 2006, 11 of the 14 high-priority sites that were removed from the Hazardous Sites List, were cleaned up under the Voluntary Cleanup Program. See Table 4.

A person may enter the Voluntary Cleanup Program by submitting a cleanup report to Ecology. Staff will review the report and provide a site determination, such as no further action or further action. Since October 1997, 2,448 sites have entered the program (see Figure 9):

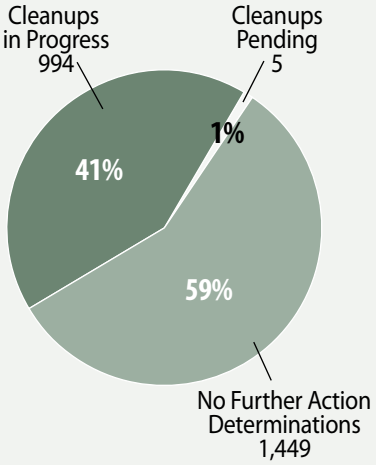
- One thousand four hundred and forty nine (1,449) sites received a no further action determination.
- Another nine hundred and ninety four (994) are in the review process.
- Only five (5) sites were pending cleanup on July 19, 2006.

Figure 8: Status of State Ranked 3, 4 or 5 Sites (as of July 19, 2006)



716 Total Rank 3, 4 or 5 Sites

Figure 9: Status of Sites Under Voluntary Cleanup Program (as of July 19, 2006)



2,448 Total Sites

Verifying Impact to Groundwater

Pacific Wood Treating/Port of Ridgefield (Port);

During fiscal year 2006, Ecology staff monitored the phase 2 steam-enhanced remediation system that was in operation. In mid-November, Ecology began injecting approximately 12,200 pounds per hour of steam into the injection wells, and extracting approximately 52 gallons per minute of contaminate-laden groundwater from the well field.

Ecology continues to monitor by computer the real-time temperature data in the aquifer and vadose zone. Treated (clean) water continues to be discharged to Lake River under the Port's National Pollutant Discharge Elimination System permit with no violations. As part of the Port's general industrial storm water permit, the drainage system has been inspected, best management practices maintained, and samples collected from the four outfalls.

At Ecology's request, additional groundwater characterization work on the other side of Lake River (i.e., on Ridgefield National Wildlife Refuge property opposite the South Pole Yard) was completed. Once the analytical results have been received, Ecology will make a determination whether the results validate the groundwater model and provide verification and confirmation that groundwater under the Refuge has not been impacted.

Story and photos by Dan Alexanian
Southwest Regional Office – Toxics Cleanup Program

Sediment Management Activities

Staff are involved in a broad range of activities designed to:

- Prevent contamination to sediments.
- Cleanup contamination at sediment sites.
- Determine disposal options for contaminated sediments and dredged material.

This includes:

- Ensuring that discharge permits adequately address sediment quality to minimize the impact of discharges into waterways.
- Identifying water bodies impaired due to sediment contamination for listing under Section 303(d) of the federal Clean Water Act.
- Overseeing or collaborating on the cleanup of contaminated sediments throughout the state, including the lower Duwamish River, Spokane River, Lake Union, and numerous locations throughout Puget Sound.
- Identifying the quality of dredged material for appropriate disposal or beneficial use.

Staff is also engaged in ongoing scientific investigations and research to better understand and address contamination in these very unique marine and freshwater environments. This includes the identification of reliable freshwater sediment quality values for use in the State of Washington.

2006 National Notable Achievement Award - Brownfields

Named in the award are: Tim Brincefield (far right), Deborah Burgess (3rd from right), Cyndy Mackey and Anne McCauley (Environmental Protection Agency); Sharon Kophs (4th from right), Tom Stilz, Steve Saylor, and Jim Keogh (Community Trade and Economic Development); Sandra Treccani and Katherine Scott (State Department of Ecology); and Robin Toth (3rd from left) – Spokane Area Economic Development.

Our priorities present significant challenges and offer numerous opportunities to make a difference in protecting and improving human health, the environment and the quality of life in the Pacific Northwest. Tim Nord, Land & Aquatics Cleanup Section Manager - Department of Ecology

Kendall Yards is a 77-acre former locomotive repair and refueling site located within the City of Spokane's community empowerment zone. It includes rail lines, machine shops, a roundhouse, a variety of underground fuel lines, and miscellaneous parking. The land had been neglected for nearly half a century because it was contaminated by railroad maintenance activities. In early 2005, a private developer expressed an interest in securing a brownfields revolving loan to clean up what has become one of the largest brownfield projects in the nation.

Developer Marshall Chesrown of River Front Properties called the project a "once in a lifetime opportunity". About $6.4 million was spent cleaning up the contaminated property, with a $2.4 million loan from the state's brownfields loan fund. A partnership was created among staff from the Environmental Protection Agency, the State Departments of Ecology and Office of Trade and Economic Development, the City of Spokane, and the developer, as a private partner. Close coordination among the team members resulted in the removal of 223,000 tons of contaminated soil. That's enough contaminated soil to cover 83 football fields.

In April 2006, the Environmental Protection Agency awarded the project a National Notable Achievement Award for its approach in getting the site assessed and cleaned up in 12 months, a process that normally takes about two years.

In March 2006, a "No Further Action" letter from the Department of Ecology was provided to Chesrown before a crowd gathered to celebrate the site's cleanup. The developer's plans call for building 2,600 residences and 1 million square feet of commercial space on the land.

Investigating, and if Necessary, Ranking New Sites

Initial Investigations

The first step in the cleanup process is to investigate a site. Once Ecology receives a complaint about a piece of property or the practices of an owner or operator, a program inspector will go to the site and conduct an initial investigation. This involves looking at the site for signs of possible spills and the use and storage of hazardous waste. Some sampling may be involved.

Site Hazard Assessments

If it is determined that further work is required at a site after the initial investigation, a site hazard assessment may be conducted.

A site hazard assessment provides staff with basic environmental characteristics about a site. The program then uses the Washington Ranking Method to estimate the potential threat to human health and the environment if contamination is not cleaned up. A score of one represents the highest level of concern relative to other sites on the list, and a score of five represents the lowest.

By ranking sites according to the Ranking Method, the Toxics Cleanup Program can position itself to concentrate State Toxics

Control Account on sites that have a priority ranking. During Fiscal Year 2006, 83 site hazard assessments were completed:

- Of those, 58 new sites were added to the Hazardous Sites List.
- Sixteen (16) sites received a "No Further Action" determination from Ecology.
- The remaining 9 sites were referred to the Voluntary Cleanup Program following completion of the site hazard assessment.

Clean Sites Initiative

Clean Sites Initiative funding pays to cleanup recalcitrant or orphan contaminated sites that present threats to human health and the environment – one of Ecology's top management priorities. Ecology uses funding for recalcitrant or orphan sites when the state is the only viable entity to conduct cleanup. In Fiscal Years 2006 and 2007, the Legislature appropriated $9 million from the State Toxics Control Account to pay for cleanup at recalcitrant or orphan sites throughout Washington.

In Fiscal Year 2006, Ecology continued working with contractors to cleanup several sites, some of which include the following facilities:

North Lake Union Shipyard: Ecology initiated a remedial investigation and feasibility study at the shipyard, 1441 N. Northlake Way, Seattle. The site encompasses about 0.8 acre of dry uplands and 2 acres of submerged land. The site is contaminated with heavy metals and PAHs. Ecology has a prospective purchaser consent decree with the current site owner, which provides for the cleanup of sandblast grit on the site.

Most Western Laundry: Ecology initiated a remedial investigation and feasibility study at the former dry cleaning and laundry facility. The facility operated from about 1907 until 1994 at 16th and B streets in Hoquiam, about 500 feet east of the Hoquiam River and a half-mile north of Grays Harbor. The Most Western Laundry operated a dry cleaning business from 1979 through 1984 using tetrachloroethene as the primary cleaning agent. Studies completed in the 1980s revealed solvent contamination at substantially elevated levels in soil and groundwater on the site.

Schwerin Concaves Inc.: A feasibility study and sampling was undertaken by Ecology at this hard chromium electroplating facility in Walla Walla, which has operated since the late 1970s. Soil and groundwater are contaminated at two locations with hexavalent chromium. Soil is contaminated as deep as 9 feet. Chromium contamination has also been detected in monitoring wells. Ecology is working with a contractor to remediate this site using a bioremediation recirculation system to reduce contamination.

Area-Wide Soil Contamination Initiative

Soils in large areas of Washington State are contaminated with low to moderate levels of arsenic and lead. A range of historical activities caused the contamination, including airborne deposits from smelters (such as those formerly operated in Tacoma and Everett) and the past use of lead arsenate pesticides.

Ecology estimates that up to 1,000 square miles of land contain elevated levels of arsenic and lead. As Washington's population has grown, many of these areas have been developed into schools, child-care facilities, neighborhoods and parks. These development activities have created pressures for cleanup and raised health, environmental and financial concerns.

Ecology and the Departments of Agriculture, Health, and Community, Trade and Economic Development formed a Task Force in January 2002 to consider the issues and challenges posed by area-wide soil contamination. In June 2003, the Task Force completed its recommendations for a statewide strategy to include:

- Reducing exposures at schools and child-care facilities.
- Improving public awareness of area-wide soil contamination concerns and solutions.
- Integrating the cleanup of area-wide soil contamination with local land-use planning and permitting processes.
- Exploring institutional changes to improve responses to area-wide soil contamination problems.

During Fiscal Year 2006, Ecology budgeted $5 million in State Toxics Control Account funding, distributed as follows:

- $700,000 for cleanup of Asarco smelter plume area-wide contamination in the Everett area.
- $4.3 million for cleanup of widespread, low-level lead and arsenic contamination caused by historic smelting and agriculture practices at schools, parks and day-care facilities.

The agencies are focusing on areas with the highest potential for elevated levels of arsenic and lead, such as King, Pierce, Chelan, Douglas, Yakima, and Spokane counties.

Summer 2006 Central Washington Cleanup Efforts

Whether hops, wine grapes, or apples, Central Washington is well known for its rich agricultural history. Unfortunately, some past practices have left an unwelcome legacy. Application of lead arsenate pesticide throughout the first half of the 20th century was intended to control the damaging effects of the coddling moth. Today, Ecology has identified lead arsenate as the primary cause of soil contamination on thousands of acres throughout the area.

Area-wide soil contamination is defined as contamination above state cleanup levels that is dispersed over a large geographic area. Due to their chemical structure, lead and arsenic tend to bond with soil particles and often remain at or near ground surface level for decades, creating an exposure pathway through inhalation and/or ingestion.

Although lead and arsenic are naturally occurring elements, elevated concentrations have been proven to have a negative impact on human health. Young children are generally more susceptible than adults, which is why Ecology has focused remediation efforts on schools.

Over 100 public schools were tested for lead and arsenic during the summer of 2005. Of the schools sampled, Ecology's Yakima office identified 35 schools with soil contamination above state cleanup standards.

Ecology staff began remediation during the summer of 2006 with four schools in the Wenatchee area chosen for initial activities due to close proximity between properties and summer break schedule. After completing work in the Wenatchee area, work began at two Okanogan county schools, North Omak Elementary and Brewster High School. The final two schools selected for the season were Manson Elementary in Chelan County, and Naches Intermediate in Yakima County.

Throughout planning and implementation phases of the project, Ecology staff focused on providing children with outdoor activity and play areas that were both safe and useable. With this focus in mind, shallow excavation and deep soil mixing were selected as two primary means of remediation. These techniques have proven successful at reducing contaminant concentrations in a timely and cost effective manner. Post-remediation results are positive and reduction of lead and arsenic contamination has been significant. Following resurfacing of affected areas, schools have been provided with a finished product that meets or exceeds quality specifications.

A "Bounty" for Mercury Switches

Story by Jan Brydsen; edited by Mariann Cook Andrews

A new joint project by Ecology and Washington's automobile recyclers diverted twenty-six (26) pounds of mercury form the scrap metal supply in its first few months. Before 2003 most American-made vehicles used switches containing mercury for hood and trunk lights. The switches are not a problem while in vehicle use; however, the mercury escapes when recyclers crush, shred, and melt down vehicles that contain these switches.

Recyclers removed more than 12,000 switches to capture what amounted to 26 pounds of mercury. The project is a partnership among Ecology, the Automotive Recyclers of Washington Association and End-of Life Vehicle Solutions (Solutions), an organization of auto manufacturers that use mercury switches. Ecology provides an incentive, or "bounty", for each switch and Solutions pays for the transport and disposal. Visit www.ecy.wa.gov/mercury for more information on the state's program regarding mercury.

Gabe Baxter, of Spokane's Spalding Auto Parts, puts a switch with mercury into a special collection bucket.

The Hazardous Waste and Toxics Reduction Program

The Hazardous Waste and Toxics Reduction Program's vision is to:

- Foster sustainability.
- Prevent pollution.
- Ensure safe waste management.

The Program's two primary objectives are: (1) to reduce the amount of hazardous waste generated; and (2) to prevent hazards due to improper management or disposal of hazardous wastes. With funding from the State Toxics Control Account, the Program contains several major activities designed to accomplish the objectives.

