Model Toxics Control Account

Fiscal Year 2005 Report

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Ecology Publication No. 05-09-095

Table of Contents

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 is July 1, 2003, through June 30, 2004. Specifically, this report will show:

- How much revenue was generated;
- Which state agencies received funding;
- What results were obtained by expenditures from the Toxics Control Accounts.

Message from the Director

I am pleased to present the Model Toxics Control Account report for fiscal year 2005, which describes what has taken place with Toxics Control Account funds.

The accomplishments over the past year are the result of commitments by several state agencies to environmental priorities, including pollution prevention, and protection and preservation of the environment. The information provided in this report describes in more detail the environmental programs carried out by the following agencies:

- The Department of Ecology, which operates programs that focus 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 conducts 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;
- The Washington State Patrol, which provides fire fighters with the training needed to respond to and eliminate hazardous-materials incidents.

These agencies are responsible for multiple partnerships – with each other, as well as with local governments, industry and communities. They work together to ensure and maintain a healthy environment and healthy people. As explained in this year's report, a collective strategy for protecting human health and the environment continues to include the reduction of toxic contaminants through better science, processes and the use of regulatory tools.

Included in this overview is information about the local governments and communities that received grants from the account for use in pollution prevention, hazardous-waste site cleanups, and educating and involving the public. We continue to build on our existing partnerships and expand our relationships with citizens as we work together to enhance Washington state's vitality.

Ecology and the other state agencies and local governments receiving Toxics Control Account funding are committed to keeping Washington clean and making this a healthy state in which to live, work and recreate.

We are working with you for a better Washington.

Jay J. Manning, Director
Washington State Department of Ecology

History of the Toxics Control Account

The Model Toxics Control Act became law in 1988 following voter's acceptance of Initiative 97.

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

- Raise sufficient funds to clean up all hazardous waste sites;
- Prevent the creation of future hazards due to improper disposal of toxics wastes; and
- 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. The State Toxics Control Account receives .37% (or $3.70) 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 .33% (or $3.30) of every $1,000 taxed. Whatever budget is provided to the Department is appropriated by the legislature through the biennial budget process.

The Hazardous Substance Tax

The Hazardous Substance Tax is a tax imposed on petroleum products, pesticides, and certain chemicals. The tax is calculated at a rate equal to seventy one-hundredths of one percent (0.70%) or $7 per $1,000 of the wholesale value of the hazardous substance. 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 is based on petroleum products.

State Toxics Control Account Revenue

Hazardous Substance Tax	$41,686,115
Mixed Waste Fees	$5,080,694
Cost Recovery	$3,057,766
Miscellaneous	$4,687
Voluntary Cleanup Program Fees	$408,475
Fines & Penalties	$59,716
Total Revenue	**$50,297,453**

State Toxics Control Account

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

- clean up contaminated sites;
- improve the management of hazardous wastes; and
- prevent future contamination from hazardous substances

In Fiscal Year 2005, 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 received revenue through the following sources:

- Cost Recovery: Ecology recovers its expenditures or obtains reimbursement for its costs of providing cleanup oversight and approval for the cleanup of contamination.
- Fines & Penalties: Ecology issues fines and penalties to liable parties who have not complied with the state's cleanup law.
- Technical Assistance Fees: Ecology reviews a liable party's planned and completed remedial actions under the voluntary cleanup program.
- Mixed Waste Fees: Ecology collects fees from facilities that manage mixed waste.

Starting on page 4, this report contains a brief narrative on each agency or program's accomplishments with funding provided by the State Toxics Control Account in fiscal year 2005. Details on how the funds were spent are provided.

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

1 **Money is continuously collected** by the Department of Revenue and deposited into the Toxics Control Account.

2 Every **August** of every **even year,** Ecology and other agencies present their budget requests in the Biennial Appropriations Request Report that is submitted to the Office of Financial Management.

3 In **December** of every **even year,** the governor releases his/her budget based on agency input and the governor's own preference.

4 In **January** of every **odd year,** the governor's budget is presented to the Legislature.

5 **The House and Senate review the governor's budget.** After reviewing the governor's budget, they both write and pass their own budgets. These budgets then go to a joint conference committee to have any differences between the two budgets resolved. Once a version of the budget is passed by both the House and Senate, it is presented to the governor for approval and signature. If the governor approves and signs the budget, it becomes law.

6 The **budget** is signed by the governor and becomes law.

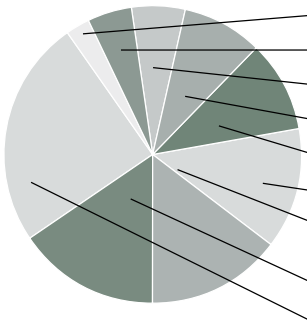
7 **July** of every **odd year** is the beginning of the new biennium. On this date, the agencies can start spending the money that was appropriated to them by the Legislature.

8 In **August** of every **even year,** the budget process starts all over again.

Table 1: State and Local Toxics Control Accounts Revenue and Expenditures - Fiscal Year 2005

Toxics Control Account Revenue	Local Toxics	State Toxics
Hazardous Substance Tax	47,089,558	41,686,115
Mixed Waste Fees		5,080,694
Cost Recovery		3,057,766
Miscellaneous		4,687
Voluntary Cleanup Program Fees		408,475
Fines & Penalties		59,716
Total Revenue	**47,089,558**	**50,297,453**
Ecology Expenditures		
Toxics Cleanup Program	585,682	9,147,813
Hazardous Waste & Toxics Reduction Program	104,985	5,295,104
Agency Administration, Facility, & Related Costs	388,382	4,013,526
Nuclear Waste Program		4,078,295
Solid Waste & Financial Assistance Program	1,405,880	1,992,752
Spill Prevention, Preparedness, & Response Program		3,491,436
Environmental Assessment Program		1,219,422
Water Quality Program		1,746,922
Total Ecology Expenditures	**2,484,929**	**30,985,270**
Other Agency Expenditures		
Agriculture		1,320,376
Health		1,327,863
State Patrol		190,819
Revenue		31,920
Total Other Agency Expenditures		**2,870,978**
Total All Agency Expenditures	**2,484,929**	**33,856,248**

Figure 2: State Toxics Control Account Expenditures



Program Name	$ Amount	Percent
Environmental Assessment	$1,219,422	4%
Water Quality	$1,746,922	5%
Solid Waste	$1,992,752	6%
Total Other Agencies	$2,870,978	8%
Spill Prevention	$3,491,436	10%
Agency Admin	$4,013,526	12%
Nuclear Waste	$4,078,295	12%
Hazardous Waste & Toxics Reduction Program	$5,295,104	16%
Toxics Cleanup Program	$9,147,813	27%

Total Revenue $33,856,248

Department of Ecology: Toxics Cleanup Program

Figure 3: Known and suspected contaminated sites (as of Sept. 30, 2005)

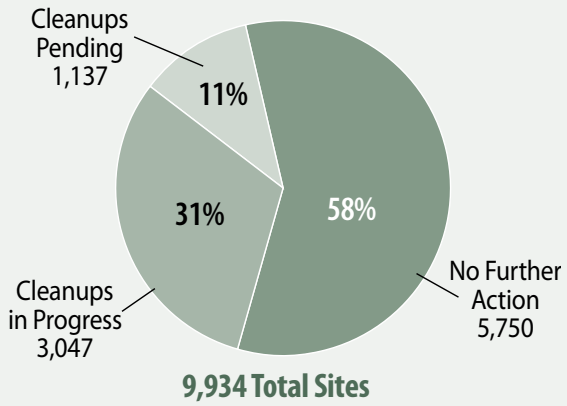


Table 2: Top 25 Cost Recovery Sites by Total Invoiced Amount for FY05

Site Name	Paid	Total
Occidental Chemical	Y	569,213.53
BNR-Skykomish Maintenance	Y	400,280.95
Scott Paper Mill-Anacortes	N	162,475.15
Spokane River	Y	115,000.00
Holden Mine	Y	108,864.39
Priceless Gas	N	96,631.33
Boeing Everett	Y	91,585.20
North Lake Union Sediment	N	82,524.58
BEI Philip Georgetown	Y	78,378.66
Cadet Manufacturing Company	N	73,184.69
Everett Smelter Ehappa	Y	65,867.80
Lehigh Portland Cement Co	Y	62,313.64
BNSF Oil Pipeline	Y	58,286.12
ITT Rayonier Pre-Payment	Y	55,513.76
Pacific Wood Treating	Y	51,225.63
Cornwall Avenue Landfill	Y	47,675.96
GE Aviation	Y	45,223.45
Evergreen Fuel Co	Y	44,874.76
Lower Duwamish Waterway	Y	43,762.21
Port of Seattle	Y	39,839.56
Briggs Nursery	Y	38,580.10
Boeing Plant 2	Y	37,836.80
Cameron Yakima Inc	N	35,944.38
Lilyblad Petroleum	Y	35,496.08
Little Squalicum Park	Y	34,538.00
Total		**2,475,116.73**

In Fiscal Year 2005, 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 2.

During Fiscal Year 2005, the Toxics Cleanup Program's budget from the State Toxics Control Account was distributed amongst 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; and
- Providing program support to staff that work on the above activities.

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

- underground storage tanks funded by a permit fee;
- brownfields and voluntary cleanup program development and administration funded by a grant; and
- the cleanup of a large number of federal facilities funded under cooperative agreements and grants.

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, clean up – 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 4 shows the decline in releases from underground storage tanks.

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 Toxic 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:

- the amount of contaminant(s);
- the type of contaminant(s); and
- 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 five hundred and sixty three (563) high-priority sites in the state of Washington.

- Three hundred and thirty seven (337) of these sites are undergoing a cleanup;
- one hundred thirty (130) sites have a cleanup action that is pending; and
- ninety-six (96) sites have received a "No Further Action" determination from Ecology.

There were five (5) high-priority (rank 0, 1, or 2) sites that were removed from the State's Hazardous Sites List in FY 05. See Table 3.

Hazardous Sites List

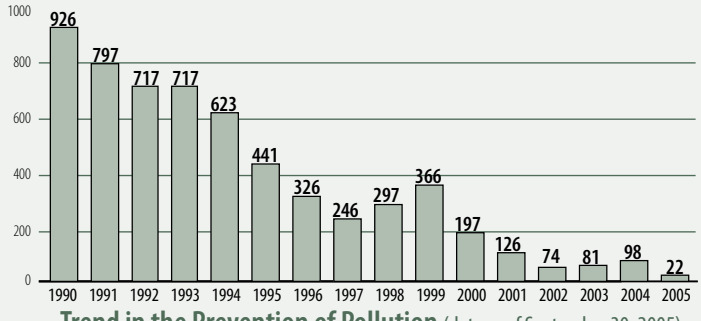
The Hazardous Sites List is a list of sites that have been assessed and ranked using the state's Washington Ranking Method. Sites are ranked on a scale of one to five, with one representing the highest level of concern and five the lowest. When ranking a site, the primary exposure routes (air, surface 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. The listing of sites on the Hazardous Sites List can be found at www.ecy.wa.gov/program/tcp/cleanup.html.