Visiting Facilities that Generate Hazardous Waste

The Hazardous Waste and Toxics Reduction Program provides technical assistance to businesses and governmental entities through a variety of ways. One of the primary methods is face-to-face visits. During these visits, staff provides assistance on reducing and safely managing hazardous waste. Last year, program staff conducted 1,162 visits.

Progress Toward the 50 Percent Hazardous Waste Reduction Goal

The 1990 Hazardous Waste Reduction Act contains a statewide policy goal to reduce hazardous waste generation by 50 percent from the 255 million pounds generated by all reporting facilities in 1990. Annual dangerous waste reports, filed by regulated generators, are used to view waste management trends over time as depicted in the chart (Figure 10). Specialized sources like mixed radioactive waste and most waste waters are excluded from these amounts. The chart shows a steady decline in the amount of waste generated from 1992 to 2005, indicating that the 50 percent reduction goal of 128 million pounds has been met the last several years.

Conducting Enforcement When Necessary

Maintaining a credible enforcement capability is essential to keeping technical assistance effective. In most cases, unless there is an immediate threat to human health and/or the environment, assistance is offered to help a business correct the problem before resorting to an enforcement action. During Fiscal Year 2006, the program issued 5 compliance-based administrative orders and 7 penalties totaling $389,500.

Permitting Facilities that Treat, Store, or Dispose of Hazardous Waste

The 50 percent hazardous waste reduction goal has been achieved since 2003.

Ecology issues and/or modifies permits to facilities that treat, store, and/or dispose of hazardous waste and operate in a manner protective of human health and the environment. In Fiscal Year 2006, staff worked on:

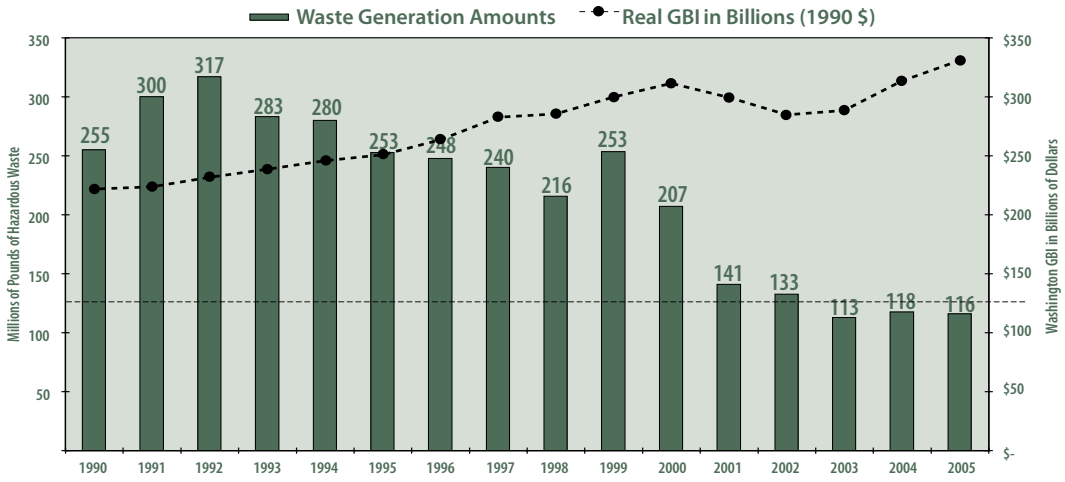
- Eight (8) modifications to existing permits.
- Two (2) permits were reissued.
- No new permits were issued during the reporting period.
- Three (3) closures were completed.

Conducting Cleanups at Treatment, Storage, or Disposal Sites

Currently, about 7,000 hazardous waste generators produce more than 117 million pounds of hazardous waste annually in Washington.

This activity involves the cleanup of treatment, storage, and/or disposal facilities that are contaminated with hazardous wastes. In Fiscal Year 2006, on average, the 21 high priority sites the program manages advanced from 67% complete to 68% complete – which means on the average, in terms of the four-step cleanup process, that cleanup of high priority sites has almost completed the remedial investigation and feasibility study stages and moved into the implementation of cleanup action stage. The 17 medium priority sites the program manages advanced from 52% complete to 53% complete – which means on the average, cleanup of medium priority sites has completed the remedial investigation stage.

Figure 10: Progress Toward the 50 Percent Hazardous Waste Reduction Goal



GB 1 = gross business income

Making Common Sense Hazardous Waste Management Decisions

After a lengthy public involvement process, the Department of Ecology released the Beyond Waste Plan in November 2004. The Beyond Waste Plan is the summary of the Washington State Hazardous Waste and Solid Waste Management Plans. These statewide strategic plans are required by state law (RCW 70.95.010 and RCW 70.105).

Based on consultant and staff research and State Solid Waste Advisory Committee input, an implementation plan was developed focusing on the following five initiatives:

- Eliminating industrial wastes through partnerships with industry sectors.
- Establishing a closed-loop reuse and recycling system for capturing organic materials.
- Encouraging a green-built environment by making sustainable building the norm in Washington.
- Reducing hazardous wastes from small businesses and households.
- Tracking overall progress toward the Beyond Waste vision through performance measures and improved data tracking.

Keeping the Public Informed

The Hazardous Waste and Toxics Reduction Program relied on several methods to provide information to the public. During Fiscal Year 2006 Program staff:

- Responded to more than 19,500 telephone calls on hazardous waste issues.
- Conducted 28 workshops on safe waste management and pollution prevention that were attended by 1,600 people.
- Prepared a quarterly newsletter called Shoptalk to provide the public with current tips on reducing and safely managing hazardous waste.

The Program has also placed much effort into collecting data for public use. It collects hazardous waste generation and management data from about 5,000 businesses, hazardous substance use and storage data from 3,500 businesses, and pollution prevention planning data from 624 businesses. Data is also collected from about 350 businesses that release toxic chemicals, as required under the federal community right-to-know law. The public can use this information to monitor hazardous waste in their communities.

Environmental Assessment Program

The Environmental Assessment Program provides objective, reliable information about environmental conditions that can be used to:

- Measure agency effectiveness.
- Inform public policy.
- Help focus the use of agency resources.

The program is responsible for monitoring and reporting environmental status, trends, and results, and ensuring that Ecology staff, citizens, governments, tribes, and businesses have access to environmental information.

Program activities include:

- Environmental studies of toxic pollutants in priority water bodies.
- Technical review and investigations dealing with toxic chemical contamination of marine and freshwater aquatic organisms, sediments, and groundwater.

Staff also conduct total maximum daily load evaluations designed to identify sources of toxic substances in priority watersheds and recommend pollutant load reductions necessary to achieve compliance with state water quality standards. Activities conducted during Fiscal Year 2006 include:

- Statewide assessment of polybrominated diphenyl ether flame retardants (commonly known as "PBDE") in rivers and lakes. The program collected and analyzed freshwater fish and water samples in rivers and lakes around the state. Results will be used in order to establish baseline conditions that can be used to evaluate the effectiveness of the Washington State PBDE Chemical Action Plan and other efforts to reduce PBDE inputs to the environment.
- Long-term effectiveness monitoring at toxics cleanup sites. Groundwater data are collected quarterly at multiple sites statewide to determine if cleanup standards have been met or if additional remedial actions are needed.
- Toxics monitoring. Continued implementation of the Washington State Toxics Monitoring Program. The program is designed to evaluate concentrations of a variety of toxic chemicals in edible fish tissue. During this year, the program added mercury trends as a new component to the program.

*PBDEs are compounds that function as flame retardants in resins and plastics used in furniture (foam cushions), carpet padding, electronics enclosures, wire and cable insulation, adhesives, textile coatings, and other applications. First reported in 1981, PBDE levels have been increasing in environmental samples. PBDEs have been linked to neurotoxicity, impaired thyroid function, fetal toxicity, endocrine effects, and tumor generation in animal studies.

The mission of the Program is to work in partnership with communities to support the long term health of watersheds throughout the state.

Nuclear Waste Program

The Nuclear Waste Program regulates the storage, treatment, and disposal of dangerous waste and mixed waste at Hanford and certain non-Hanford facilities. Mixed waste contains both a hazardous and radioactive component. The Nuclear Waste Program collects fees from facilities that manage mixed waste in the state. This money goes into the State Toxics Control Account where it is appropriated by the legislature to the Nuclear Waste Program.

In Fiscal Year 2006, State Toxics Control Account funding helped pay for:

- Compliance inspections.
- Regulatory oversight.
- Technical assistance.
- Review and approval of permit applications at regulated mixed waste facilities.

Program Administration

State and Local Toxics Control Account funds help pay for program administration. These services provide the foundation from which Ecology is able to address the goals of the Model Toxics Control Act. Administration services include the following:

- Executive management oversees the Department's mission, goals, and policies.
- Regional directors represent the director in local communities and provide coordination on complex local issues.
- Legislative and intergovernmental relation staff coordinate legislative activities, represent agency policy to other governments, and coordinate rule development.
- Education and public information staff provide primary leadership in environmental education, community outreach, public involvement, and media relations.
- Additional costs include computer support, employee services, telecommunications, budget and central planning, accounting and fiscal services, records management, mail handling, facility planning and maintenance, warehousing, and motor pool services.

Groundwater Travels to Lakes and Streams:

Story and photos by Marv Coleman, Southwest Regional Office – Toxics Cleanup Program

In fiscal year 2006, Ecology conducted a comprehensive investigation of groundwater contamination from multiple leaking underground storage tanks in Montesano. One of the many lessons learned from that investigation was that contaminated groundwater travels through sewer pipes straight to the sewer systems' discharge points. For storm water throughout the Puget Sound area, those discharge points are commonly surface water bodies, such as lakes and streams.

It has been widely documented that groundwater in urban, developed areas contains a variety of contaminants, including petroleum hydrocarbons, such as gasoline, diesel, and heating oil, chlorinated and non-chlorinated solvents, heavy metals, and other chemicals. Unlike the focused investigation of leaking underground storage tanks at Montesano, the specific sources of groundwater contamination have not been determined in other communities.

While the dilution of contaminants passing from groundwater into the storm water sometimes results in relatively low concentrations of chemicals at a discharge point, it is a chronic long-term loading problem for the surface water bodies. Ecology is developing a comprehensive plan to discover and eliminate ongoing sources of contamination into Puget Sound.

Spill Prevention, Preparedness and Response Program

The Spill Prevention, Preparedness and Response Program relies on funding from the State Toxics Control Account in order to protect public health, public safety, and the environment. The Program's funding is dedicated to both responding and cleaning up oil and hazardous material spills. These activities include overseeing the cleanup of spills where a responsible party is taking appropriate action to manage the incident. The program also cleans up "orphan" spills where the owner is unknown, unwilling, or unable to fund the necessary removal. Ecology collaborates with the responsible party and other government entities to manage incidents.

Other related activities conducted by the program include:

- Participation in oil spill drills.
- Technical assistance.
- Incident investigation.
- Enforcement when appropriate.
- Emergency cleanup at hazardous waste generation facilities.

Overview of Spill Incidents in 2006

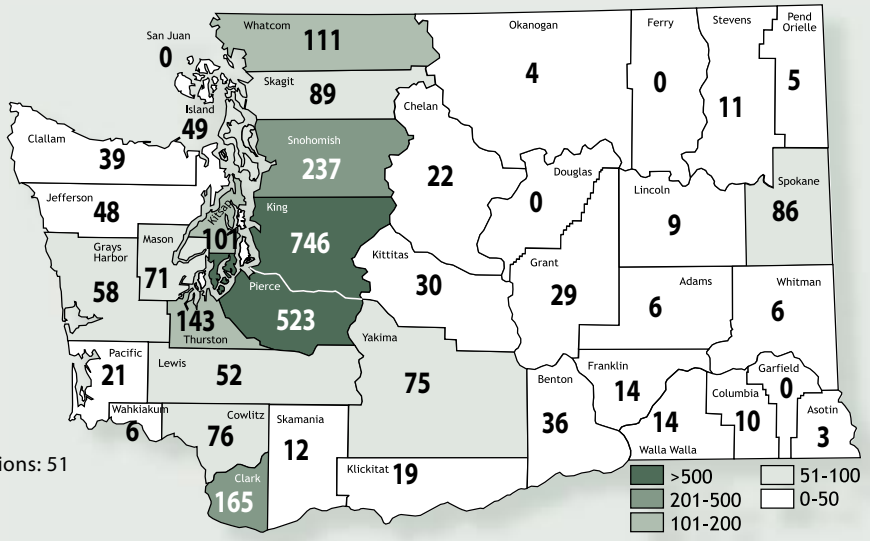
In 2006 Ecology received 3,887 reports of chemical, oil and hazardous waste spills statewide. However there is no way to document the real number of spills, as daily there may be hundreds of illegal dumps and spills that unknowingly enter the state's water supply (often through storm water drains). Of the over 3,800 spills reported, the Program responded to 1,186. Figure 11 lists the reported spills and their counties of origin.

Historical Oil Spill Trend 1997-2006

Oil spills to surface water, either marine or inland, are detrimental to natural habitats, flora and fauna, and to the water quality of the state. This is a complicated problem as oil products are prevalent and critical in today's society and come in many forms. These facts make it difficult to reduce oil spills as regulations can only go so far, and there are many varied contributing factors. In order to better pinpoint prevention and readiness measures and position response personnel and equipment, Ecology conducted an analysis of major oil spills (over 25 gallons) to surface waters since 1997. The oil spill trend is shown in Figure 12. Encouragingly, the number of major oil spills decreased from 2005 to 2006 and continues an overall trend of reduction that began in 2003. The counties with the highest volume oil spills are the high-populace, high-vessel traffic regions of the Puget Sound and Columbia River system.

The volume sources of these spills are from vessels, both military and private, which are responsible for nearly 50% of the volume of major oil spills. Pipelines present the second largest volume of spills, but this is highly driven by the Olympic Pipeline Spill of 1999 where 277,000 gallons spilled. The type of material spilled is varied, with diesel spills making up the large majority of spills. Fuel oils, gasoline, and lubrication oils are also major components.

Figure 11: Reported chemical, oil and hazardous material spills by county.



Other reported spills of unknown locations: 51

Responding to Meth Labs

The Program also uses State Toxics Control Account funds to remove and dispose of hazardous wastes found at methamphetamine drug labs. The number of illicit drug labs and associated abandoned dump sites in Washington rose dramatically throughout the mid 1990's. In 2004 Ecology received 390 reports of drug labs or dump sites.

The Spills Program continues to coordinate with local governments and authorities. The Program is the only public agency in the state that performs the cleanup of contamination that results from meth lab operations.

Responding to Changing Workloads

In 2006, state lawmakers appropriated funds and one position for Ecology to place a spill responder in Bellingham to support Governor Gregoire's Puget Sound Initiative. To improve response times in North Puget Sound, the Department hired a permanent spill responder who will act as the first response presence in Ecology's Bellingham Field Office. The program will hire a second responder for the Bellingham Field Office in early 2007. These positions will mirror the success the agency has seen by placing responders in Ecology's Vancouver Field Office.

These changes are an opportunity for Ecology to demonstrate success in new geographic areas and improve the Department's responsiveness. In 2007 Ecology will explore opportunities for future change, including whether to station a response position in other areas of the state. Ecology's goal remains to further regionalize response staff and increase the effectiveness of oil spill response efforts.

Enforcement Activities

Enforcement action provides an incentive for companies to meet prevention standards, ensures a level playing field for industry, and changes future decisions and behavior. The bulk of Ecology's enforcement has been citations, up to $3,000, issued by first responders in the field for small spills. A smaller number of more substantial penalties were issued for spills determined by investigation to be negligent and preventable. In 2006, Ecology issued 43 citations and 13 penalties for a total of $649,575.

Other enforcement actions, such as Notices of Correction and Violation, Administrative Orders, and Warnings are issued to companies to require actions to prevent or prepare for oil spills. In 2006, Ecology served one Notice of Correction, two Notices of Violation, one Administrative Order, and six Warnings.

See Figure 13, Enforcement actions issued 2002-2006. Compliance with state spill prevention and readiness requirements are likely responsible for some of the decrease in violations and warnings.

Figure 12: Oil Spill Trend from 1997 to 2006

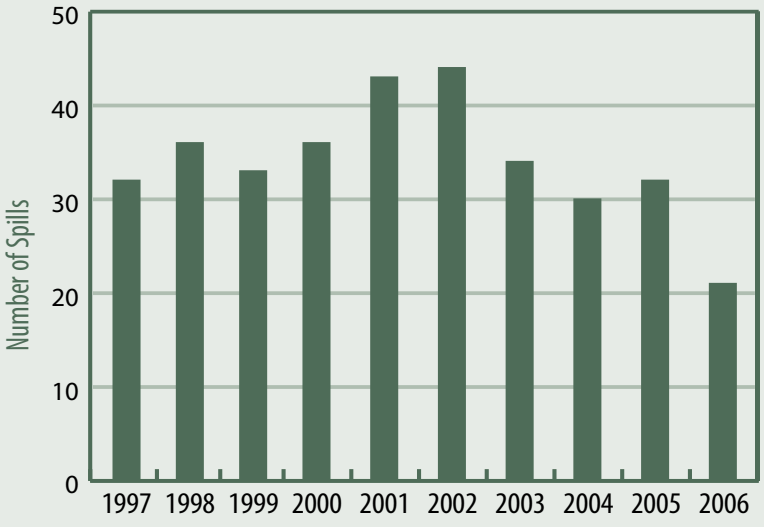
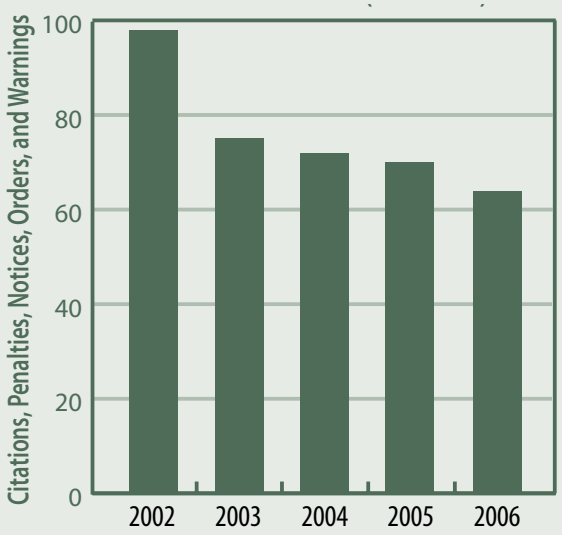


Figure 13: Enforcement Action (2002-2006)



Solid Waste and Financial Assistance Program

Ecology's Solid Waste and Financial Assistance Program conducts four main services with funding received from the State Toxics Control Account. Those services are:

1. Providing technical assistance and support to local governments on solid waste management issues.
2. Reducing persistent bioaccumulative toxins in the environment.
3. Regulating large industrial facilities (such as pulp and paper, petroleum, refining, and aluminum smelting).
4. Regulating and overseeing cleanups of contaminated industrial sites and closed landfills.

Technical Assistance

The Solid Waste and Financial Assistance Program helps local governments regulate waste management in the state. The goal is to reduce the generation of solid wastes, and properly manage the reuse, recycling, and disposal of wastes that are generated. Staff efforts are concentrated on technical assistance and local permit reviews and policy guidance and research.

The Program provides professional hydrogeologic and engineering assistance on solid waste facilities to local health jurisdictions, a specialty area most jurisdictions lack. These reviews cover landfill design and operation issues, like landfill loners, leachate collection systems and groundwater sampling, in order to protect ground and surface water. The Program staff also offer technical trainings on revised solid waste regulations and annual compost operator training. Lastly, the Program staff review local permitting decisions to ensure compliance with state regulations.

When needed, the staff develops and revises statewide rules and policies in order to ensure statewide consistency in solid waste prevention and management. Program staff conduct research on technical issues involving recycling and identifying initiatives such as how today's farm wastes can be turned into energy and marketable chemicals.

Reduce Persistent Bioaccumulative Toxins in the Environment

Persistent, bioaccumulative toxins (PBTs) are a particular group of chemicals that can significantly affect the health of humans, fish, and wildlife. PBTs can cause cancer, impair immune systems, and damage human brains and nervous systems.

In 2005, the Program completed a Chemical Action Plan for a flame retardant known as pentabromo diphenyl ether (PBDEs) that are found in many household products. This plan addresses how to phase out the use of PBDEs, find safe alternatives and safely dispose of PBDEs. In addition, the Program staff is monitoring a number of lakes in Washington for mercury and PBDEs and completing a Chemical Action Plan for lead in 2007.

In early 2006, the Solid Waste and Financial Assistance Program adopted the nation's first PBT regulation. The rule, developed under the direction of an Executive Order from Governor Locke in 2004, establishes specific criteria for identifying PBTs and clear processes for developing chemical action plans and for scheduling priority PBTs for future chemical action plan development. In future years, chemical action plans are expected to be developed for polycyclic aromatic hydrocarbons (PAHs) in 2008 and perfluorooctane sulfonates (PFOS) in 2009.

To keep the public informed, Ecology publishes a bi-monthly report known as the Site Register. The Site Register provides information on:

(1) Activities related to the study and cleanup of contaminated sites.

(2) Public meetings, hearings, and public comment periods.

(3) Discussion or negotiations of legal agreements.

(4) Availability of cleanup reports.

(5) Ranking of hazardous waste sites.

Industrial Regulation

The State Toxics Control Account funds regulation of hazardous wastes at some of the states largest industries. Oil refineries, pulp and paper mills, and aluminum smelters all use, generate, and in some cases, dispose of a variety of hazardous wastes. Staff issue permits for hazardous waste use and management, conduct regular inspections, and assist persons in correcting violations.

Cleanup Contaminated Sites

Solid Waste and Financial Assistance staff provided technical oversight for cleanup activities at contaminated industrial sites and solid waste landfills across the state, including:

Rayonier Port Angeles Mill

The 70-acre parcel on the east end of Port Angeles Harbor was the site of a pulp mill for 60 years before the mill was closed and torn down in the late 1990s. Ecology, with cooperation from the Lower Elwha Klallam Tribe, is overseeing Rayonier Inc.'s investigation and cleanup of the mill property and sediments in the adjacent Harbor and the Strait of Juan de Fuca. During fiscal year 2006, Ecology, the Tribe, and Rayonier developed a draft terrestrial ecological evaluation report and moved the uplands remedial investigation report closer to public comment. Ecology resolved litigation initiated by Rayonier over dioxin cleanup levels, and initiated new rulemaking to remove an ambiguity in the Model Toxics Control Act rule which had spurred the litigation.

Ephrata Landfill

During fiscal year 2006, the Department of Ecology and the two potentially liable persons, Grant County and the City of Ephrata, continued negotiations on an Agreed Order for the cleanup of the Ephrata Landfill site. Organic compounds, metals, petroleum products, and other chemicals are found in three of the aquifers that underlie the site. The concentrations of some of these chemicals exceed the state groundwater standards. The Agreed Order will include interim actions to remove approximately 2000 drums of buried industrial materials that are believed to contribute to the contamination of the groundwater, and final closure of the historic landfill cells.

Lilyblad, Tacoma

Ecology issued a Potentially Liable Person status letter to PW Multi, the owner of property contaminated by the spread of hazardous substances from Lilyblad. The Department directed Lilyblad to discontinue the interim remedial action in February 2006. Staff issued an enforcement order in May 2006 requiring Lilyblad to submit a semi-annual groundwater monitoring plan.

Noveon/Emerald Kalama, Kalama

Ownership of the facility and property was transferred from Noveon to Emerald. Negotiations for a consent decree was put on hold until Noveon and Emerald respond with new attorneys.

Olympic View Sanitary Landfill, Kitsap County

Waste Management completed a final draft of the Remedial Investigation Report and began scoping the Feasibility Study with Ecology and Kitsap County Health District. The facility conducted regular monitoring for groundwater, surface water, and landfill gas, and began monitoring a new network of landfill gas probes and six new groundwater monitoring wells that were installed in late 2005 . Meanwhile, Waste Management has been working to evaluate and improve landfill operations, including the landfill gas collection system. Ecology expects such operational improvements will positively affect groundwater quality in the landfill vicinity.

Water Quality Program

The Water Quality Program received State Toxics Control Account funds to pay for activities that help protect Washington's water from contaminants.

Lower Columbia River National Estuary Partnership

The National Estuary Program was established by Congress in 1987 to identify nationally significant estuaries that are threatened by overuse, development, and pollution and to aid in the development of local management plans to protect and preserve these estuaries. The lower Columbia River has been part of the National Estuary Program since 1995.

The State Toxics Control Account provides funding for a grant to the Lower Columbia National Estuary Partnership. The Partnership's board members include representatives from both Washington and Oregon Governors' Offices, Washington State Department of Ecology, the Oregon Department of Environmental Quality, the U.S. Environmental Protection Agency, industry representatives, local governments and citizens. The Partnership has identified seven priority issues including toxic contaminants in sediments and fish. Partnership accomplishments include securing $1.7 million from the Bonneville Power Administration for water quality and ecosystem monitoring.

Aquatic Pesticide Program

This program is aimed at reducing the risk to public health and aquatic life from pesticides used to manage aquatic weeds, invasive plants, and pests. Water Quality staff develop and interpret rules that pertain to aquatic pesticides and provide technical assistance to pesticide applicators, lake associations, and others to ensure the wise use of aquatic pesticides. Staff also assists chemical manufacturers and pesticide applicators and their clients with permit information. Lastly, they provide educational materials on specific pesticides and aquatic pest control methods.

Implementation and Development of Water Quality Standards for Toxics

Staff provides technical support in the development and implementation of water quality standards for toxic substances. They work on risk assessment issues related to toxics and provide technical assistance to wastewater discharge permit writers using water quality standards to set effluent limits. In addition, staff led workgroups that addressed the reduction of toxic substances, including the interagency committee that is developing Ecology's strategy on persistent bioaccumulative toxic chemicals and the interagency marine toxics work group.