There were twelve (12) 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 2005. See Table 3. Figure 5 shows the upward trend in the cleanup of pollution in the State.

Table 3: Sites considered cleaned up and removed from the hazardous sites list during Fiscal Year 2005

Site Name	City	County	VCP	Priority
Able Pest Control Kenmore	Kenmore	King	N	2
Dukes Transmission & Used Cars	Renton	King	Y	5
General Disposal Corporation	Seattle	King	Y	5
Katco Sales	Kirkland	King	Y	5
Monarch Bullet	Rochester	Thurston	Y	1
Olympic Wood Products	Shelton	Mason	Y	5
Outlook School	Outlook	Yakima	N	3
Pioneer Potato Site	Ridgefield	Clark	Y	1
Reflex Recycling	Tacoma	Pierce	Y	3
Swant Property	Walla Walla	Walla Walla	Y	2
Unocal Service Station 4942	Wenatchee	Chelan	Y	2
WA Dept of Transportation	North Bend	King	Y	3

Figure 4: Number of releases from underground storage tanks



Trend in the Prevention of Pollution (data as of September 30, 2005)

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

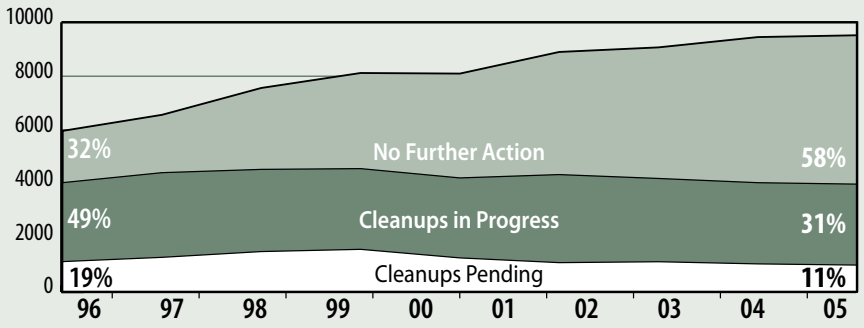
The Toxics Cleanup Program provided oversight or technical assistance at six hundred and eighty six (686) contaminated sites with a state ranking of 3, 4, or 5. The Program experienced a 30% increase in requests for assistance in the last fiscal year.

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

- Two hundred and fifty (250) of these sites were undergoing clean up;
- seventy nine (79) sites received a "No Further Action" determination from Ecology; and
- three hundred and fifty seven (357) sites were pending cleanup action.

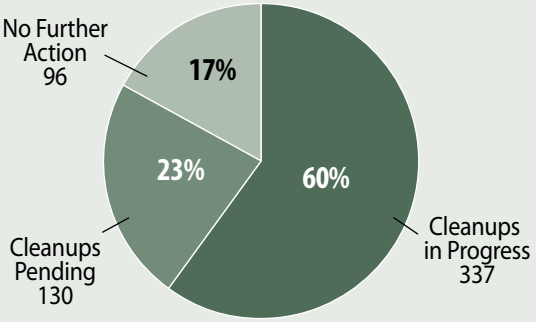
In Fiscal Year 2005, seven (7) lower-priority sites were removed from the Hazardous Sites list. See Table 3.

Figure 5: Cleanup progress



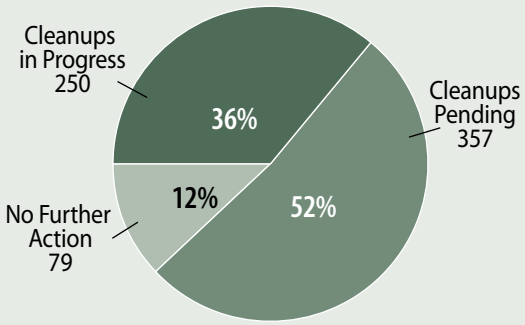
Trend in the Cleanup of Pollution (data as of September 30, 2005)

Figure 6: Status of Superfund & State Ranked 1 or 2 Sites (as of September 30, 2005



563 Total Sites

Figure 7: Status of State Ranked 3, 4 or 5 Sites (as of September 30, 2005)



686 Total Sites

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 2005, ten (10) of the twelve (12) high-priority sites that were removed from the Hazardous Sites List, were cleaned up under the Voluntary Cleanup Program. See Table 3.

A person may enter the Voluntary Cleanup Program by submitting a cleanup report to Ecology. For a fee, staff will review the report and provide a site determination, such as no further action or further action. Since October 1997, two thousand three hundred and twenty three (2,323) sites have entered the program (see Figure 8):

- One thousand three hundred and thirty four (1,334) sites received a no further action determination.
- Another nine hundred and eighty five (985) are in the review process.
- Only four (4) sites were pending cleanup on September 30, 2005.

Sediment Management Activities

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

- prevent contamination to sediments;
- clean up contamination at sediment sites; and
- 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.

Governor signs children's exposure law

by Marian Abbett, Southwest Regional Office
Toxics Cleanup Program – Department of Ecology

The outreach efforts and soil sampling service are important measures in protecting public health. In May 2005, Governor Gregoire signed the Soil Contamination – Children's Exposure bill into law. The law requires the Department of Ecology to identify and sample all schools and childcares within the Tacoma Smelter Plume. If contamination is found, then the Department and the local health departments will work with the school or childcare provider to put into place practices that help protect children from the soil contamination. The Department provides financial assistance to the local health departments to support a Soil Safety Program. The Program will include the development of educational brochures and measures that can be taken to reduce the risk of exposure.

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 2005, eighty-eight (83) site hazard assessments were completed:

- Of those, fifty one (51) new sites were added to the Hazardous Sites List.
- Twenty one (21) sites were referred to the Voluntary Cleanup Program following completion of the site hazard assessment.
- The remaining eleven (11) sites received a "No Further Action" determination from Ecology.

Program Support

There are many individuals working behind the scenes to get sites cleaned up. A number of employees provide administrative and operational support to the Toxics Cleanup Program. Positions include computer specialists, budget analysts, planning and development experts, policy advisors, public involvement officers, attorneys, and administrative personnel. All of these positions are funded in whole or in part by money from the State Toxics Control Account. Some support costs, known as overhead, are recovered from liable parties.

Redevelopment of Thea Foss Waterway in Tacoma

by Marv Coleman – Southwest Regional Office
Toxics Cleanup Program – Department of Ecology

In 1993 the Department of Ecology entered in a consent decree with the City of Tacoma and the Metropolitan Park District (now called Foss Waterway Development Authority) to clean up hazardous waste on properties purchased by the City along the Thea Foss Waterway. To date, several industrial properties along the Thea Foss Waterway have been cleaned up and redeveloped. Redevelopment in earlier years has resulted in the building of the Chihuly Museum of Glass; Albers Mill Condo/Apartment complex; Thea's Landing Condos (including shops, dining, and cocktail businesses); a public park and small boat launch; and the Esplanade, a public access walking and viewing area that goes along the length of the waterway. Marinas are being upgraded on both sides of the waterway, as well. In 2005, administrative processes were undertaken to move along the redevelopment on sites that were nearing completion of cleanup activity.

One of the biggest achievements in 2005 would not have been possible had it not been for the cleanup and redevelopment of the Dock Street area. The international Tallships Festival was held in June and July, 2005, and attracted approximately one million people to the area---that a few years earlier was inhabited only by homeless people and substance abusers. The Festival proved that abandoned industrial property can be cleaned up and redeveloped into "people places" for public enjoyment.

Contracts Budget from the State Toxics Control Account

Clean Sites Initiative

In Fiscal Year 2005, Ecology's cleanup funding was distributed amongst several public works projects at high priority sites. The appropriation of $2.5 million from the State Toxics Control Account was intended to clean up contaminated sites where the party responsible for the cleanup is either unwilling or unable to pay the costs of removing contamination. In this second year of the 03-05 biennium, the Toxics Cleanup Program contracted with environmental consulting firms to continue or start remedial action at more than half a dozen high priority sites. By contracting for the cleanup of contaminated sites with funds from the State Toxics Control Account, Ecology is able to prevent any exposure of contaminants to human health and the environment, one of Ecology's top management priorities.

Area-wide Soil Contamination Initiative

Soil in large areas of Washington State is contaminated with low-to-moderate levels of arsenic and lead. The source of this contamination has been caused by a range of historical activities including air-borne 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 may contain elevated levels of arsenic and lead that have been caused by past releases. 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.

The Departments of Agriculture, Ecology, 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 for meeting those challenges.

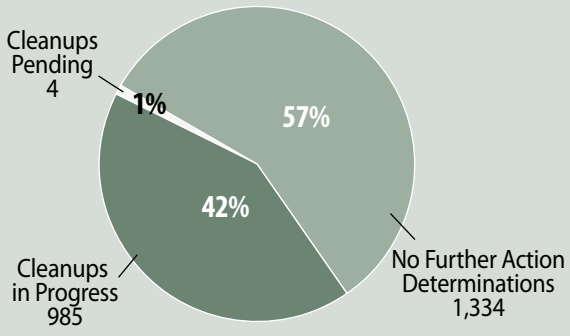
During fiscal year 2005, Ecology collaborated with other state and local agencies to implement the Task Force's recommendations:

- Reduce exposures at schools and child care facilities;
- Improve public awareness of area-wide soil contamination concerns and solutions;
- Integrate addressing area-wide soil contamination with local land use planning and permitting processes; and
- Explore institutional changes to improve responses to area-wide soil contamination problems.

The agencies are currently focusing on areas with the highest potential for elevated levels of arsenic and lead (e.g. King, Pierce, Chelan/Douglas, Yakima and Spokane counties) and properties where young children are likely to be present on a regular basis (e.g. schools, child care facilities, neighborhoods, parks).

Tall Ships Festival - 2005

Figure 8: Status of Sites under the Voluntary Cleanup Program (as of September 30, 2005



2,323 Total Sites

Department of Ecology: Hazardous Waste and Toxics Reduction Program

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

- foster sustainability,
- prevent pollution, and
- 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.

Wondrack site in Ellensburg

Contaminated property and the Voluntary Cleanup Program

by Dick Bassett, Central Regional Office Toxics Cleanup Program – Department of Ecology

This three-quarter acre site at the outskirts of Ellensburg was a fuel distribution center from the early 1920's to the 1980's. During this period, the release of petroleum product into soil and groundwater occurred. In 2002, the Department of Ecology issued an Agreed Order to Chevron requiring that an investigation be completed. In 2004, Ecology and Chevron negotiated the cleanup of the site under the Department's Voluntary Cleanup Program. By March 2005, excavation was complete though groundwater cleanup standards had not yet been met.

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 one thousand one hundred and forty two (1,142) visits.

The Cleaner Production Challenge

Ecology's Cleaner Production Challenge was a voluntary resource-conservation project that focused on waste-water and toxic-sludge generation at metal-finishing operators. The project fostered collaboration between companies with similar processes and called upon endorser organizations to assist with outreach. The Awards ceremony was held on May 9, 2005, to recognize the "cleaner production" facilities and to reinforce their leadership role within the industry. These were the nineteen facilities – including sixteen businesses and three military installations – that met the Cleaner Production Challenge of ten or twenty five percent wastewater reductions. The awards ceremony was enthusiastically attended by representatives of many of the cleaner-production facilities. The team and the Northwest Pollution Prevention Roundtable produced a Cleaner Production Toolkit that is available at www.pprc.org/cpc/index.htm

Success Stories

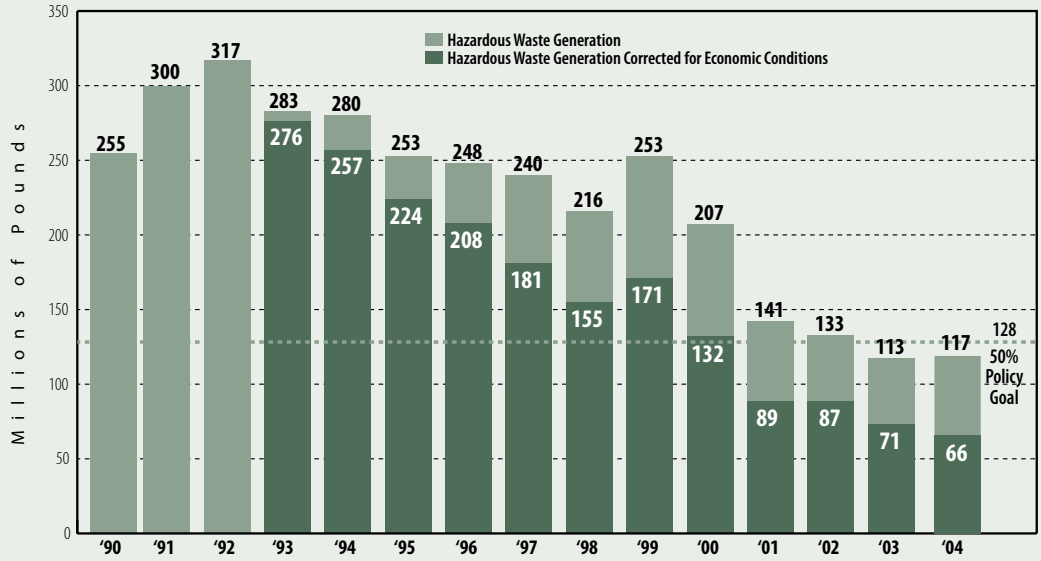
The team won the 2005 Most Valuable Pollution Prevention award from the National Pollution Prevention Roundtable. Data is summarized in the Cleaner Production Challenge; A Voluntary Resource Conservation Effort available on Ecology's web site: www.ecy.wa.gov/biblio/0404025.html

Cleaner Production Challenge. Award team pictured: Jenny Yoo, Michelle Costenaro, Scott Lamb, Rob Reuter, Dennis Johnson, and Darin Rice (Program Manager - Hazardous Waste). Other members of the team not pictured include: Judy Kennedy, Mark Benedict, Rolfe Parsloe, and Michelle Underwood.

Promoting Pollution Prevention

It is a state law that businesses that produce more than two thousand six hundred and forty (2,640) pounds of hazardous waste complete an annual pollution prevention plan. The purpose of the plan is to determine if a business can reduce waste and cut back on the use of chemicals. Ecology provides technical assistance to businesses who want help preparing plans. Some six hundred and thirty one (631) businesses in Washington State currently participate in the program.

Figure 9: Progress Toward the 50 Percent Hazardous Waste Reduction Goal

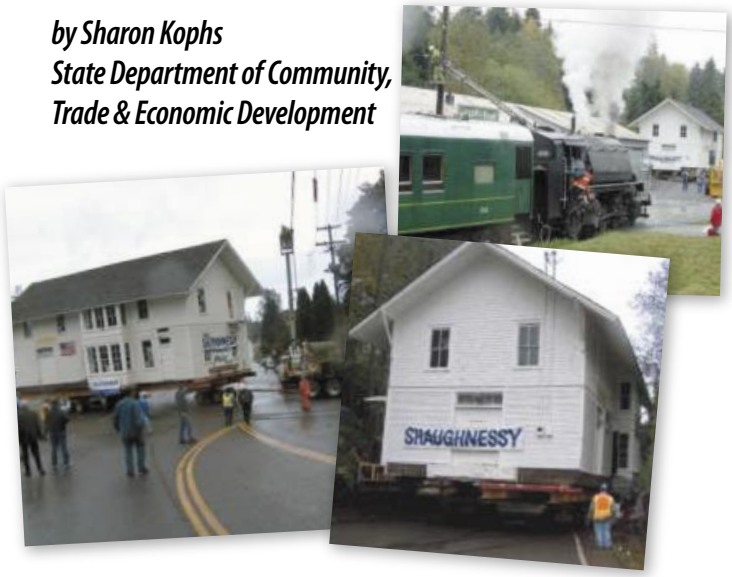


Progress towards waste reduction is displayed in the above chart. The amounts shown are from all generating facilities, except commercial treatment and storage and disposal facilities, which manage waste generated from others. The graph also shows the data adjusted for the changing economy. The adjustments show estimated levels of waste generation, assuming the economy remained constant. This process, called "normalizing" data, makes waste totals more comparable from year to year.

Department of Ecology: Environmental Assessment Program

Moving building preserves history

by Sharon Kophs
State Department of Community, Trade & Economic Development



Another successful partnering opportunity presented itself with the old depot building in Morton.

While Community, Trade & Economic Development helped get the project started through a tourism grant, along with the United States Department of Agriculture - Rural Development and the State Heritage Foundation, the Department of Ecology stepped in when the relocation property was found to be contaminated. With Chevron joining in the partnership, the move of the depot was quickly completed as the first phase of this historic restoration project.

The next phases will involve the restoration work to the building; site development once the cleanup is completed; and reusing the site for a museum building. The Depot, once restored, will be the terminus for the Tacoma Railroad and the Scenic Train to the Mountains.

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

- measure agency effectiveness,
- inform public policy, and
- 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 waterbodies; and
- 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 2005 include:

- Chlorinated pesticides and polychlorinated biphenyls (PCBs*) in Lake Chelan fish. A total maximum daily load study of Lake Chelan fish was conducted to address toxics contamination in edible fish tissue. Total chlorinated pesticides levels measured in lake trout were among the highest measured both in Washington State as well as nationwide. The state Department of Health issued a consumption advisory based on these findings. The total maximum daily load requires a 97% reduction in chlorinated pesticides in order to meet state water quality standards.
- 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, an ongoing program designed to evaluate concentrations of a variety of toxic chemicals in edible fish tissue.

Additional information about this program can be found on Ecology's website at www.ecy.wa.gov/programs/eap/toxics/wstmp.html.

**PCBs are mixtures of synthetic organic chemicals with the same basic chemical structure and similar physical properties ranging from oily liquids to waxy solids. Due to their non-flammability, chemical stability, high boiling point and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications including electrical, heat transfer, and hydraulic equipment; as plasticizers in paints, plastics and rubber products; in pigments, dyes and carbonless copy paper and many other applications. More than 1.5 billion pounds of PCBs were manufactured in the United States prior to 1997 when production stopped.*

Department of Ecology: 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 2005, State Toxics Control Account funding helped pay for:

- compliance inspections;
- regulatory oversight;
- technical assistance; and
- review and approval of permit applications at regulated mixed waste facilities.

Department of Ecology: Program Administratoin

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 coordinates 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.

Figure 10: Statewide Reported Drug Labs

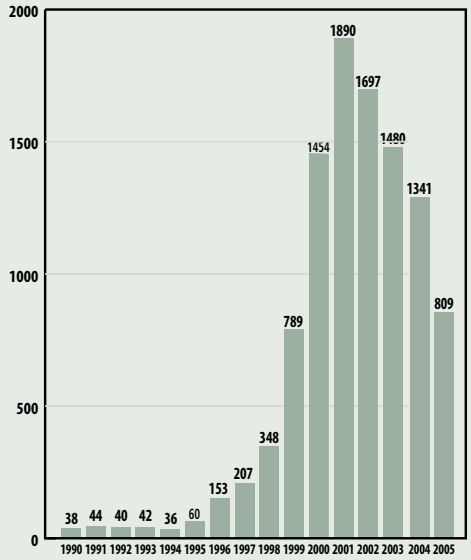
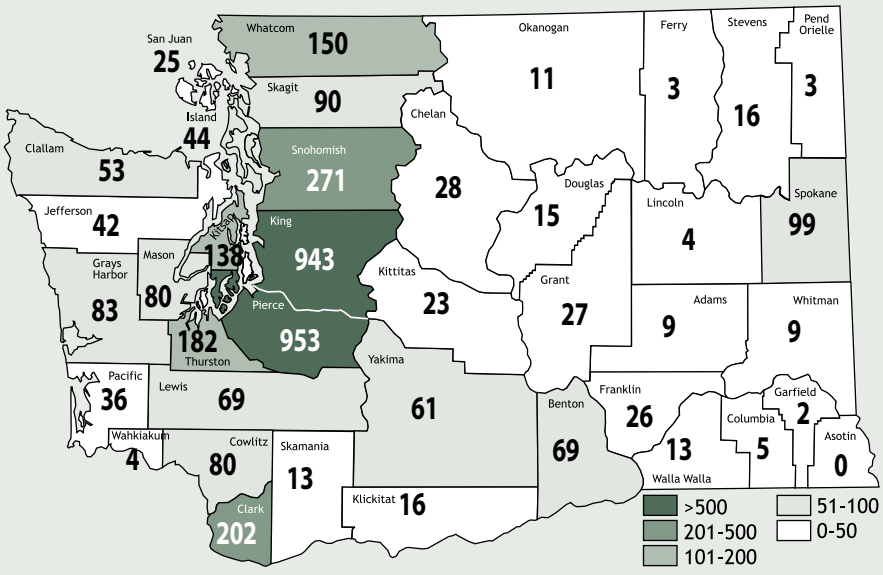


Figure 11: Spill Reports by County for FY 05



Department of Ecology: 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 and 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; and
- emergency cleanup at hazardous waste generation facilities.