Stormwater Program

The Clean Water Act and state law require that approximately 2,000 businesses and 100 local governments have a National Pollutant Discharge Elimination System permit for the stormwater they discharge. State Toxics Control Act dollars allow staff to:

- Provide technical assistance and support to permit holders.
- Develop and maintain tools for permit holders and others to use.
- Develop new permits to provide a compliance pathway for industry and local governments.

The mission of the Water Quality Program is to protect and restore Washington's waters.

Department of Health

The Division of Environmental Health within the Department of Health (Health) receives funds from the State Toxics Control Account to perform environmental health education, monitoring and assessment activities. These activities are conducted to protect the public from exposure to toxic substances released into the environment. Based on environmental health assessments, Health provides recommendations to the Environmental Protection Agency, Ecology, and the public on ways to reduce or eliminate these exposures. The following is a brief description of some of Health's accomplishments in fiscal year 2006.

Chemical Monitoring of Drinking Water

The Office of Drinking Water provided technical support in a variety of areas such as:

Working with over approximately 66 water systems with nitrate levels above the maximum contaminate level. This included providing information on correction options, public notification requirements, and monitoring requirements.

Providing consultation to staff from two large military installations regarding contamination from solvents and toxic substances (PCBs) affiliated with the coatings for storage tanks, and made recommendations for remedial activities.

Working with two water systems with toxic substance (EDB) levels above the maximum contaminate level. This included providing information on correction options, public notification requirements, and monitoring requirements.

Providing technical assistance to the Jefferson County health jurisdiction in order to determine the source of tetrachloroethylene in the drinking water supply of a local water system. This included providing information on correction options, public notification requirements, and monitoring requirements.

Working with two water systems with Uranium levels above the maximum contaminate level. This included providing information on correction options, public notification requirements, and monitoring schedules.

Working with the Brinnonwold water system in determining the source of volatile organic compound contamination which proved to have leached from the reservoir coating. This included providing information on correction options and monitoring requirements

Working with over 45 systems that have exceeded the arsenic MCL of 10 mg/L. We continue to track their monitor schedules.

Providing the Environmental Protection Agency and the local health jurisdiction interpretation of analytical results from historical and contemporary monitoring activities. This analysis was done to determine the extent of potential contamination by perchlorate of selected drinking water wells near Reardan in Lincoln County.

Providing consultation to Ecology, the local health jurisdiction, municipalities, consultants and the public on the interpretation of analytical results from monitoring activities to determine the presence of potential contamination of aquifers from the Landsburg Mine site. This consultation included information for potential remedial activities.

Drug Lab Program

Clandestine Drug Lab sites are considered hazardous waste sites, and as such, involve the same types of environmental assessment and cleanup procedures as traditional hazardous waste sites. These sites frequently involve sampling and remediation of contaminated soil, septic systems, groundwater, and surface water, in addition to the surfaces of walls, floors, ceilings, appliances and personal belongings.

The Department of Health's program is nationally recognized for technical expertise on drug lab remediation and responds to frequent requests for technical assistance from local health officials, residents, and other government agencies throughout the state. The program received requests from across the country.

The methamphetamine problem in Washington State received considerable legislative attention this year, resulting in significant changes to the statutes that direct remediation of methamphetamine lab sites. The Clandestine Drug Lab Certification Program will be expanded in 2007 to include "Third-Party Samplers". Currently, Health Certified Clandestine Drug Lab Cleanup Contractors are sampling to determine their own cleanup performance and compliance with cleanup standards. In the future sampling will be conducted by persons independent of the cleanup contractor. The program has also been granted authority to conduct performance reviews of Certified Cleanup Contractors and personnel.

The Clandestine Drug Lab Program continues to train and certify decontamination personnel. The program conducted three Clandestine Drug Lab certification training classes, resulting in the certification of approximately 55 cleanup contractors and company personnel. The Program also conducted a refresher training class to approximately 85 cleanup workers, supervisors, contractors and local health jurisdiction staff.

Health's Clandestine Drug Lab Program Website continues to be an important education and outreach tool, with over 10,000 visits during the year. The site contains the updated Clandestine Drug Lab Environmental Sampling Guidelines published in November 2005, and maintains information about locations of methamphetamine lab sites in the statewide Contaminated Properties List.

Program staff continued to actively participate on two national committees tasked with developing remediation standards: The National Alliance for Drug Endangered Children and the National Alliance for Model State Drug Laws.

Indoor Air

The Indoor Air Quality program provides information, technical assistance, and training about potential health impacts of poor indoor air quality and approaches to prevent and respond to such problems. Inquiries about indoor air quality most frequently come from citizens with questions about their home or apartment. Concerns about environmental conditions in schools also results in inquiries and requests for technical assistance from

Health's Indoor Air Quality and School Environmental Health & Safety Program staff.

In response to the potential for indoor air quality problems related to mold in the residential setting, the state legislature in 2005 directed Health to supply landlords with information suitable for distribution to all occupants of rental housing units. With funding specific for duplication and distribution of these materials, indoor air quality program staff distributed over 35,000 copies of *"A Brief Guide to Mold, Moisture and Your Home."* These brochures, originally developed by the Environmental Protection Agency, are available in English and Spanish. In cooperation with the Northwest Clean Air Authority, indoor air quality program staff created 1,500 copies of the video / DVD *"Mold in Your Home: Causes, Prevention, and Cleanup"* available for landlords and tenants.

Health's Indoor Air Quality and School Environmental Health & Safety Program Websites continue to be an important education and outreach tool, with over 175,000 page visits during the year. Information and other resource links are available on a wide-range of indoor air quality topics, including: asbestos, asthma, carbon monoxide, mold, ozone, pesticides and general information.

Staff gave presentations on indoor air quality at seven workshops for school and local health jurisdiction staff and at six meetings of building industry and landlord associations. Forty school and local health jurisdiction staff were introduced to the Environmental Protection Agency's *Tools for Schools* Indoor Air Quality Tool Kit in two, 2-day training events. As part of these program-sponsored events, eight jurisdiction's were presented with monitoring equipment to assist them in developing their local indoor air quality programs.

Telephone and e-mail continue to be favored means for requests for indoor air quality technical assistance, as staff typically responds to 50 requests per week.

Aquatic Herbicides

Health staff continues to respond to inquiries from Ecology on the use of herbicides for controlling aquatic and wetland invasive plant species. This included submitting written comments to Ecology on public health protections in a revised NPDES permit covering herbicide use in lakes for nuisance and noxious weeds.

Staff provided detailed technical information to General Administration and the public on Triclopyr (aquatic herbicide). Additionally, staff provided public health advice on proposed herbicide treatment of Capital Lake in Olympia.

Toxic Cyanobacteria

Technical assistance is provided on human health effects of toxic cyanobacteria and methods for control in recreational areas, reservoirs and other drinking water sources.

Health responds to requests for information on cyanobacteria blooms from citizens, local health jurisdictions, and other agencies, including those from out-of-state. One example of this activity is a cooperative effort with the Oregon Department of Environmental Quality to address questions regarding Pacific Northwest blooms. Currently, efforts are underway to coordinate state and local agencies regarding notification procedures when a toxic bloom is occurring; to develop standards for notification/lake closure; and to determine available laboratories for testing of lake samples.

Others requiring assistance related to a cyanobacteria bloom included Mason County, Island County, King County, Kittitas County, Pierce County, Lewis County, and Spokane County.

Area-Wide Soil Contamination

Many properties in Washington have been contaminated with lead and arsenic due to past emissions from smelters and past use of lead arsenate pesticide. Conducting typical site-based cleanup activities for this type of contamination is not practical due to its widespread geographic distribution and difficulties in finding adequate resources. Health has been working with Ecology to review scientific information, develop best management practices to help reduce exposure, and devise public outreach strategies. This has included a review of a broad range of information about the bioavailability of arsenic

Lead-Arsenate Pesticide in Central Washington Soil

Identification of historic orchard lands in central Washington State is an important step in the identification of areas which may have high concentrations of lead-arsenate in the soil. Health staff employed the use of geographic imaging systems and aerial photography to identify lands historically used for commercial fruit production and those lands that today are used for residential housing, schools, etc.; where children may be exposed. Findings from these activities and from soil sampling in central Washington have shown that several schools have been built on former orchard lands where lead arsenate pesticide had been used. Health has been working with Ecology and local health districts to advise schools how to reduce children's exposure to the contamination and provide information to parents about the associated health issues. The potential health risks at several of the schools have been evaluated.

Testing Wells for Arsenic

While the 4,200 large drinking water systems in Washington regularly test for arsenic, there is little information about arsenic levels for the 350,000 small systems and private wells that provide drinking water for about one out of every six people. Health staff provided arsenic tests for a small sample of wells in King, Spokane and Cowlitz counties to evaluate how many people might be drinking water that exceeds the Environmental Protection Agency standard for arsenic (10 parts per billion).

Site Assessments

Staff from the Site Assessment Section, work closely with personnel from Ecology's Toxic Cleanup Program. The section assesses exposure to hazardous substances in the environment released

Photo of the Spokane River Kiosk with Fish Advisory Information in several languages

from both Model Toxics Control Act and federal Superfund hazardous waste sites. The following are a few examples of work completed under this program. This program receives funding from both the State Toxics Control Account and the Agency for Toxic Substances and Disease Registry.

Cadet Manufacturing Company

Chlorinated solvents, particularly trichloroethylene (TCE) and tetrachloroethylene (PCE), were discovered in the late 1990s in groundwater underlying a portion of the Fruit Valley Neighborhood. This predominantly residential community is located down gradient of the Cadet Manufacturing site in Vancouver, WA. The solvent contaminated groundwater is being investigated by Cadet, under Ecology oversight. The groundwater poses a possible indoor air health risk to the community. The Department of Health has been evaluating possible health risks at this site since 2001, with a public health goal of reducing community exposure to TCE and PCE vapors migrating up though the soil into indoor air.

The Department of Health worked closely with Ecology to evaluate monitoring methods, develop site-specific screening levels, and residential indoor air data from homes adjacent to the site. Education and outreach to the community was carried out through public meetings and mailings. Until cleanup efforts effectively eliminate exposure, community members must take action on their own to reduce exposure in their homes.

Dallas Avenue Soil Removal

Polychlorinated biphenyls (PCBs), metals, and petroleum compounds were discovered in surface and subsurface soils on and adjacent to the site streets. Some contaminants were also found on residential properties. The source of these contaminants has not been identified, but some possible sources are the former Malarkey Asphalt Company where these types of contaminants were detected during past environmental investigations and the former Basin Oil facility where waste petroleum products were handled.

The Department of Health worked with Public Health Seattle-King County, Ecology, Seattle Public Utilities, the Duwamish River Coalition, and local residents to determine if residents living along Dallas Avenue were being exposed to PCBs found in soils. Actions carried out by DOH on this site include an evaluation of PCB data from soil, collection of household dust samples, an evaluation of PCB levels in the dust, and education and information provided to Dallas Avenue residents and other local citizens. Residents were informed that no apparent public health hazard existed for them from exposure to PCBs through dust in their homes. Seattle Public Utilities assured that the streets were paved thereby eliminating exposure to contaminated soil on unpaved streets.

Coeur d'Alene Basin (Spokane River)

Lead and arsenic contaminated sediment was discovered at common use areas located on public and private lands along the banks of the Spokane River from the Washington/Idaho border to the confluence with the Columbia River. The Department of Health provided technical review of a sediment contact advisory that was in place for the Spokane River. This technical review included an evaluation of lead and arsenic levels in sediments from 18 nearshore beaches along the river. As a result, it was concluded that the sediments do pose a public health hazard and that the existing sediment contact advisory was justified.

Fish Consumption Advisories

Evaluation of exposure to contaminants in fish and fish consumption advisories continued to be a primary activity for the Department of Health.

Outreach and Education

In 2006, a strong emphasis was focused on improving outreach to the tribes to better protect tribal members from increased exposure resulting from their high levels of fish consumption. This effort has resulted in the formation of the Columbia Basin Tribal Outreach & Education Workgroup (workgroup members are the Confederated Tribes of the Umatilla, the Yakama Nation, the S.H.A.W.L Society, Oregon Health & Science University, and Department of Health), and in presentations to the Northwest Indian Health Commission and the Northwest Indian Fisheries Commission.

The Department of Health is working collaboratively with Thurston County to develop a grocery store outreach pilot project. This project will offer grocery stores outreach materials and training for employees to aid the public in making smart fish choices that are low in contaminants.

Department of Health staff is participating in the Columbia River Toxics Reduction Strategy Meetings. These meetings involve various state and federal agencies, tribes, and concerned groups whose goal is to better understand the complex issues facing the Columbia River system. Thus far, work has involved problem formulation to establish the goals, breadth, and focus of an assessment, and establish the ecological/human health/cultural values to be protected. As part of the problem formulation, a conceptual model has been developed that describes the relationship between exposure and effects. The problem formulation will culminate in agreements on what will be assessed, the exposure pathways, and the main questions to be answered (such as condition, trends, data gaps, etc.). These agreements will also describe the approach, types of data, analytical tools to be used, and how the data will be interpreted.

Dallas Avenue yard - Before Cleanup

Cleanup in progress

Health staff continues to participate in the Marine Resources for Future Generations Community Advisory Committee. This committee includes representatives from several Asian and Pacific Islander community service organizations, including: Korean Women's Association, Indochinese Cultural and Service Center, Tacoma - Pierce County Health Department, and the Washington Department of Fish and Wildlife.

Fish Consumption Guidance: Technical Protocol and Data Interface

In an effort to ensure that the development of fish consumption advisories are conducted in a consistent, scientifically defensible, and open process, Health has developed draft guidelines for developing fish consumption advisories. These guidelines will reduce the amount of time required to evaluate fish tissue data and to determine whether issuance of a fish consumption advisory is warranted. The guidelines have undergone internal review and will be shared with other federal, state, tribal, and local agencies for comment. In conjunction with this process, Health has been working with Ecology and a software developer on computer software (Environmental Integration and Exposure Impact Observation) to streamline fish tissue evaluation derived from Ecology's Environmental Information Management database.

Fish Advisories

Department of Health staff reviews fish tissue data collected primarily from Ecology's Total Maximum Daily Load and Toxics Monitoring Programs to make determinations on potential health impacts to the public. Other common sources of fish tissue data are the Washington State Department of Fish and Wildlife, Environmental Protection Agency, and United States Geological Services. Analysis of fish tissue data collected from the Walla Walla River and Lake Chelan resulted in the issuance of two separate fish advisories in early 2006. Other water bodies where fish tissue data was collected and analyzed for contaminants that did not result in the insurance of a fish advisory include the Okanogan and Palouse Rivers.

Evaluation of Fish Tissue and Data Current Projects

Lake Washington - In response to the issuance of an interim fish advisory in 2005 for Lake Washington, Health funded a supplemental sampling effort to fill data gaps in a previous study conducted by the King County Department of Natural Resources and Parks and the University of Washington School of Aquatic and Fishery Sciences. The sampling of Lake Washington has been completed and an update on the advisory will be issued when final tissue analysis has been completed. In conjunction with the Lake Washington release, Health will also release the results and recommendations of a concurrent sampling and analysis of fish collected from Green Lake in Seattle.

Puget Sound - The Washington Department of Fish and Wildlife has collected data on Puget Sound fish for over ten years in an effort to determine long-term trends in contaminant levels. While analyses included many contaminants, only three chemicals were found at levels of potential concern to human health: PCBs, mercury, and DDT. In response to these findings Health has conducted a health assessment to evaluate potential health impacts to those who eat rockfish, English sole, and salmon from Puget Sound. The technical document is the final stages of write up, and Health will be issuing consumption advice in the fall of 2006.

Department of Health staff is evaluating fish tissue collected from several water bodies in Washington State. Fish tissue sampling was conducted by Ecology's Total Maximum Daily Load Program and includes the Spokane River and Lake Roosevelt. The primary contaminants of concern include PCBs, mercury, PBDE's and various chlorinated pesticides such as DDT. Several fish species collected from these water bodies exceed current ecological standards and in some cases, concentrations may warrant issuing fish advisories aimed at protecting sport and subsistence fishers.

Development of the PBDE Chemical Action Plan

Governor Gary Locke issued Executive Order 04-01 in January 2004 directing Ecology, in consultation with the Department of Health, to develop a Chemical Action Plan for PBDE flame retardants and to recommend actions by December 1, 2004. Ecology and Health released an Interim Chemical Action Plan in December 2004 and a Final Chemical Action Plan in January 2006. Health staff worked collaboratively with Ecology in 2005 to conduct additional analyses to finalize the Chemical Action Plan. A main responsibility of Health staff in preparation of the Final Chemical Action Plan was to conduct an analysis of alternatives for use in electronics to the one PBDE still in production (Deca-BDE) to determine if safer alternatives are available for supporting a proposed ban on Deca-BDE. Since publication of the Final Chemical Action Plan, Health has continued to identify and evaluate safer alternatives to Deca-BDE in other products (mattresses and upholstered furniture) as follow-up activities.

Cleanup and paving in progress

After cleanup

Development of Draft PBT Chemical Action Plan Schedule

The PBT Rule was finalized by Ecology in January 2006 (WAC 173-333). This rule describes the process and criteria for selecting the next PBTs to evaluate using Chemical Action Plans. In 2006, Department of Health staff worked collaboratively with Ecology to select the next PBTs for evaluation. Part of this collaboration consisted of Health staff

writing portions of the draft Multiyear PBT Chemical Action Plan schedule report documenting the PBT selection process, which will be published for public review in September 2006.

Women's Diet Survey

In 2005-2006, Department of Health staff conducted the Women's Diet Survey. The objective of the survey was to improve methods for collecting fish consumption data among the general public for use in estimating exposures to environmental contaminants from eating fish. Eight hundred women from around the state were recruited over the telephone to participate. Women were asked about their diet over the telephone and via a self-administered diet questionnaire that was mailed to them. Women were also asked to provide a hair sample to test for mercury. Mercury has been found in certain types of fish including tuna, and fish consumption is the main way in which most people are exposed to mercury. Data collection is complete and data analysis is underway.

Child Care Provider Education

As part of a qualitative research of childcare providers, the Department of Health conducted health education needs assessment interviews with childcare providers and agencies that oversee the providers. This activity, as well as general outreach and environmental health education, was designed to form health education recommendations for this occupational group. Health published a Protect Kids from Toxics brochure in Spanish and English for distribution to childcare providers and public health agencies. The Department of Health also coordinated with community based and professional organizations to encourage distribution of the brochure through their networks.

Quincy Cancer Cluster Investigation

In response to citizen concerns over the perceived high number of cancer cases, and other chronic diseases and birth defects in the region comprising the towns of Quincy, Ephrata, George, and Winchester; a cluster investigation was initiated. Local residents were concerned that environmental exposure to pesticides through drinking water contamination might be contributing to the perceived higher rates of the observed health conditions among local residents. The cluster investigation focused on cancer due to the availability of registry data. A review and analysis of the cancer data associated with this region did not identify any significant differences in terms of the number of observed cases compared to the number of cases expected based on overall state rates. While adult cancer rates were estimated to be slightly lower than the overall state rate, the rate of cancers among children was slightly higher than expected, though the increase was not significant and no specific pattern of occurrence was defined, based on spatial statistical analysis. The results of this investigation were summarized in a letter to the citizens and the local health jurisdiction.

Hazardous Substances Emergency Events Surveillance Data Analysis Investigation

Since 1991, the Department of Health has maintained the Hazardous Substances Emergency Events Surveillance system to collect data on non-petroleum chemical spills and to document the public health consequences associated with the release of these substances. Annually, a report is prepared that summarizes activities and trends reflected in the data. As in previous years, staff from Health provided statistical support for the analysis and reporting of these data.

Ambient Air Quality Standards Review Investigation

Proposed revisions to the National Ambient Air Quality Standards for Particulate Matter were reviewed by staff and comments prepared. From the review it was determined that the proposed rule reduces or eliminates public health protection from particulate matter, especially for communities of less than 100,000 population. It was determined that the proposed standard would fail to offer requisite public health protection from short and long term exposures to particulate matter pollution, especially for the most sensitive members of the population i.e., infants and children, the elderly, and those with preexisting medical conditions. Adoption of the proposed rule would have a significant negative impact on air quality in small and rural communities. The findings from this review were summarized in an agency response to the Environmental Protection Agency for inclusion in the public comment docket. Comment preparation was closely coordinated with Ecology and provided recommendations opposing the adoption of the proposed rule.

Donovan before cleanup

Cleanup in process

After cleanup

Department of Agriculture

Waste Pesticide Identification and Disposal Program

The Washington State Department of Agriculture's Waste Pesticide Identification and Disposal Program has two primary goals. One is to significantly reduce and eventually eliminate the backlog of prohibited and otherwise unusable agricultural and commercial grade pesticides stored by users, especially those stored on farms and other similar rural locations. The other is to help prevent future accumulations of unusable pesticides through education focused in the areas of product storage and handling, as well as improved planning before purchase.

Many pesticide products have become unusable due to government actions that prohibited most or all of their uses. The program has collected and properly disposed of a significant amount of persistent, bioaccumulative and toxic pesticides such as Dinoseb, DDT, Endrin, Parathion, Pentachlorophenol and Lead Arsenate. Cyanide-based pesticides and highly toxic vertebrate poisons have also been removed from private storage locations statewide and shipped to facilities where they were destroyed. These are priority pesticides due to their potential to impact public health and the environment in instances of accidental exposure or intentional misuse.

The program has now collected and properly disposed of 1,864,241 pounds of unusable pesticides from 5,669 customers. Staff collected 152,171 pounds from 346 customers during fiscal year 2006. Over the past five years, 714,412 pounds have been collected (162,565 pounds in fiscal year 2002; 96,593 pounds in fiscal year 2003; 218,787 pounds in fiscal year 2004; and 84,296 pounds in fiscal year 2005) for a five-year running average of 142,882 pounds each fiscal year.

Since inception, the program has removed pesticides from over 5,000 separate storage locations in Washington State. Other states that have implemented similar programs are also finding that a tremendous amount of old pesticides remain in storage in their states. In addition to rural areas, we find these old pesticides in suburban locations as development continues to expand into traditional agricultural areas.

The Federal Food Quality Protection Act of 1996 was established to reduce exposure to pesticides from all sources. Implementation of the act has increased the amount of pesticide products that are unusable and/or unsalable. The Act has established use restrictions, use prohibitions and phase out periods on many widely used pesticides. The first restrictions directly affected the tree fruit industry in Washington State. Now it is affecting pesticide usage on most crops and in non-farm situations. The Act has eliminated many uses of common organophosphate pesticides such as chlorpyrifos and diazinon. It also created many additional containers of unsalable pesticides throughout the United States. Changing use patterns, pest resistance, conversion to organic production and property transactions also create containers of unwanted pesticides.

The Department of Agriculture encourages pesticide users to limit the amount of pesticides purchased at one time. This increases the odds that the pesticides will be used during a specific application or season before they incur additional use restrictions or become unwanted. It is also important that distributors and retailers keep abreast of changing registration requirements so that they can prevent being "stuck" with unsalable pesticides.

Staff collects pesticides at two types of events: regional and special site. The majority of pesticides are collected at regional events held around the state. Customers transport their unwanted pesticides to a collection site where the Department of Agriculture takes possession of them and becomes legally responsible for proper disposal. Then a hazardous waste contractor segregates the pesticides and packages them into appropriate disposal containers. Many of the pesticides brought to these sites contain regulated hazardous materials. The Department staff prepares a specific transportation bill-of-lading for each of the customers based upon an inventory they submit before the event. The customer must keep this document in their vehicle while on a public road and provide it to emergency personnel in case of an accident or spill. Agriculture also provides customer-site technical assistance, when requested, and assists customers with packaging materials to enhance safe transportation. Staff collects the remaining pesticides at special site events that usually take place at customer's pesticide storage locations. These events are held at the customer's site due to numerous containers of unknown chemicals, transportation hazards due to poor container condition and types of pesticides and containers, such as pressurized fumigant cylinders, that could pose a risk to other customer's and the public if brought to a regional event.

The contractor transports the pesticides to permitted hazardous waste disposal facilities. They dispose of most of the pesticides by thermal destruction. Only pesticides containing metallic ingredients that cannot be destroyed by high temperatures (such as mercury) are disposed of at a hazardous waste landfill. Many pesticides, such as DDT, are "land ban" chemicals, which cannot be disposed at a hazardous waste landfill. The State Toxics Control Account funds all program activities and the program's 3.6 full time employees.

Endangered Species Program

The Department of Agriculture's Endangered Species Program collects data to evaluate the impacts of current pesticide use on threatened and endangered species. The data is tied together in a geographic information system database and related tool set that provides a mechanism to assess agricultural impacts on listed species.

One critical component of the database is the crop geodatabase, which contains information on cropping patterns, irrigation methods, and crop rotations. To date, 92% of the agricultural lands in Washington have been mapped. Agriculture is refining a separate pesticide use database that provides information on typical pesticide use by commodity.

Agriculture, in cooperation with Ecology, began monitoring surface water designated as salmon habitat for pesticide residues in 2003. This effort provides state-specific monitoring data to assess the potential exposure of threatened or endangered salmon to pesticides. This data is provided to the Environmental Protection Agency and the National Atmospheric and Oceanic Administration-Fisheries to aid in regulatory decisions made regarding pesticide registrations.

Three years of monitoring data has been compiled from an irrigated agricultural area in the lower Yakima basin and from an urban watershed in Seattle, the Cedar-Sammamish that drains into Lake Washington. Concentrations of all pesticides detected were generally low and close to analytical detection limits. In the agricultural basin, the herbicide 2,4-dichlorophenoxyacetic acid (2,4-D) was the most commonly detected pesticide. Chlorpyrifos, malathion, and azinphos methyl were also detected in the agricultural area. Agriculture has been working with commodity groups to address possible sources. The herbicide dichlobenil was the most commonly detected pesticide in the urban watershed. The study provides evidence demonstrating the effect that

cancellation of two pesticides (chlorpyrifos and diazinon) has in decreasing amounts found in an urban watershed.