The Program strives to recover its costs whenever a responsible party is identified. In 2004, the Spills Program received reports of three thousand nine hundred and thirty (3,930) oil and hazardous material spills. Staff completed one thousand nine hundred and seventeen (1,917) field responses to cleanup and investigate the incidents.

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 cleaned up one thousand one hundred and thirty three (1,133) drug labs.

The Spills Program continues to refine its award winning effort to control and reduce the costs associated with this activity.

The Program has become a national model for other states and is promoted and supported by federal law enforcement agencies.

Department of Ecology: 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. Technical assistance and support to local governments on solid waste management issues;
2. Reduce persistent bioaccumulative toxics in the environment;
3. Regulation of large industrial facilities (such as pulp and paper, petroleum, refining, and aluminum smelting); and
4. Regulation and enforcement on remedial actions related to closed landfills.

Solid Waste Prevention and Assistance

Technical Assistance

The Solid Waste Program supports and supplements the work of local governments, who have primary authority for solid waste in our state. The Program's 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:

- State plan creation, buy-in, and implementation;
- Local plan review and approval, and local permit review;
- Local government technical assistance;
- Statewide consistency in solid waste prevention and management; and
- Statewide rules and policies when needed.

Program staff also 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 liners, leachate collection systems and groundwater sampling, in order to protect ground and surface water.

By Marv Coleman, Southwest Regional Office Toxics Cleanup Program – Department of Ecology

At one time the City of Montesano was a major stop over for tourists and others traveling to the Pacific Coast and Grays Harbor. When the highway passed through the middle of town, numerous gasoline stations operated to provide fuel. Later, when the highway was rerouted, most of the gasoline stations closed, some without removing fuel in underground storage tanks. For stations that remained open, there occurred leaking from those tanks as well.

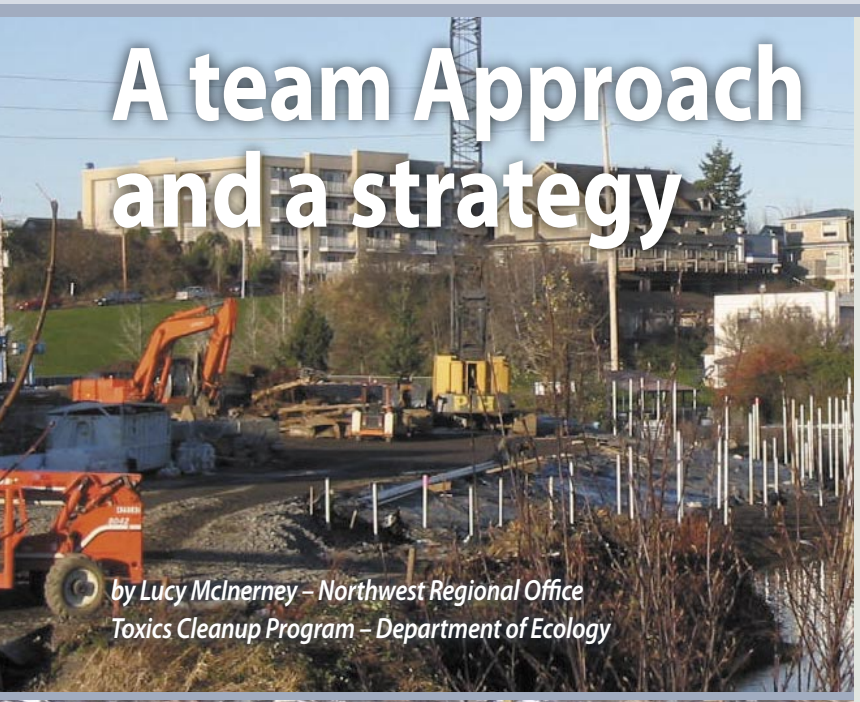
In 2004, Ecology investigated the extent of contamination in downtown Montesano and ruled out an area wide gasoline plume. What Ecology found instead was that three specific, highly contaminated locations were creating the ground water problem. Given that the groundwater and soil problems turned out to be from individual sites, Ecology's role shifted to negotiating the cleanup with the three property owners, identified by Ecology as potentially liable persons.

Waste Prevention Research and Information

Ecology's Beyond Waste planning process was completed during 2004. Initiatives focus on green building, industrial practices, hazardous waste handling and organics. The theme of these initiatives is to save time, resources and money while protecting human health by avoiding toxins and unnecessary wastes. While most of the funding for the planning effort was through the Waste Reduction, Recycling and Litter Control Account, some implementation funding draws from the toxics accounts. Further, this effort is aimed at preventing waste. This is a new strategy in waste management, that has been used successfully in other media.

Training

Staff provided technical overviews of revised solid waste regulations (WAC 173-350) to local health departments and individual assistance as needed. Staff also provided the annual compost operator training.



A team Approach and a strategy

by Lucy McInerney – Northwest Regional Office
Toxics Cleanup Program – Department of Ecology

The Holly Street Landfill site is located adjacent to Whatcom Creek in the City of Bellingham and privately-owned properties in the Old Town district of Bellingham. From the early 1900's through 1953 solid waste was used to fill tidelands within the former Whatcom Creek estuary. Environmental concerns at the site include copper, zinc, methane production, and the presence of solid waste.

Cleanup of the site was completed in March 2005 and included the removal of 12,400 tons of solid waste, installation of an engineered cap, and property use restrictions. The City voluntarily removed additional material from the site in order to restore 0.3 acres of historically lost habitat. In coordination with cleanup activities, the City also constructed a boardwalk along the estuary to improve public access to the shoreline.

The Holly Street Landfill is one of the first of a number of cleanup sites on the Bellingham waterfront to benefit from the Bellingham Bay Comprehensive Strategy, a bay-wide guidance document developed by a multi-organizational team in 2000. The Strategy integrates cleanup, control of pollution sources, habitat restoration and land use on a bay-wide scale.

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. The 2005 legislature provided funding to complete the Chemical Action Plan for a flame retardant known as "PBDEs" that are found in many household products. Under the Plan, the Solid Waste and Technical Assistance Program will monitor a number of Washington lakes for mercury and PBDEs and complete a third Chemical Action Plan. This work was officially transferred to the Program in Fiscal Year 2005.

Remedial Action Assistance

Solid Waste staff provided technical oversight for clean up activities at industrial and solid waste landfills across the state, including:

- ITT Rayonier Landfill in Port Angeles;
- Horn Rapids landfill in Richland;
- Terrace Heights landfill in Yakima;
- Greater Wenatchee landfill in East Wenatchee; and
- Olympic View Sanitary Landfill in Port Orchard.

Industrial Regulation

Funds from the State Toxics Control Account support regulation of hazardous wastes and oversight of cleanup activities at some of the states largest industries. Specifically, the oil refineries, the pulp and paper mills, and the aluminum smelters all use, generate, and in some cases, dispose of a variety of hazardous wastes. Funding from the account supports regular inspections, enforcement activities, and permitting at these facilities and is also used to require cleanup of historical contamination.

In the last year, the Industrial Section made progress monitoring clean ups at Lilyblad and Intalco. The Section also successfully negotiated the final settlement of the Kaiser Mean cleanup. At closed aluminum mills, the Section completed federal orders to ensure safe plant demolition and removal of hazardous wastes. At Columbia Gorge Aluminum, the Section oversaw the closure of a large dangerous waste surface impoundment. The Section also worked with the Environmental Protection Agency and private companies to ensure compliance with regulations concerning the reuse of hazardous substances. Protecting groundwater at closed facilities, the Section completed post-closure permits for closed land application sites.

Department awards largest grant for Thea Foss Waterway

by Sandy Howard – Communication & Education
Department of Ecology

Outside the reporting period of this report, in January 2006, the Department of Ecology awarded Tacoma a $13.3 million grant, which the city will match, to finish dredging more than 500,000 cubic yards of toxic sediments from the bottom of the Thea Foss Waterway.

"This is the single largest grant right now that the state is providing for a cleanup site," said Diane Singer, manager of the Department of Ecology's remedial action grant program. "The Thea Foss Waterway cleanup is a priority for us now although we've spent many more millions of dollars in and around Commencement Bay over the years."

Karen Larkin, an assistant public works director for Tacoma, said "Tacoma has invested millions of dollars and thousands of hours to create a downtown waterfront that invites people to experience the wonder of our landscape. Partners, including the Department of Ecology and the Environmental Protection Agency, have been instrumental in helping us realize our vision of an urban waterfront that invites visitors and residents alike to appreciate our close relationship with the water."

Department of Ecology: 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. The following link has information on Partnership accomplishments including their efforts to secure $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:

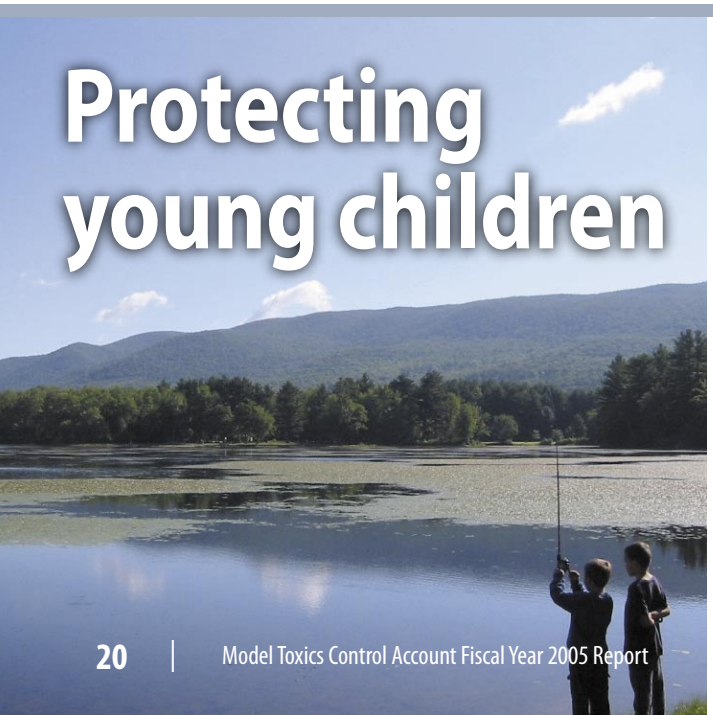
- Provide technical assistance and support to permit holders;
- Develop and maintain tools for permit holders and others to use; and
- Develop new permits to provide a compliance pathway for industry and local governments.