Summaries of the monitoring data are available through Ecology's Environmental Information Management System and on Agriculture's web page.

Funding for the program was recently increased to expand the monitoring program to a western Washington watershed of agricultural significance (the Skagit) and to the agricultural land-use basin of the Upper Columbia River. Sampling in the Skagit Basin began in 2006; sampling in the Upper Columbia will begin in 2007.

The State Toxics Control Account provides about 90% of the program's funding.

Pesticide Compliance

The Department of Agriculture's Pesticide Compliance program investigates complaints of pesticide misuse, conducts field inspections of pesticide manufactures, distributors and applicators, and provides technical assistance to pesticide users. Compliance field staff are located in Olympia, Yakima, Wenatchee, Moses Lake and Spokane.

The State Toxics Control Account provides funding for one of the 22 full time employees in Agriculture's Pesticide Compliance program. This field position covers all irrigated areas of the state and provides technical assistance to those involved in chemigation (the application of pesticides, plant or crop protectants, or related compounds with irrigation water). This includes commercial applicators, growers, irrigation equipment distributors and manufacturers, irrigation districts, farm chemical distributors and consultants, lawn care businesses, government agencies, and others.

The technical assistance program has emphasized system inspections and education. Education efforts have focused on educating end users, suppliers, dealers, and designers on proper system set-ups. This results in an increase in voluntary compliance, enhanced service, additional licenses issued, and a reduction in complaints and need for enforcement actions. Last year, the program made presentations on how to comply with the chemigation rule to about 900 people at more than 12 meetings.

Table 5: Waste Pesticide Disposal Projects Performed by WSDA: Fiscal Year 2006 (7/1/05 - 6/30/06)

Collection Event	When	Customers	subtotal	Pounds	subtotal	Disposal Cost	subtotal	per pound
Yakima Regional	7 / 19 / 05	13		9,036		$13,704.55		$1.52
Elma Regional	8 / 22 / 05	8		1,213		$4,976.52		$4.10
Raymond Regional	8 / 23 / 05	9		2,631		$6,850.43		$2.60
Seattle Regional	8 / 24 / 05	10		2,888		$5,723.15		$1.98
Mount Vernon Regional	8 / 25 / 05	18		5,152		$8,686.35		$1.69
Vancouver Regional	9 / 13 / 05	22		5,715		$9,853.75		$1.72
Centralia Regional	9 / 14 / 05	8		2,246		$5,503.30		$2.45
Bellevue Regional	9 / 15 / 05	12		2,638		$5,861.90		$2.22
Moses Lake Regional	10 / 12 / 05	21		10,858		$15,293.90		$1.41
Okanogan Regional	10 / 18 / 05	13		4,237		$8,148.10		$1.92
Chelan Regional	10 / 19 / 05	17		6,158		$10,425.15		$1.69
Orondo Regional	10 / 20 / 05	16		4,818		$8,798.15		$1.83
Yakima Regional	5/22-23/06	69		37,291		$49,994.09		$1.34
Wenatchee Regional	5/24-25/06	48		22,746		$30,265.63		$1.33
Puyallup Regional	6 / 27 / 06	31		13,087		$17,112.85		$1.31
Regional total FY 2006	**15 events**		**315**		**130,714**		**$201,197.82**	**$1.54**
Yakima Special Site	10 / 11 / 05	10		12,436		$17,444.30		$1.40
Chelan County Special Site	10 / 17 / 05	10		2,294		$2,706.20		$1.18
Grayland Special Site	12 / 6 / 05	3		3,864		$6,099.45		$1.58
Yakima Special Site	12 / 28 / 05	5		2,063		$2,998.80		$1.45
Pullman Special Site	6 / 22 / 06	3		800		$1,933.75		$2.42
Special site total FY 2006	**5 events**		**31**		**21,457**		**$31,182.50**	**$1.45**
Total FY 2006	20 events	346		152,171		$232,380.32		$1.53

The average amount collected per customer during fiscal year 2006 is approximately **440** pounds.
Since the program began in 1988 through June 2006, it has collected and properly disposed of **1,864,241** pounds of pesticides from **5,669** customers.
The average amount collected per customer for the entire program (1988 - June 2006) is approximately **329** pounds.

The Washington State Patrol

The Fire Protection Bureau uses funds from the State Toxics Control Account to prepare firefighters in Washington State who respond to incidents involving hazardous materials.

The State Patrol Fire Protection Bureau's mission is to provide the means for firefighters to receive live-fire training that meets or exceeds the minimum standards required by federal and state regulations governing firefighter training. Additionally, firefighters are provided with the technical knowledge and training needed to recognize and contain hazardous material incidents which threaten our citizens and environment. The training firefighters receive reduces risk to both the firefighter and the property they protect. Funds received from the State Toxics Control Account are dedicated to the delivery of live-fire training in several of the following areas:

Waste Management

Funds from the State Toxics Control Account are utilized to provide for the removal, transportation and disposal of hazardous waste products manufactured as a result of live fire training and for the treatment of contaminated waste water from the aircraft rescue training.

Hazardous Materials Training

The Hazardous Materials Training program is designed to include academic and hands-on training for first responders to meet the current Washington Industrial Safety and Health Act, Occupational Safety and Health Administration, Department of Transportation, and National Fire Protection Association requirements. In addition, the training is an invaluable tool in providing practical scenarios for those personnel that respond to clandestine drug labs, terrorism, weapons of mass destruction, confined space rescue, spills response, and issues relating to the transportation of hazardous chemicals and waste.

Required Training

The need and impact of specialized hazardous materials training continues to be significant in our state. The Washington Industrial Safety and Health Act standards place requirements for training on emergency responders. Initial training and retraining is mandated for firefighters who respond to hazardous materials incidents. The State Toxics Control Account is the most significant source of funding for hazardous materials training in the state. Without this continued support the Washington State Patrol's Hazardous Materials Program will not be able to meet the mandated training requirements for the state's 25,000 firefighters.

Additionally, the frequency is increasing for the transportation of hazardous chemicals and other environmental conditions promoting chemical disasters. Firefighters need specialized training in hazardous materials in order to safely handle these life-threatening incidents.

Flammable Liquids

- Level 1 provides firefighters with the basic knowledge necessary to identify, control, and recover various flammable liquid emergencies. Instruction includes the behavior of flammable liquids in bulk, fire extinguishing agents, safety, and environmental concerns. Students practice their skills while extinguishing a live, flammable liquid fire on an overturned tanker.
- Level 2 provides additional tactical and fire-ground training and experience with problems involving flammable liquids, including handling a team leader position during a flammable liquid casualty.

The course provides live fire training using a simulated fuel-loading dock, fuel under pressure (broken flange), and a bulk fuel storage container.

Liquid Petroleum Gas

Students learn the basic property of liquid petroleum gas, issues surrounding liquid petroleum gas powered vehicle fuel systems and storage tanks, and their built-in safety features, leak detection, product identification, and basic tactics for emergencies. Students practice attacking, controlling, and recovering liquid petroleum gas fires on a simulated storage tank, overhead piping, and a fill station.

Students gain experience in fire-ground problems using standard stored pressure water extinguishers, stored pressure foam extinguishers, cartridge-operated dry chemical extinguishers, and carbon dioxide extinguishers.

Airport Rescue Firefighting

This unique training prop was constructed to provide hands-on live firefighting training for aircraft incidents. This training experience enhances the public safety of all flight operations in and out of airports in the state.

Marine Firefighting

This program is designed to include academic and live hands-on firefighting for those personnel working within the marine industry.

The training is designed to meet the current Code of Federal Regulations, National Fire Protection Association and International Maritime Organization requirements. In addition, several governmental agencies participate in this program including the U.S Coast Guard and Army.

PART 2 – LOCAL TOXICS CONTROL ACCOUNT

Department of Revenue

The Department of Revenue oversees the collection of the Hazardous Substance Tax.

Department of Ecology Programs funded by the Local Toxics Control Account, are shown in Table 6 and Figure 14.

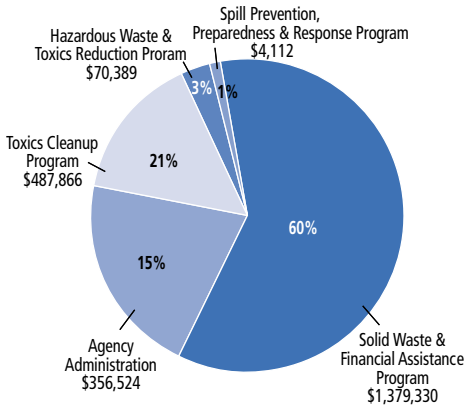
Revenue	Total
Hazardous Substance Tax in FY 06	$ 55,526,967

Department of Ecology

Table 6: Local Toxics Control Account Expenditure

Expenditures - Ecology	
Toxics Cleanup Program	$ 487,866
Hazardous Waste & Toxics Reduction Program	$ 70,389
Agency Administration	$ 356,524
Solid Waste & Financial Assistance Program	$ 1,379,330
Spill Prevention, Preparedness & Response	$ 4,112
Total Expenditures	**$ 2,298,221**

Figure 14: Local Toxics Control Account Expenditures



Total Expenditures $2,298,221

In recognition of the impact that Area-Wide soil contamination may have on historic orchard land in Central Washington, staff began investigating child-use areas for lead and arsenic contamination in 2002. The Wenatchee Valley was identified as a priority area based on its high number of schools currently located on historic orchard land.

Four Wenatchee schools, Lewis and Clark Elementary, Lincoln Elementary, Washington Elementary, and West Side High School were selected for remediation based on having concentrations of lead and arsenic in excess of state cleanup standards.

In the summer of 2006, staff began implementing a remediation strategy designed to significantly reduce or eliminate the risk of negative health effects caused by exposure to lead and arsenic in soil. This strategy was based around the use of two key technologies, X-ray fluorescence and deep soil mixing, to complete remediation activities in a timely and cost effective manner. The Wenatchee area was an ideal location to test the strategy based on the extremely close proximity of the schools.

X-ray fluorescence allows for rapid but accurate in-situ soil analysis. With the use of this technology, staff was able to provide contractors with exact 3-dimensional coordinates for soil removal and deep mixing. Deep soil mixing allows higher concentration surface soils to be blended with low concentration deep soils to minimize surface exposure. When used appropriately, a combination of X-ray fluorescence and deep soil mixing can reduce disposal and workload costs by maximizing efficiency and minimizing over-excavation. Results of pre- and post-mix soil testing proved the effectiveness and economic value of these technologies.

Bryan Visscher, Wenatchee School District was "impressed by the amount of high quality work that was completed over a small time frame." He went on to say that "not only are the soils cleaner, but we also have better play and athletic fields. The fields are now more manageable and maintainable. All expectations were met. Overall, working with Ecology was a great experience".

Program Support

Hazardous Waste & Toxics Reduction Program

Technical assistance is provided by program staff to the public and other state agencies. A valuable resource in assistance is Ecology's web site and the fertilizer database that is available from the web site.

In fiscal year 2006, Program staff reviewed 368 fertilizer product registration applications. This review is necessary in order that all fertilizers meet the standards required by the Department of Agriculture. In addition, fertilizer companies that contain waste materials must also meet compliance standards set by Ecology.

Agency Administrative Support

Administrative Services relies on funds from the Local Toxics Control Account to provide Ecology programs with services such as facilities, personnel, payroll, financial, computer, and information.

Toxics Cleanup Program

Staff from the Toxics Cleanup Program oversee and provide technical assistance to local governments that receive remedial action grants from the Department of Ecology.

Solid Waste & Financial Assistance Program

The Solid Waste & Financial Assistance Program administers the grant programs that receive funding from the Local Toxics Control Account. Local governments may use grants to cleanup contaminated sites, manage solid and hazardous waste, or provide drinking water to those whose wells have been contaminated as a result of a contaminated site. Grants are offered to not-for-profit organizations and citizen groups for participation in cleanup actions and promotion of waste management priorities.

> *Our mission is to reduce both the amount and the effects of wastes generated in Washington State. We do this by providing funds to local governments for carrying out the state's solid and hazardous waste management priorities and for cleaning up contaminated waste sites.* Cullen Stephenson, Solid Waste and Financial Assistance Program Manager - Department of Ecology

Local Government Grant Program

Public Participation Grants

Under the Model Toxics Control Act, chapter 170.105D RCW, the law provides for a Public Participation Grants program. These grants make it easier for people (groups of three or more unrelated individuals or not-for-profit public interest organizations) to be involved in two types of waste grant issues:

- Cleaning up hazardous waste sites.
- Carrying out the state's solid and hazardous waste management priorities.

Public Participation Grant projects motivate people to change their behavior and take action that will improve the environment. These projects create awareness of the causes and the costs of pollution. They provide strategies and methods for solving environmental problems. This highly competitive program applies strict criteria to applications, awarding grants to projects that prevent pollution and produce measurable benefits to the environment.