The Division of Environmental Health within the **Department of Health** (Health) receives funds from the State Toxics Control Account to assess exposure to contaminants released into the environment from hazardous waste sites. Based on these assessments, Health provides recommendations to the Environmental Protection Agency, Department of Ecology, and the public and on ways to reduce or eliminate these exposures. The following is a brief description of some of the Department of Health's accomplishments in fiscal year 2005.

Chemical Monitoring of Drinking Water

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

- Assessment of perchlorate contamination in select Pierce County aquifers in support of Environmental Protection Agency and Department of Ecology groundwater monitoring.
- Assessment of arsenic contamination in groundwater near the B&L Woodwaste Landfill in north Pierce County.
- Investigation of suspected contamination from the Landsburg Mine site with respect to impacts on drinking water supplies. Support included appropriate siting of additional monitoring wells to better characterize groundwater contamination.
- Developed public notification language in response to detections of ethylene dibromide and uranium above maximum contaminant levels in public drinking water systems.
- Jointly worked with the Department of Ecology, consultants, and local health jurisdiction investigating 1, 4, dioxane found in a water system near the Colbert Landfill in Spokane County.
- Collaboratively worked with the Department of Ecology, consultants, and local health jurisdiction to investigate paint dumping near an irrigation district.
- Continued working with over approximately 45 water systems with nitrate levels above the maximum contaminant levels. Provided information on remediation options, public notification requirements, and monitoring requirements.



Protecting young children

by Marian Abbett, Southwest Regional Office
Toxics Cleanup Program – Department of Ecology

Since 1999, the Department of Ecology and the local health departments in King, Pierce, Kitsap, and Thurston Counties have been studying the soil pollution that came from the Asarco smelter smokestack. The air pollution from the smokestack traveled with the wind, settling onto the soil in much of the Puget Sound basin.

In 2005, the Department of Ecology completed studies on the extent of soil contamination, determining that nearly one thousand (1,000) square miles were impacted with heavy metals form the smelter emissions. This widespread contamination creates a public health concern, especially for young children, where there is long-term exposure to the soil.

The local health departments provide education and outreach services to affected communities under grants from Ecology. The health departments have developed many educational materials about the contamination and measures people can take to reduce their risk from exposure. These materials are provided to children and adult providers at schools, pre-schools, and childcares, and are available on the health departments' website.

Clandestine Drug Lab Program

Clandestine Drug Lab (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. For example, Lab sites frequently involve sampling and remediation of contaminated soil, septic systems, groundwater, and surface water. Recent changes in soil and composite wipe sampling policies resulted in the revision of the program's Environmental Sampling Guidelines document. The program is nationally recognized for technical expertise on drug lab remediation and responds to over twenty five requests weekly for technical assistance from local health officials, residents, and other government agencies throughout the state. The program received requests for assistance from California, Alaska, Oregon, Missouri, Montana, Minnesota, Illinois, Michigan, Colorado, Utah, Oklahoma, Iowa, Georgia, and Tennessee. Due in large part to the magnitude of the meth problem in Washington State, program staff has been invited to brief several state and federal legislators about the program's roles and responsibilities.

The Clandestine Drug Lab Program trained and certified eighty contractors to remediate contaminated properties. Program staff also conducted refresher training for approximately one hundred Lab contractors along with two-day training for local health department staff.

With the help of four local health departments, program staff sampled previously remediated sites to determine methamphetamine distribution and variability on interior surfaces. The findings resulted in numerous public health recommendations to facilitate evaluation and cleanup of Lab sites.

In response to frequent inquiries about Lab site cleanup standards, the program posted a document to its website summarizing the rationale used to establish the standards.

Program staff actively participated 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. Staff presented at several national conferences sponsored by these groups.

Indoor Air

Staff conducted seventeen site visits to schools with indoor air quality concerns during Fiscal Year 2005. Site visits focus on possible toxic exposures to children and staff. These exposures may involve asbestos, volatile organic compounds, dusts (possibly pesticides, heavy metals and suspected carcinogens such as benzo (a) pyrene), molds, and other common indoor air contaminants, such as carbon monoxide and radon.

Staff visited eight sites (all on the Westside of the state) with suspected toxic mold issues. Investigation of these sites indicated health complaints due to under ventilation, poor mixing of ventilated air, and high dust loading.

Staff continued an investigation of a suspected fiberglass exposure at an Eastern Washington, school. Health staff analyzed information provided by the district's consultants determining that the exposure did not constitute a risk to human health.

Program staff visited two Tacoma area schools prompted by concerns of exposure to poorly maintained carpet and the potential risk of exposure to dusts that may contain an array of materials that can negatively impact human health.

Art supplies and their contribution to the school indoor air quality environment prompted a site visit to an Eastern Washington school. Staff visited a school in the Seattle area and inspected for possible mold and asbestos problems. Also visited were two school buildings on different campuses north of Seattle with suspected problems related to carbon monoxide and horticultural chemical use, respectively. No health problems related to indoor air quality were discovered at any of these sites.

Health staff worked with university staff, regional air pollution control authorities, and school district officials to develop recommendations for conducting school indoor environmental audits consistent with recommendations contained in the Environmental Protection Agency's Tools for Schools. The goal of this effort was to develop general recommendations for initial and ongoing audits that most schools could conduct in order to proactively identify and mitigate indoor environmental conditions prior to the realization of student or staff health concerns.

The Department of Health supported indoor air quality monitoring in three school districts in Washington State as part of a pilot project intended to help define sustainable methods for the collection of school indoor air quality data. Indoor environmental monitoring parameters included: carbon monoxide, carbon dioxide, temperature, humidity and particulate matter. These parameters were selected as indicator measures based on ease of monitoring and data interpretation.

Program staff was consulted about a pesticide warehouse fire in Eastern Washington and the potential impact on surrounding homes and schools. Staff continued to provide phone and e-mail consultations covering a host of topics related to indoor air contaminants.

Aquatic Herbicides

Staff continued to respond to inquiries from the Department of Ecology on the use of herbicides for controlling aquatic and wetland invasive plant species. In Fiscal Year 2005, the Department of Health assisted the Department of Ecology develop the human health risk portion of the Supplemental Environmental Impact Statement for use of glyphosate at aquatic sites. Health also submitted 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). Staff attended a public meeting to provide 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. The Department of Health responds to requests for information on cyanobacteria blooms from citizens, local health jurisdictions, and other agencies, including those from out-of-state. Some examples if this assistance are a request from the Environmental Protection Agency for a history of cyanobacteria blooms in Washington as part of a survey to identify monitoring efforts for cyanobacteria in various states, and a cooperative effort with the Oregon Department of Environmental Quality to address questions regarding Pacific Northwest blooms.

Others requiring assistance related to a cyanobacteria bloom included Moran State Park, Orcas Island; Kittitas County; Pierce County; Lewis County; Foster-Creek Conservation District in Douglas County; and Little Goose Lock and Dam, Snake River (Columbia and Whitman Counties).

Area-Wide Soil Contamination

Tacoma Smelter Plume

Past emissions from the Tacoma Smelter have contaminated soil in areas of King, Pierce and Thurston Counties with arsenic and lead. This is a significant public health problem because the emissions were spread over many square miles, potentially affecting hundreds of thousands of people. The Department of Health continues to work with the Department of Ecology and local health districts to assess the contamination and educate people living and working in the affected area on potential hazards and ways to reduce their risk. These efforts will be applicable to other parts of the state affected by area-wide soil contamination.

Reduced exposure to contaminated soil at two Brewster schools

By Valerie Drew- Central Regional Office
Toxics Cleanup Program – Department of Ecology

In October 2004, cleanup work began at Brewster Elementary and Brewster High Schools. Historically, lead arsenate was used as a pesticide to control codding moths in orchards throughout the state. Exposure to lead may cause learning disabilities in children, and long-term exposure to arsenic may cause cancer. At Brewster Elementary clean topsoil, a turf, and a parking lot were used to cover soil that contained elevated levels of lead and arsenic. At brewster High School, the soccer field was re-contoured and new sod and a sprinkler system were installed on old orchard land that exceeded state exposure standards for lead and arsenic.

"This is one of the best projects we have been involved with," said Jim Kelly, Brewster School District superintendent. "Most of our school site was previously orchard and unusable due to soil contamination. With assistance from Ecology, we now have enlarged our elementary playground, prepared an area for school and community use, and installed a soccer field. Our students and local taxpayers benefited greatly."

Legislation Addressing Area-Wide Soil Contamination

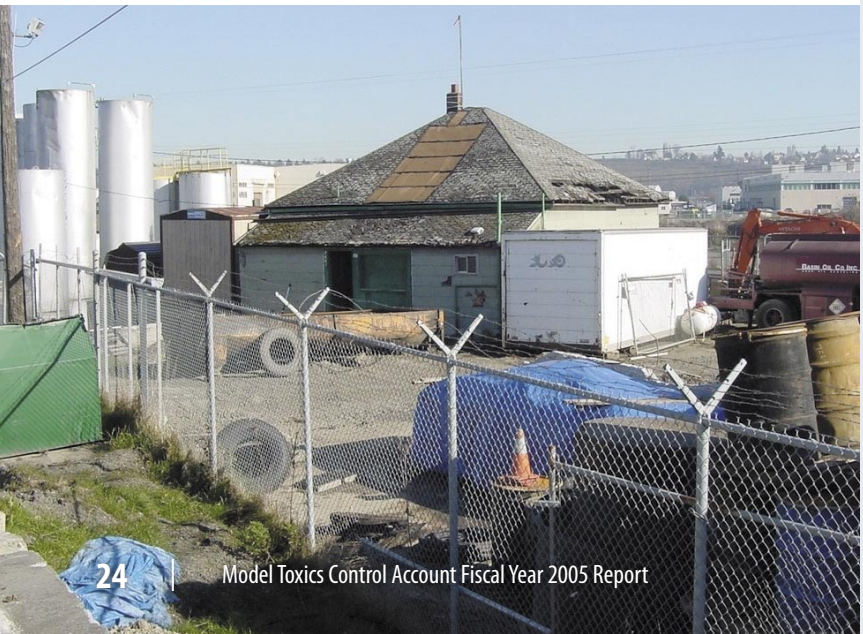
Two bills addressing area-wide soil contamination were introduced during the 2005 legislative session. The Department of Health tracked and commented on these bills as they went through several revisions. A version of House Bill 1605 was signed into law and requires that schools and child care facilities within the Tacoma Smelter Plume area be evaluated for lead and arsenic soil contamination. The Department of Health was directed to assist the Department of Ecology in implementation of this new legislation.