Staff approve grants for either one or two year periods. Grants for cleaning up hazardous waste sites are automatically written for a two year duration. Grants for carrying out pollution prevention education and technical assistance may be written for one or two years. The most a grant recipient may receive for a one-year grant is $60,000; a two-year grant recipient may receive up to $120,000.

Since 1989, Ecology has given almost $6.5 million in public participation grants to support the work of not-for-profit and community groups.

For the July 1, 2005, through June 30, 2006 fiscal year, Ecology awarded 31 Public Participation Grants totaling $1,211,541. These funds provided 16 grants for citizen involvement in the cleanup of hazardous waste sites and 15 grants for education and activities related to carrying out solid and hazardous waste pollution prevention education and management priorities. Waste management priorities for the state identified in the 2004 Beyond Waste Plan are:

- Reducing the use of toxic substances.
- Decreasing waste generation.
- Increasing recycling.
- Managing, properly, any wastes that remain.

Several of the projects receiving grants during fiscal year 2006 are consistent with the goals of the Beyond Waste Plan and help create the kinds of partnerships needed in order for Ecology to achieve the Beyond Waste Vision in Washington State.

See Appendix A for a list of grant recipients and Appendix B for the purpose of grants funding.

Clark County Master Composter Program

Clark County Master Composter/Recycler program trains about 15 new citizens per year and has about 65 active volunteers. Depicted here is a group of trainees learning how to assemble a worm bin used to compost food scraps. In return for their training, volunteers, assist the county with community education and outreach, such as staffing the county booth (depicted here) at fairs and other local events. Through workshops and events, volunteers reach approximately 3500 citizens per year.

Clark County Master Composter Worm Composting

Coordinated Prevention Grants

Local governments use Coordinated Prevention Grants to reduce waste, protect human health and prevent pollution from improper management or disposal of solid and hazardous waste. Local solid waste planning authorities and jurisdictional health departments and districts apply in the fall of odd numbered years. Ecology awards funds only to projects that have defined, numeric outcomes.

Coordinated Prevention Grants achieve environmental outcomes:

Coordinated Prevention Grant projects provide many benefits to Washington's citizens such as:

- Protecting human health by removing hazardous wastes from being stored or disposed improperly and polluting citizens' homes and Washington's ground water. Local governments, through hazardous waste collection facilities and events, collected approximately 18,775 tons of hazardous waste from citizens and small businesses.
- Funding local solid waste enforcement programs, which includes inspecting solid waste facilities and enforcing solid waste facility rules. This provides local oversight of 665 solid waste facilities, 8,500 inspections, and response to over 15,000 illegal dump and illegal storage complaints.
- Supporting local recycling programs which are the key behind Washington's recycling rate---one of the nation's highest. This funding program played a pivotal role in financing the local programs that now collect 7.3 million tons of materials for recycling or reuse. In 2004 and 2005, coordinated prevention grants funded local programs that collected 355,000 tons of organic materials and recyclables, or 16 percent of the residential recyclables collected in Washington State.
- Promoting energy and resource conservation through recycling, composting, green building, promotion of less toxic alternatives and other initiatives. These projects decrease air-borne toxins and carcinogens from energy production, as well as limiting greenhouse gas emissions.

Categories of projects that Ecology typically funds include:

Organics: Local governments are helping communities reduce the waste of organic materials. Many local governments are building regional composting facilities, setting up commercial and residential food waste collection programs, and offering yard waste chipping options. Some offer discounts on mulching mowers. Many are educating citizens on the options to reduce waste, such as home composting and planting native plants.

Green Building: Local governments are encouraging the building of high performance "green" buildings. They educate builders and give public recognition to those who build green. Local government programs also help builders reuse materials and construct demonstration green buildings.

Waste Reduction and Recycling: Local governments provide residential and commercial recycling, technical help to businesses, recycling collection events, education programs, on-site waste audits and recycling drop off locations. These actions raise Washington's recycling rate.

Whatcom County EnviroStars

EnviroStars is a business recognition program to promote hazardous waste reduction and proper hazardous waste disposal in local businesses. Whatcom County cooperatively participates in this program with four other counties: King, Pierce, Kitsap and Jefferson.

Paul Loomis, owner of Humboldt Automotive discusses the benefits of the B.G. coolant recycling machine with EnviroStars representative Alice Cords. The machine allows him to recycle automotive antifreeze right at the car in a three step process, decreasing the amount of waste generated by his business.

Stevens County Hazardous Waste collection

Steven's County landfill operates a hazardous waste collection facility that collects business and residential hazardous waste on Saturday's or by appointment. Annually, they collect 110 tons of material from 500 residential customers and 78 businesses. This keeps hazardous materials from being improperly disposed and out of Washington State's ground and drinking water.

Hazardous Waste: Local governments help businesses and residents properly dispose of hazardous waste by building and running hazardous waste collection facilities, and conducting special collection events. They also help small businesses properly manage their wastes, use less toxic chemicals, and safely handle problem wastes such as electronics and mercury.

Solid and Hazardous Waste Planning: Local governments work in cooperation with public officials, local solid waste advisory committees and the public to develop plans for their communities that outline effective approaches to reduce their solid and hazardous wastes.

Solid Waste Enforcement: Local governments enforce solid waste laws and local ordinances. They enforce these by permitting and inspecting facilities, responding to complaints about illegal dumping and waste storage, and by issuing citations.

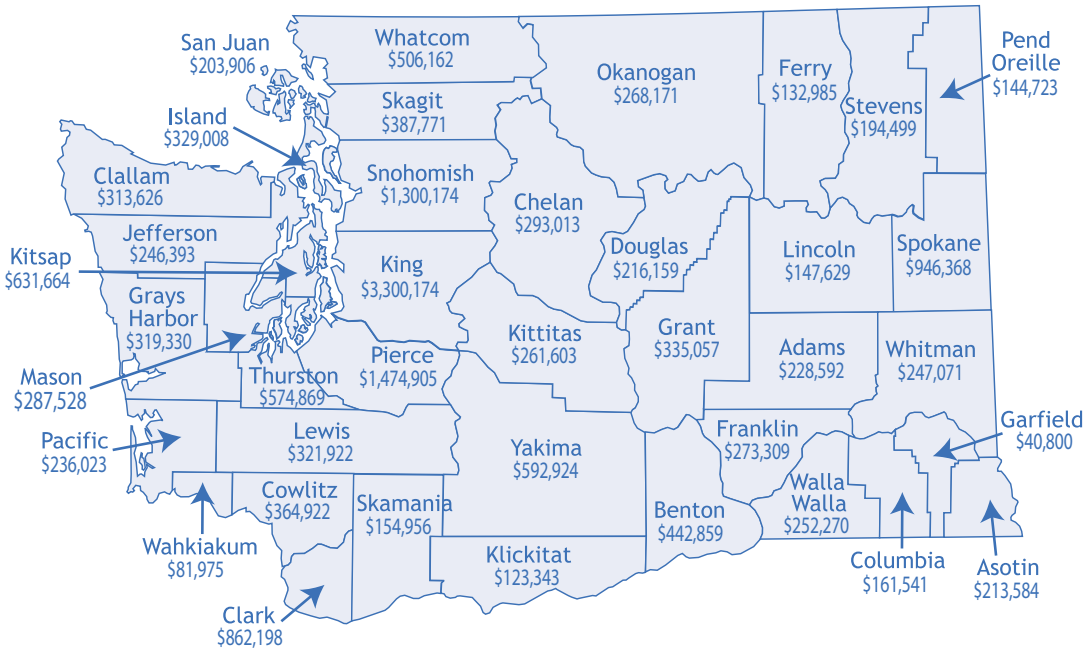
The current Coordinated Prevention Grant cycle began January 1, 2006, and will end December 31, 2007. For the 2006-2007 cycle the program was allocated $22.2 million. This included a $4 million special legislative appropriation to implement the state Beyond Waste plan. Ecology awarded 115 grants to Washington counties, cities, and health agencies totaling $17,392,579 during the regular cycle. The additional $4.8 million will be awarded as part of a competitive, 2007-2008 "off-set" cycle that runs from January 1, 2007 to December 31, 2008.

Table 7: Category of grants awarded

Category	Regular cycle
Organics (agricultural, yard and food waste)	**$1,174,114**
Green Building (energy efficient, low-toxicity)	**$77,250**
Residential Waste Reduction and Recycling	**$3,745,505**
Commercial Waste Reduction and Recycling	**$976,361**
Solid Waste Enforcement	**$2,994,429**
Moderate Risk Waste	**$7,981,551**
Other	**$443,369**
Total	**$17,392,579**

Please view the map in Figure 15 for the distribution of these allocations by county.

Figure 15: 05-07 Coordinated Prevention Grant awards by County March 15, 2007



Remedial Action Grants

The administrative and accounting functions of the Remedial Action Grants program are administered by the Solid Waste and Financial Assistance Program. Based on site cleanup criteria and decisions made by the Toxics Cleanup Program, staff awards grants to local governments to cleanup publicly owned contaminated sites and related work.

Approximately $70.9 million in funds were awarded for local government grants during the period July 1, 2005, through June 30, 2007. The legislature appropriates money to Ecology for a two-year period. The Department of Ecology awarded $44.4 million in Fiscal Year 2006.

Categories of Remedial Action Grants

When local governments have to clean up contaminated sites, the Department of Ecology offers remedial action grants to encourage and expedite cleanup activity. These grants lessen the impact of the cost of a cleanup by local government for rate payers and taxpayers.

Local government projects that are typically funded through an award of money from Ecology include the following categories of grants:

- **Oversight Remedial Actions:** These grants are awarded to local governments that conduct the study and cleanup of hazardous wastes sites. To be eligible for these grants, a local government needs to be a potentially liable person or owns a site, but is not a potentially liable person, or the local government seeks to facilitate an area-wide ground water cleanup.
- **Site Hazard Assessment:** These grants are provided to local health departments or districts that seek to assess the degree of contamination at a suspected hazardous waste site that is within the local health department's or district's jurisdiction.
- **Safe Drinking Water Actions:** These grants provide financial assistance to a local government that wants to apply on behalf of a purveyor to provide safe drinking water to areas where a hazardous substance has contaminated drinking water.
- **Area-Wide Ground Water Contamination:** These grants are used to provide financial assistance to local governments that seek to clean up and redevelop property within the local government's jurisdiction. Generally, these grants are provided for ground water cleanups where contamination results from hazardous substances from multiple sources.
- **Independent Remedial Actions:** These grants are used to offset some of the expenses of local governments where a voluntary cleanup was conducted by the local government under Ecology's Voluntary Cleanup Program.
- **Methamphetamine Labs:** This category is for funding local government's initial investigation and assessment of suspected methamphetamine laboratories and oversight of the cleanup activities within local government's jurisdiction.
- **Derelict Ships:** Funding under these grants is available to local governments that seek to remove and dispose of hazardous substances from derelict and abandoned vessels.

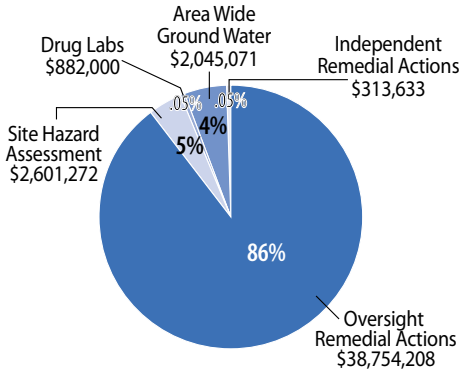
See Appendix C for a list of awards in Fiscal Year 2006. See Figure 16 for the distribution of awards by category of remedial action grant.

Each year, Ecology provides millions of dollars in grants to local governments to help pay for the cost of site cleanup. Grants are also available for local citizen groups and neighborhoods affected by contaminated sites, in order to provide public review of a cleanup.