Lead-Arsenate Pesticide in Central Washington Soil

Soil sampling in Central Washington has shown that several schools have been built on former orchard lands where lead arsenate pesticide had been used. The Department of Health has been working with the Department of Ecology and local health districts in assessing this problem and providing advice to schools and parents on ways to reduce childhood exposure to lead and arsenic in soil.

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. The Department of Health 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, worked closely with personnel from the Department of Ecology's Toxics Cleanup Program. The section assesses exposure to hazardous substances in the environment released from both state 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.

Burlington Northern- Hillyard - Spokane.

Department of Health staff concluded that a public health hazard existed from the Burlington Northern Hillyard site in Spokane. They worked in conjunction with Ecology and the Spokane Regional Health District to carry out public outreach and education activities and funded blood lead screening for families in the area.

Yttri/Wozow Property – Snohomish County.

The Department of Ecology requested assistance from the Department of Health to evaluate the Yttri/Wozow Property in Snohomish County. The Department of Health worked with the Department of Ecology and Snohomish County to evaluate contaminants found on the site and potential routes of exposure.

Cadet Manufacturing - Vancouver

Department of Health continues to work with the Department of Ecology on the Cadet Manufacturing site. Efforts have focused on evaluating the vapor intrusion pathway and remediation. Department of Health staff have attended public meetings and carried out community education and outreach activities aimed at helping the community reduce exposure to solvent vapors.

Dallas Avenue - Seattle

Department of Health staff worked with the Department of Ecology, Public Health Seattle and King County, Seattle Public Utilities, and the Duwamish River Cleanup Coalition to address concerns over PCB contaminated soil along Dallas Avenue. The Department of Health evaluated PCB results from outdoor soil samples collected by Seattle Public Utilities. Department of Health staff collected indoor dust samples from adjacent residences and evaluated the laboratory results.

Arsenic-eating ferns work: experiment only half complete

by Guy Barrett – Southwest Regional Office
Toxics Cleanup Program – Department of Ecology

The subtropical fern sold as an "arsenic-eating superstar" performs as advertised although it is too early to say whether the Chinese brake fern could help remove the poison from South Sound soils. A preliminary analysis of fronds harvested in October 2005, by the Department of Ecology leaves some questions unanswered at this time.

The ferns were planted in the spring of 2005, as a $30,000 experiment involving 750 plants in seven test plots: five on Vashon and Maury Islands and two in Tacoma's Point Defiance Park. The Department of Ecology estimates that 1,000 square miles of land is tainted by wind-born contamination from the former Asarco copper smelter. The Ruston smokestack sent arsenic, lead, and cadmium into the air for almost a century before the plant shut down 20 years ago. All the smelter buildings have been torn down. The area remains the focus of federal Superfund cleanup.

The experiment will undergo another year of analysis to determine whether there is a statistically valid result between arsenic concentrations in the fronds and the amount removed from the soil. The ferns do not absorb lead or cadmium from the soil.

Wayne with Chinook Salmon

Fish Consumption Advisories

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

The following are some highlights of Fiscal Year 2005 activities regarding fish consumption advisories.

Outreach and Education

In 2005, a strong emphasis was focused on improving outreach to Tribes to better protect tribal members from increased exposure resulting from their high levels of fish consumption. This effort has resulted in the following outcomes; 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 the Department of Health), 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 which 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 OH 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 State Department of Fish and Wildlife.

The Fish Facts Brochure continues to be distributed through the Department of Health Child Profile mailings.

Signage for the Lake Washington fish advisory was developed with Public Health - Seattle King County and ninety signs were posted at parks and boat launches around Lake Washington. A new brochure was developed about PBDE's which highlighted how to fillet and cook fish to reduce PBDE exposure.

Fish Consumption Guidance: Technical Protocol

In an effort to ensure that the development of fish consumption advisories are conducted in a consistent, scientifically defensible, and open process, Department of Health drafted guidelines for 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. These guidelines have undergone internal review and will be shared with other federal, state, tribal, and local agencies for comment.

Fish Consumption Advisories for Mercury

The Department of Health is working with the Environmental Protection Agency, the U.S. Food and Drug Administration, several states and tribal representatives to determine how best to integrate the 2004 Food and Drug Administration and Environmental Protection Agency National Mercury Advisory with existing state and tribal advisories. The objective of this workgroup is to gain input on how states and tribes with differing fish consumption advisories can meld their advice with the national advice to produce clear and consistent messages on fish consumption.

Current Assessments of Contaminants in Fish

Lake Washington

Department of Health, in response to the issuance of an interim fish advisory in 2004 for Lake Washington, funded a sampling effort to determine if the data provided by the King County Department of Natural Resources and Parks and the University of Washington School of Aquatic and Fishery Sciences that DOH analyzed for the health assessment was valid. There were questions due to the small sample size. The sampling of Lake Washington has been completed and a health assessment will be carried out in 2006 to determine if the advisory should be permanent.

Puget Sound

The Washington State 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, the Department of Health evaluated potential health impacts to those who eat rockfish, English sole, and salmon from Puget Sound. The technical document is the final stages of preparation and Department of Health will be issuing consumption advice in 2006.

Walla Walla River, Okanogan River, and Lake Chelan.

Department of Health is evaluating fish tissue collected from the Walla Walla River, Okanogan River, and Lake Chelan under Department of Ecology's Total Maximum Daily Load – TMDL Program. The primary contaminants of concern include PCBs, mercury, 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 consumption advisories aimed at protecting sport and subsistence fishers.

Assessment of Exposure to PBTs From Consumption of Store-Bought Fish

For most consumers, contaminants in store-bought fish represent a far more important source of exposure than do contaminants in sport-caught fish. As part of an effort to estimate the population distribution of exposure to mercury and PCBs, store-bought fish were collected from a probability sample of retail outlets between August 2004 and November 2004. Levels of mercury and PCBs in the eight most frequently consumed species of fish were determined by the Department of Ecology's Manchester Laboratory. This included catfish, cod, flounder, halibut, red snapper, pollack, salmon, canned tuna, tuna steaks, and carp. Data on fish consumption patterns, collected as part of the 2004 and 2005 Behavioral Risk Factor Surveillance System, was used to estimate the population distribution of exposure to mercury and PCBs.

Estimating Population Exposures to Criteria Pollutants

The Public Health Improvement Partnership, an umbrella organization that guides the comprehensive development of public health services for the state, developed a Report Card to track key health indicators. One of the indicators is the proportion of the population exposed to criteria pollutants above the National Ambient Air Quality Standards, which can be used as a measure of excessive exposure to ambient air contaminants. To support this effort, GIS analyses were conducted to estimate the number of residents living in non-attainment areas, both historically and in the present. These data were used for the Report Card.

Development of the PBDE Chemical Action Plan

Governor Gary Locke issued Executive Order 04-01 in January 2004 directing the Department of 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. The Departments of Ecology and Health released an Interim Chemical Action Plan in December 2004. Department of Health staff has been working collaboratively with Ecology in 2005 to conduct additional analyses before finalizing the Chemical Action Plan in December 2005. A main responsibility of Department of Health was to conduct an analysis of alternatives to the one PBDE still in production (Deca-BDE) to determine if safer alternatives are available for supporting a proposed ban on Deca-BDE. This work is being done under the Department of Ecology's Persistent, Bioaccumulative Toxin Initiative.

Pesticides and Farmworker Health

Department of Health continues to promote farmworker health through reducing exposure to pesticides. Results and recommendations of the Farmworker Focus Groups have been presented at state and local venues, and through individual contacts with involved resources. Recommendations included:

- Raise awareness among growers, and other stakeholders about the barriers farmworkers face in accessing health care for pesticide related illnesses;
- Gather information about the difficulties associated with diagnosing and treating patients with potential pesticide related illnesses; and
- Encourage timely and aggressive information of all complaints of job reprisals resulting from a worker's use of the health care system for a job related illness or injury.

Target audiences for these presentations include Local Health Department Nursing Directors at their Central WA Region meeting, PIRT Panel (follow-up meeting and individual follow-up with members), Yakima Valley Farmworker Clinic, and staff from the Washington State Department of Labor and Industries.

Diver Ted Benson with geoduck.

Johnny Apple Seed dump site

In FY 2005, the State Toxics Account provided funding to the Washington State Department of Agriculture (Agriculture) to support four activities of the department's Pesticide Program.

Waste Pesticide Identification and Disposal

Agriculture's Waste Pesticide Identification and Disposal Program has two primary goals.

1. To significantly reduce and eventually eliminate the backlog of prohibited and otherwise unusable pesticides in storage, especially on farms and other similar locations.
2. To help prevent future accumulations of unusable pesticides through education.

In fiscal year 2005, Agriculture collected 84,296 pounds of pesticides from 288 customers. This relatively low amount of collected pesticides is due to the tremendous amount collected in FY 2004 (218,787 pounds). For the two-year period ending in June 2005, a total of 303,083 pounds were collected from 829 customers, the largest volume of pesticides collected by the program during a biennium.

Since inception in 1988, the program has removed 1.7 million pounds of unusable pesticides from more than 5,000 separate storage locations in Washington. Other states that have implemented similar programs also find a tremendous amount of old pesticides in storage. In addition to rural areas, these old pesticides are found in suburban locations as housing developments expand into traditional agricultural areas.

Many pesticides become unusable due to government actions that prohibited most or all of their uses. Agriculture's program has collected and properly disposed of a significant amount of Dinoseb, DDT, Endrin, Parathion and Lead Arsenate. Cyanide-based pesticides and highly toxic vertebrate poisons have also been removed from private storage locations and destroyed. These are priority pesticides due to their potential to impact public health and the environment in instances of accidental or intentional misuse.

Implementation of the federal Food Quality Protection Act (Food Quality Protection Act) of 1996 increased the amount of pesticide products that are unusable and/or unsaleable. Several widely used pesticides have had use restrictions or prohibitions and phase-out periods placed on them as a result of Food Quality Protection Act. The first Food Quality Protection Act restrictions directly affected the tree fruit industry in Washington State. Now it is also affecting pesticide use in non-farm situations. Food Quality Protection Act has eliminated many uses of common organophosphate pesticides such as chlorpyrifos and diazinon.

Unusable pesticides are collected at two types of events: *regional* and *special site*. Most pesticides are collected at regional events that are held around the state. With these events, the customer transports the unusable pesticides to a collection site where a hazardous waste contractor packages them into hazardous waste disposal containers. Since most of the pesticides brought to these sites are fully regulated, Agriculture prepares and sends a specific bill-of-lading to each of the customers, based on an inventory submitted before the event. This document must be in the customer's vehicle while on a public road and available to emergency personnel in case of a spill or accident. Agriculture also assists the customers with packaging materials to enhance safe transportation and with chemical analysis of unlabeled containers.

The remaining pesticides are collected at special site events. These events are usually held at the customer's pesticide storage locations. This may be because of the customer having numerous containers of unknown chemicals or to avoid the risk of transporting hazardous containers, such as pressurized fumigant cylinders, or containers in poor condition.

After the contractor packages the pesticides, they are transported to a permitted hazardous waste disposal facility. Most are disposed of by thermal destruction. Only pesticides containing metallic ingredients that cannot be destroyed by heat (such as arsenic, lead and mercury) are disposed of at a hazardous waste landfill. Many pesticides, such as DDT, are "land ban" chemicals and are prohibited from disposal at a hazardous waste landfill.

To help prevent future accumulations of unusable pesticides, Agriculture encourages pesticide users to limit pesticides purchases to amounts needed for a specific application or season and provides information on proper product storage and handling.

The State Toxics Control Account covers all program activities and the program's 3.6 FTEs.

Endangered Species Program

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 (GIS) database and related tool set that provides a mechanism to assess agricultural impacts on listed species.

One critical component of the GIS database is the crop geo-database. To date, 85% of the agricultural lands in Washington have been mapped (see figures 1 and 2). Agriculture is developing a pesticide-use database that provides information on typical pesticide use by commodity.

In 2003, Agriculture, in cooperation with Ecology, began monitoring surface water designated as salmon habitat for pesticide residues. This effort provides state-specific data to assess the potential exposure of threatened or endangered salmon to pesticides. This data is provided to the Environmental Protection Agency (EPA) and the National Atmospheric and Oceanic Administration-Fisheries (NOAA-Fisheries) to aid in regulatory decisions made regarding pesticide registrations. As of 2005, three years of monitoring data has been compiled from an irrigated agricultural area in the lower Yakima River basin and an urban watershed that drains into Seattle's Lake Washington.

Surface waters are sampled for 144 chemicals, including 87 pesticides or pesticide breakdown products. In addition, five conventional water quality parameters – discharge, temperature, pH, conductivity, and total suspended solids – are measured to characterize water quality of the streams and to investigate pesticide fate and toxicity.

To date, concentrations of all pesticides detected were generally low and close to analytical detection limits. In the agricultural basin, the herbicide 2,4-dichlorophenylacetic acid (2,4-D) was the most commonly detected pesticide. The herbicide dichlobenil was most commonly detected in the urban watershed.

Annual summaries of the monitoring data are available through Ecology's Environmental Information Management system and on Agriculture's web page.

The State Toxics Control Account provides about 85% of the program's funding.

Largest brownfields loan in the nation

by Sandra Trecanni – Eastern Regional Office
Toxics Cleanup Program – Department of Ecology

River Front Properties (also known as Kendall Yards)

The River Front Properties site is a 77 acre property overlooking downtown Spokane and the Spokane River. From 1914 through 1955, the Union Pacific Railroad or its subsidiaries operated rail lines; a roundhouse; and coal- and oil-fired steam locomotive maintenance, repair, and fueling facilities on the property. Since then, the site has been vacant and not in use. Contaminants related to the old railroad operations, such as heavy metals, bunker c fuel oil, and carcinogenic PAHs, have precluded development from occurring. In 2005, the property was purchased through bankruptcy by a company interested in developing the site into a mixed use commercial and residential community. The remediation involves the removal of around 200,000 tons of contaminated soil, and will allow for the complete redevelopment of the property with no institutional controls.

Remediation is being funded in part by a $2.4 million Brownfields loan through the state Department of Community, Trade and Economic Development's Business Finance Unit. In addition to being the largest Brownfields loan in the nation, the remediation planning process was one of the shortest for its size, due to the collaboration of project team members including: Department of Ecology; Community, Trade and Economic Development; Environmental Protection Agency; Spokane Regional Chamber of Commerce; Spokane Area Economic Development Council; and the Downtown Spokane Partnership .

Did you know?

The main purpose of the Model Toxics Control Act is to raise sufficient funds to cleanup up all hazardous waste sites and to prevent the creation of future hazards due to improper disposal of toxic wastes into the state's land and waters.

Black dross and dangerous waste

by Norm Peck, Northwest Regional Office
Toxics Cleanup Program – Department of Ecology

More than two-hundred thousand (200,000) cubic yards of aluminum black dross remain from 1988 when Maralco ceased operations and entered into bankruptcy. The Department of Ecology has conducted at least two interim actions and holds a lien at the property. Aluminum black dross (also known as "salt cake") is the waste from the molten salt process for aluminum smelting. Recently, sampling results indicate that the black dross still fail the designation for dangerous waste. More tests are planned using bioassays (such as fish and rat toxicity) to rule out the likelihood that the dross is a dangerous waste. The piles of black dross are up to twenty-five feet high—as high as the surrounding industrial buildings in the north Kent industrial area. The extent of the contamination covers an area of several acres. The economic feasibility of cleanup can be costly if black dross is found to meet the dangerous waste designation.

Pesticide Registration

The Department of Agriculture's Pesticide Registration Services program reviews, evaluates and registers more than 11,000 pesticides for use in Washington. Two of the program's most critical functions are handling Special Local Needs and Emergency Exemption registration requests.

A SLNs registration can be granted by the department to allow the use of a particular pesticide in the state when the department determines a "special local need" exists. For Emergency Exemption registrations, commonly known as Section 18 registrations, the department is able to submit requests for federal exemption from the requirement of registration for emergency pest control situations.

As part of the evaluation process for both registrations, program staff review residue, efficacy and phytotoxicity data as well as data that allow them to make adverse effects determinations regarding human heath, endangered and threatened species, beneficial organisms, ground water and the environment.

These types of registrations are extremely valuable to Washington's agricultural industry with its extensive crop diversity and specific pest control needs.

In addition, the Registration Services program reviews and approves or denies requests for experimental use permits; provides technical support and pesticide label review and interpretation; and works closely with other state and federal agencies on other pesticide-related issues.

Two of the six program staff responsible for registering pesticides are funded by the State Toxics Control Account and continue to be critical to the success of the program.

Pesticide Compliance

The Pesticide Compliance program investigates complaints of pesticide misuse, conducts field inspections of pesticide manufacturers and applicators, and provides technical assistance to pesticide users. Compliance field staff is located in Olympia, Yakima, Wenatchee, Moses Lake and Spokane.

The State Toxics Control Account provides funding for one of the 22 FTEs in Agriculture's Pesticide Compliance program. This field position covers all irrigated areas of the state and provides technical assistance to chemigators (commercial and private), irrigation equipment distributors and manufacturers, irrigation districts, farm chemical distributors, consultants, aerial applicators, ground applicators, growers, lawn care businesses, government agencies, and other public facilities at the user, consultant and distributor level.

The technical assistance program has an emphasis on system inspections with a purpose of protecting ground and surface waters from improper injection of toxic materials into irrigation waters. While the total number of systems that inject into irrigation water is unknown, it is estimated that they number more than 12,000. Agriculture estimates that only about 2,400 systems fully comply with the state chemigation rule.

In this last year, the program worked to bring more than 100 systems brought to compliance with the chemigation rules, including inspecting about 72 new systems. These numbers are lower than other years as this year's emphasis expanded to include Compliance case investigations and inspections involving chemigation and ground water protection.

In the last year, Agriculture participated in presentations on how to comply with the state chemigation rules at more than 14 meetings involving about 950 people. Agriculture also continued work with suppliers of pesticides and irrigation equipment and other industries that use chemigation, such as greenhouses and golf courses.

Agriculture also continues to evaluate non-typical types of products injected into irrigation water such as "compost teas" and others that are gaining popularity.

Through the activities of this position, Agriculture has seen an increase in voluntary compliance, enhanced service, additional licenses issued, and, in turn, a reduction in complaints and need for enforcement actions related to chemigation.

The Washington State Patrol 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 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 Material 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 and 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 twenty five thousand (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 identifi cation, 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.

Portable Fire Extinguishers 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.

Firefighters Training

Firefighters receive training in hazardous material incidents where emergency responses are required. The life saving training prepares firefighters to safely handle chemical disasters. The training requirements for emergency responders are mandated for the state's 25,000 firefighters, under the Industrial safety and Health Act.

Department of Revenue

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

Solid Waste and Financial Assistance Program

Local Toxics Control Account

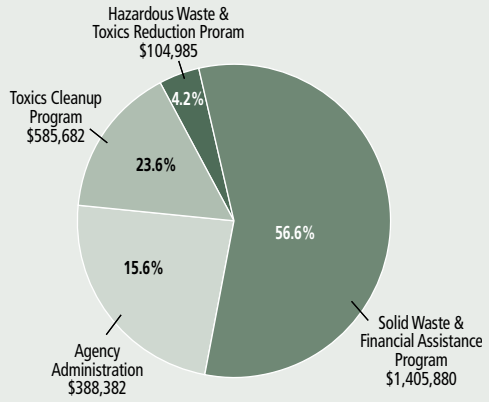
Revenue

Local Toxics Control Account Revenue Total	$47,089,558

Expenditures

Toxics Cleanup Program	$585,682
Hazardous Waste & Toxics Reduction Program	$104,985
Agency Administration	$388,382
Solid Waste & Financial Assistance Program	$1,405,880
Total All Agency Expenditures	**$2,484,929**

Figure 12: Local Toxics Control Account Expenditures



Total Expenditures $2,484,929

Department of Ecology

Solid Waste and Financial Assistance Program

The Local Toxics Control Account is used to fund grants to local governments. The Solid Waste and Financial Assistance Program administers the grants program. Local governments may use grants to clean up 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 also offered to not-for-profit organizations and citizen groups for participation in cleanup actions and promotion of waste management priorities.