Table 7: Grants Awarded in FY06

Grants	Awarded FY-06
Oversight Remedial Actions	$38,754,208
Site Hazard Assessment	2,601,272
Area Wide Ground Water	2,045,071
Independent Remedial Actions	313,633
Drug Labs	882,000
Derelict Ships	-0-
TOTAL	**$44,596,184**

Figure 16: Categories of Remedial Action Grants



44,596,184
Total Grants Awarded in FY-06

Appendix A
Public Participation Grants - Fiscal Year 2006

Recipient	Grant Number	Total Project	LTCA	STCA
Automotive Recyclers of WA	G0600006	20,500		20,500
Bellingham Bay Foundation	G0600370	20,000	20,000	
Brackett's Landing Foundation	G0600097	60,000	60,000	
Center for Justice	G0600285	39,000	39,000	
Citizens for a Healthy Bay	G0600015	44,000	44,000	
Columbia Riverkeeper	G0600148	75,000	75,000	
Economic Development Council of Snohomish Co for Sustainable Development	G0600127	45,000		45,000
EcoSolutions	G0600305	43,000	43,000	
Environmental Information Cooperative	G0600007	9,000	9,000	
Far West Agribusiness Association	G0600280	45,000	45,000	
Georgetown CP&C Council	G0600110	75,000	75,000	
Heart of America Northwest	G0600275	85,000	85,000	
Lake Roosevelt Forum	G0600009	35,000		35,000
Lands Council The	G0600003	40,000		40,000
Methow Recycles	G0600047	15,500	15,500	
NW Renewable Energy Festival	G0600002	47,741		47,741
Olympia Master Builders	G0600132	72,000	72,000	
Olympic Environmental Council	G0600011	30,000		30,000
Pacific Rivers Info Network / Protection League	G0600052	28,000	28,000	
People for Puget Sound	G0600010	80,000		80,000
Puget Soundkeeper Alliance	G0600013	33,000	33,000	
RE Sources for Sustainable Communities	G0600005	30,000		30,000
Skykomish Environmental Coalition	G0600269	46,000		46,000
South Sound Services	G0600334	20,000	20,000	
Spokane Neighborhood Action Program	G0600008	35,000		35,000
The Columbia Gorge Ecology Institute	G0600016	27,800	27,800	
WA Child Resource & Referral Network	G0700091	8,000	8,000	
Wa Citizens Advisory Committee	G0600018	20,000	20,000	
WA Physicians/Social Responsibility	G0600014	25,000	25,000	
WA Toxics Coalition	G0600001	45,000		45,000
Walla Walla Resource Conservation Committee	G0600004	13,000		13,000
Total Public Participation Grants		**$1,211,541**	**$691,300**	**$409,241**

Appendix B
Public Participation Grants Fiscal Year 2006

Beyond Waste Goal: Reducing Small-volume Hazardous Materials and Wastes:
To eliminate the risks associated with products containing hazardous substances.

- **Washington Toxics Coalition** – Provide the educational tools to increase awareness of the dangers of pesticides and hazardous household cleaning products and know that there are options to using these products. Expand the Pesticide Free Zone campaign, improve the Toxics Hotline, and broaden their website services. (Grant # G0600001)

- **Walla Walla Resource Conservation Committee** – Educate the public on ways to reduce, reuse, and recycle; and sponsor electronics (computer) recycling events in Walla Walla. (Grant # G0600004)

- **RE Sources for Sustainable Communities** – Provide education and outreach about computers as hazardous wastes; and establish a computer recycling program at the Bellingham RE Store. (Grant # G0600005)

- **Automotive Recyclers** – Provide vehicle recyclers statewide with free comprehensive cross-media hazardous waste, stormwater, and air emissions management inspections and technical assistance in order to reduce the release of hazardous substances. (Grant # G0600006)

- **Spokane Neighborhood Action Programs** – Increase the knowledge and practice of the "Living Green Program" among all residents through educating the communities with workshops, classes, and at-home parties, and training educators. (Grant # G0600008)

- **Puget Soundkeeper Alliance** – Through the involvement of the counties' EnviroStars program, promote reduction and proper management of hazardous wastes by outreach to marinas in Puget Sound. (Grant # G0600013)

- **Eco Solutions** – Provide education and outreach about the effects of toxic lawn and garden chemicals and emissions on human health and the environment in Kitsap County. (Grant # G0600305)

Beyond Waste Goal: Making Green Building Practices Mainstream – To eliminate construction and demolition waste, conserve and protect materials and resources, and reduce the use of hazardous materials and therefore exposure to toxins.

- **Economic Development Council of Snohomish County for Sustainable Development Task Force** – Educate communities, builders, developers and governing bodies about the benefits of sustainable building and assist in the development of a plan that promotes sustainable planning, design and construction. (Grant # G0600127)

- **Olympia Master Builders** – Promote construction using resource-efficient building practices. Educate builders on how to reduce construction waste, use energy-efficient building materials, and encourage participation in the Built Green program. (Grant # G0600132)

Beyond Waste Goal: Current Solid Waste System Issues – Projects related to strengthening the existing solid waste management system.

- **Olympic Environmental Council** – Community involvement in the cleanup of two landfills related to the Rayonier Mill cleanup site. (Grant # G0600011) (This is also listed under site cleanup grants for the Rayonier Mill site. The landfill component of the grant work is related to the Beyond Waste initiatives.)

- **The Columbia Gorge Ecology Institute** – Promote solid waste education, community sustainability and natural resource stewardship by implementing "The SECRETS" program in classrooms. (Grant # G0600016)

- **Methow Recycles** – Expand participation in recycling with Methow Recycles by educating businesses and residents about their recycling options and offer new avenues for recycling. (Grant # G0600047)

- **South Sound Services** – Effectively reach the senior and disabled populations who are not reached by current waste reduction and recycling education efforts. (Grant # G0600334)

Other Sustainability Focused Pollution Prevention / Education Projects

- **Northwest Renewable Energy Festival** – Establish a Sustainability Resource Center that provides free information, education, and workshops. Hold an annual festival which demonstrates emerging technologies to help reduce waste and conserve resources. (Grant # G0600002)

- **Environmental Information Cooperative** – Train educators in special stream pollution identification and pollution prevention and incorporate new knowledge into classroom curriculum, expanding participating schools to 6 schools and 17 classes. (Grant # G0600007)

- **WA Childcare Resource & Referral Network** – Provide outreach and education to childcare providers on the Safe Soil Program related to the hazardous outfall materials from the Tacoma Smelter. (Grant # G0700091)

- **Far West Agribusiness Association** – Increase recycling of pesticide containers through education and outreach to the commercial pesticide users. (Grant # G0600280)

Citizen Involvement in Hazardous Waste Site Cleanups

- **The Lands Council** – Education and outreach to low-income families (Eastern European, Asian, and Tribal communities) and the general public about possible health risk factors associated with exposure to contaminants while recreating on beaches and fishing waters of the Spokane River. (Grant # G0600003)

- **Lake Roosevelt Forum** – Provide meetings, workshops, conferences and tours for citizens surrounding Lake Roosevelt to increase their understanding of the remedial investigation and feasibility study being conducted by USEPA. (Grant # G0600009)

- **People for Puget Sound** – Continue to educate the neighborhoods about the Duwamish River on the progress of the river's cleanup, and encourage involvement by these residents. (Grant # G0600010)

- **Olympic Environmental Council** – Continue to educate the residents of Port Angeles about the cleanup process of the Rayonier Mill site and two associated landfills, and encourage their involvement in voicing community values to be incorporated into the final cleanup decisions. (Grant # G0600011)

- **WA Physicians for Social Responsibility** – Provide the educational tools that explain the human and environmental history of Hanford and the challenge of cleaning up its burden of radioactive waste, and encourage citizens to become participants in decisions about the Hanford cleanup. (Grant # G0600014)

- **Citizens for a Healthy Bay** – Protect the post-Superfund health of Commencement Bay, surrounding waters and habitat through education, hands-on citizen and school involvement, and by initiating sustainable practices. (Grant # G0600015)

- **Pacific Rivers Protection League** – Provide information about the Hanford Tank cleanup activities with interested organizations and schools to encourage public interest and support. Will take a traveling road show to schools and will develop new learning packages for school districts. (Grant # G0600052)

- **Brackett's Landing Foundation** – Continue to monitor the progress of the cleanup of the UNOCAL site. Educate the community about the status and progress of the UNOCAL cleanup site. (Grant # G0600097)

- **Georgetown Community Council** – Provide informational meetings and workshops for the community about the cleanup process of the Phillip Services Corporation site. (Grant # G0600110)

- **Columbia Riverkeeper** – Educate and motivate the public to become active participants in the Hanford cleanup process. Focus will be on risk assessments for the River Corridor and the 200 area, appropriate cleanup for the 300 area, waste sites assured to have comprehensive assessments on waste streams, and tank waste EIS is tracked to assure protection of groundwater and the Columbia River. (Grant # G0600148)

- **Skykomish Environmental Coalition** – Continue to provide information to the community and encourage their involvement in decision-making processes to cleanup the old BNSF refueling and maintenance site in Skykomish. Excavation of the Levee Area and the river will be the first steps in the cleanup of the site. (Grant # G0600269)

- **Heart of America** – Ensure public values are heard and incorporated into the decision-making process for the cleanup of the Hanford site. (Grant # G0600269)

- **Center for Justice** – Engage the community in the Spokane River cleanup process by using the media to focus attention on the river cleanup. (Grant # G0600285)

- **Bellingham Bay Foundation** – Provide education and outreach on the cleanup of Whatcom Waterway. (Grant # G0600370)

Appendix C
Remedial Action Grants - Fiscal Year 2006

Recipient	Grant Number	Total Project Cost	Local Toxics Control Account Amount
Oversight Remedial Actions			
Chelan County Public Works	G0600276	561,302.00	280,651
City of Tacoma-Thea Foss In-Waterway	G0600086	26,640,000.00	13,320,000
City of Warden-Safe Drinking Water	G0600242	2,000,000.00	1,000,000
Kitsap County Public Works-Hansville Landfill	G0600048	196,750.00	98,375.00
Lewis County	G0600096	3,501,400.00	1,750,700
Port of Olympia	G0600051	4,773,500.00	2,386,750.00
Port of Ridgefield (grant)	G0600025	7,800,000.00	7,800,000.00
Port of Ridgefield (loan)	L0600001	4,200,000.00	4,200,000.00
Port of Seattle	G0600259	10,613,300.00	5,306,650
Port of Vancouver-Swan Manufacturing site	G0600237	2,800,000.00	1,400,000
Sunnyside Valley Irrigation District	G0600377	250,000.00	187,500
Subtotal			**$37,730,626**
Amendments to Previous Year Grants			1,023,582
Total			**$38,754,208**
Site Hazard Assessments			
Chelan-Douglas Health Dist	G0600078	44,900	44,900
Clark County Health Dept	G0600079	203,163	203,163
Island County Health Dept	G0600073	87,400	87,400
Kitsap County Health Dist	G0600075	195,738	195,738
Lewis County Public Health & Social Services	G0600080	95,772	95,772
Seattle-King County Public Health	G0600101	674,764	674,764
Skagit County Health Department	G0600102	44,200	44,200
Snohomish Health Dist	G0600077	193,000	193,000
Spokane Regional Health Dist	G0600072	75,000	75,000
Tacoma-Pierce Co Health Dept	G0600100	650,269	650,269
Thurston County Public Health & Social Services	G0600074	209,566	209,566
Whatcom County Health Dept	G0600076	127,500	127,500
Total			**$2,601,272**
Area Wide Ground Water Contamination			
Seattle-King County Public Health	G0600126	1,065,297	1,065,297
Amendment to Previous Year Grants-Tacoma Pierce County	G0100077	979,774	979,774
Total			**$2,045,071**
Drug Labs			
Chelan-Douglas Health Dist	G0600078	15,000	15,000
Clark County Health Dept	G0600079	20,000	20,000
Grays Harbor Public Services	G0600065	15,000	15,000
Island County Health Dept	G0600073	7,500	7,500
Kitsap County Health Dist	G0600075	45,000	45,000
Lewis County Public Health & Social Services	G0600080	20,000	20,000
Seattle-King County Public Health	G0600101	225,000	225,000
Skagit County Health Department	G0600102	12,000	12,000
Snohomish Health Dist	G0600077	152,500	152,500
Spokane Regional Health Dist	G0600072	50,000	50,000
Tacoma-Pierce County Health Dept	G0600100	250,000	250,000
Thurston County Public Health & Social Services	G0600074	50,000	50,000
Whatcom County Health Dept	G0600076	20,000	20,000
Total			**$882,000**
Independent Remedial Actions			
City of Arlington	G0600284	75,866	37,933
City of Port Orchard-900 Mitchell Ave site	G0600019	154,608	77,304
City of Vancouver	G0600106	209,832	104,916
Kitsap Transit-YMCA Building	G0600017	186,960	93,480
Total			**$313,633**
Total Remedial Action Grants - FY 2006		**69,491,861**	**$44,596,184**
Ongoing Remedial Action Grants - Previous Years			**$68,299,906**
Ongoing Remedial Action Grants - FY 2007			**$1,525,723**
Total Remedial Action Grants			**$114,421,813**

The Beyond Waste Vision:

We can transition to a society where waste is viewed as inefficient, and where most wastes and toxic substances have been eliminated. This will contribute to economic, social and environmental vitality.

Contributing Authors:

Department of Ecology

- Plain Talk Reviewer - Mary Gaddy
- Editor - Trish Akana
  - Toxics Cleanup Program
    Valerie Bound
    Seth Preston
    Michael Spencer
  - Hazardous Waste and Toxics Reduction Program
    Allen Robbins
  - Environmental Assessment Program
    Gary Koshi
  - Nuclear Waste Program
    Brenda Becker-Khaleel
  - Program Administration
    Janis Moore
    Dawn Merryman
    Jessica Quintero
  - Spill Prevention, Preparedness and Response Program
    David Byers
  - Solid Waste and Financial Assistance Program
    Shelly McMurry
    Kathy Seel
    Diane Singer
    Xia Zhan
  - Water Quality Program
    Vince Chavez

Department of Health

Rob Duff
Milo Straus

Department of Agriculture

Julie Chess
Mary Beth Lang
Laurie Mauerman

Washington State Patrol

Mike Aboe

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Washington State Department of Ecology
Toxics Cleanup Program
P.O. Box 47600
Olympia, WA 98504-7600