Upriver Dam site photo

Public Participation Grants 2005

The Public Participation Grants Program provides citizen groups and not-for-profit organizations with funding for projects that motivate people to change their behavior and take action to improve the environment and protect their health. The projects create awareness of the causes and costs of pollution. Public participation grants are funded from one percent of the Local and State Toxics Control Accounts. All the grant funds were offered to thirty one (31) projects at the beginning of the 2003-2005 biennium. In fiscal year 2004, thirty (30) grants were written and signed. Sixteen (16) grant awards were for Hazardous Substance Release Site grants, and fourteen (14) were for Pollution Prevention Educaiton/ Technical Assistance grants. In fiscal year 2005, one grant was written for a total of thirty one (31) grants. In fiscal year 2005, there were 9 formal amendments to existing grant awards. The following is a list of the thirty-one grant recipients and descriptions of the funded activities:

- Automotive Recyclers of Washington: continue to hold workshops to educate the vehicle recyclers in Washington about existing regulations and those proposed that will have a direct impact on their business practices.
- NW Everett Neighborhood Association: continue to educate the impacted community of the progress of the Everett ASARCO Smelter Cleanup Site.
- Brackett's Landing Foundation: monitor and educate the community about the progress of the cleanup of the Edmonds UNOCAL site.
- Citizens for a Healthy Bay: educate/involve the community about pollution problems and/or hazardous waste cleanup activities and initiate sustainable practices.
- NW Renewable Energy Festival: sponsor a three day Energy Festival that informed and educated energy producers and consumers about the benefits of using renewable energy sources.
- Lake Roosevelt Forum: improve public's understanding of EPA's investigation process of the pollution of Lake Roosevelt.
- The Green Zone: show positive options available to businesses, homeowners and for play areas to enhance a more sustainable environment.
- Georgetown Crime Prevention & Community Council: continue to educate the community about the progress of the cleanup of the Philips Service Facility site and the importance of their involvement in the decision-making process for cleanup of the site.
- Washington Toxics Coalition: provide the tools for the community to be aware of the dangers of pesticides and hazardous household products and to avoid using them.
- WA Physicians for Social Responsibility: provide educational tools that explain the human/environmental history of the Hanford site and the challenge of cleaning up its burden of radioactive wastes.
- People for Puget Sound: continue to educate the neighborhoods, which about the Duwamish River, on the progress of the river's cleanup and encourage involvement by the local residents.
- The RE Store: improve the awareness of contractors and the building public to the existence and availability of reusable building materials. Design and distribute a "Used Building Materials Guide".
- Columbia Riverkeeper (Hanford): continue to educate the residents, in the Mid-Columbia region, about the issues and progress of the cleanup of the Hanford Nuclear Waste site.
- WA Citizens for Resource Conservation: education/outreach project on computer recycling and design issues related to producer responsibility.
- People for Environmental Action & Children Health: educate the public about Sustainable Resource Management and/or the Zero Waste Program.
- South Sound Outreach Services: extend environmental education/outreach to include seniors, disabled and other low-income people.
- Spokane Neighborhood Action Program: increase the knowledge and practice of the "Living Green Program" among all residents through community education.
- Skykomish Environmental Coalition: continue to educate the residents/ property owners on the various phases of the cleanup process for removing contaminants from the old Burlington Northern Santa Fe Maintenance Facility.
- Waste Matters: educate residents about preventing pollution by reducing/ eliminating waste at the source.
- ECO Solutions: education/outreach activities about the toxic effects of hazardous chemicals and harmful contaminants used in home landscaping and gardening.
- WA Citizens Advisory Committee: coordinate with other Spokane River outreach groups and provide public meetings/forums for interested citizens to learn about the cleanup of the Spokane River.
- Columbia River Keeper: coordinate with other Spokane River outreach groups and provide education materials to the community and local schools. Design and distribute a newsletter whose articles focus on the Spokane River Cleanup.
- Sustainable Seattle: create opportunities for sustainable development in the Puget Sound area through youth education and community action.
- Hanford Information Network: continue to take "The Road Show" statewide to schools, community colleges and colleges/ universities to provide basic information specifically on the underground tank cleanup at the Hanford site.
- WA State Recycling Association: through education/outreach activities, increase recycling programs in rural communities (pilot project).

Public Participation Grants 2005 continued

- Island Remediation & Public Participation Center: provide education/outreach to the residents on cleanup of the heavy metals contamination on the islands from the Tacoma ASARCO plants air emissions.
- The Lands Council: coordinate with other Spokane River outreach groups on development of education/outreach materials. Focus will be on providing outreach materials to non-English speaking communities explaining the cleanup process of the Spokane River.
- Environmental Information Cooperative: train educators in special stream pollution identification and pollution prevention then incorporate the new knowledge in classroom curriculum.
- Justice Alliance Education Fund: provide education on energy conservation and waste stream management into public institutions.
- Olympic Environmental Council: continue to educate the residents in the area about the cleanup process of the Rayonier Mill site and two associated landfills.
- Heart of America Northwest: expand public participation in the annual meetings on Hanford Cleanup site priorities and Hanford Cleanup Budget Priorities.
- In fiscal year 2005, four grant projects were completed early and under budget. The unspent funds from these four grants were reobligated to three other projects needing additional funds in order to complete projects. The three projects receiveing the additional funds were recipients providing oversight of community clean ups.

Coordinated Prevention Grants

Coordinated Prevention Grants are awarded to local governments to prevent pollution from improper management and disposal of solid waste and moderate risk waste. Eligible applicants for these grants include: local planning authorities; agencies designated as lead implementation agencies for Local Comprehensive Solid Waste Management Plans; and, jurisdictional health departments and districts. Projected revenues available each biennium for Coordinated Prevention Grants must be divided into two portions, 80% for Solid and Hazardous Waste Planning and Implementation grants and 20% for Solid Waste Enforcement grants. Local government projects that are typically funded with Coordinated Prevention Grants include:

Solid and Hazardous Waste Planning and Implementation

- Writing and updating local waste plans
- Household Hazardous Waste collection and disposal
- Moderate Risk Waste facility operation
- Public education and outreach
- School education programs
- Recycling facility operation
- Recycling collection events
- Residential composting projects
- Business technical assistance projects

Solid Waste Enforcement

- Inspecting solid waste facilities
- Permitting solid waste facilities
- Complaint response
- Enforcement of solid waste violations (such as illegal dumping)
- Customer and general public technical assistance

Coordinated Prevention Grant funds have also paid for important capital/infrastructure and for pilot projects such as:

- Building Moderate Risk Waste facilities
- Building compost facilities
- Buying equipment for facilities such as balers, can crushers, etc.
- Electronics Product Stewardship projects
- Natural yard care projects.

The current Coordinated Prevention Grant cycle began on January 1, 2004 and will end December 31, 2005. For the 2004-05 grant cycle, $17,956,251 was awarded for 144 grants to Washington counties, cities and public health jurisdictions. The grant funds were distributed as follows:

Waste Reduction/Recycling	$ 8,206,032
Solid Waste Enforcement	$ 2,734,228
Moderate Risk Waste	$ 7,015,991
Total LTCA	**$17,956,251**

A new 2006-07 Coordinated Prevention Grant cycle begins on January 1, 2006. Ecology will award grants in two cycles: the regular cycle and the off-set cycle. The regular cycle is for grants in effect from January 1, 2006, through December 31, 2007. The off-set cycle is for grants in effect from January 1, 2007, through December 31, 2008. Off-set cycle grants remain part of the 2006-2007 allocation.

Department of Ecology: Toxics Cleanup Program 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 clean up criteria and decisions made by the Toxics Cleanup Program, staff awards grants to local governments to clean-up publicly owned contaminated sites and related work.

Approximately $60.0 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 $28.3 in Fiscal Year 2005.

Local Government Projects

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:

- **Site Study and Remediation:** 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.
- **Area-Wide Ground Water Contamination:** These grants are used to provide financial assistance to local governments that seek to cleanup 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.
- **Voluntary Cleanups:** 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.
- **Underground Storage Tanks:** Funding from these grants is provided to local governments that have underground storage tanks needing to be brought into compliance with state regulations.

See Table 6 for a list of awards in Fiscal Year 2005. See Figure 13 for the distribution of awards by category of remedial action grant.

Figure 13: Categories of Remedial Action Grants

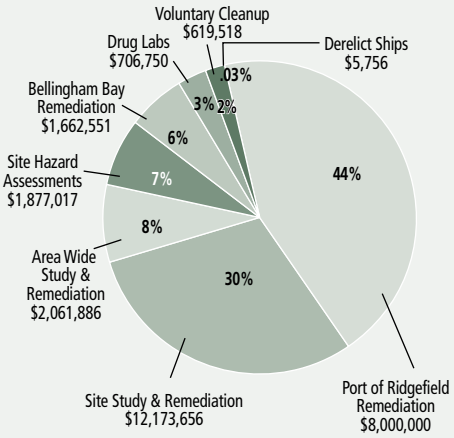


Table 4: Public Participation Grants-Fiscal Year 2005

Recipient	Grant Number	Total Project Cost	Local Toxics Control Account	State Toxics Control Account
Automotive Recyclers of WA	G0500070	15,000		15,000
Amendments to Previous Year Grants		8,680	1,000	7,680
FY05 Public Partication Grants		**$23,680**	**$1,000**	**$22,680**
Ongoing Public Partication Grants from FY04		**$784,980**	**$447,660**	**$337,320**
Total Public Partication Grants		**$808,660**	**$448,660**	**$360,000**

Grant money provides the financial means for site cleanup

by Lucy McInerney – Northwest Regional Office
Toxics Cleanup Program – Department of Ecology

The City of Bellingham conducted a cleanup action at the Holly Street Landfill site from August 2004, through March 2005, that included the removal of 12,400 tons of solid waste, installation of an engineered cap, and property use restrictions. As part of the cleanup, the City voluntarily removed additional material to restore 0.3 acres of historically lost habitat in Whatcom Creek. The City was awarded a 50% matching state grant from Ecology in the amount of $887,352 for the cleanup. In coordination with cleanup activities, the City of Bellingham also constructed a boardwalk with viewpoints/overlooks along the estuary to improve public access to the shoreline. This portion of the work was not eligible and therefore was not funded from the Toxics Control Account.

Amendment of Chapter 173-322 WAC, Remedial Action Grants and Loans

On March 18, 2005, Ecology completed a rule-making process that amended chapter 173-322 WAC, Remedial Action Grants and Loans. The amendments became effective on April 18, 2005. The rule implements the program of remedial action grants and loans for local governments established under the Model Toxics Control Act (MTCA), chapter 70.105D RCW. The intent of the program is to encourage and expedite the cleanup of hazardous waste sites and to lesson the impact of the cleanup on local taxpayers. The grants and loans are used to supplement local government funding and funding from other sources. Ecology amended the rule to address the following issues:

(1) To implement new grant programs: Ecology amended the rule to implement the grant programs that were recently authorized under MTCA. Those grant programs include:
   - The methamphetamine lab site assessment and cleanup grant program; and
   - The derelict vessel remedial action grant program.

(2) To implement an existing loan program: Although MTCA previously authorized the establishment of a loan program, guidelines for such a program had never been established in the rule. Ecology amended the rule to establish those guidelines.

(3) To improve the operation of existing grant programs: Ecology made several specific amendments to improve the operation and utility of existing grant programs, including:
   - Allowing funding of remedial actions performed under CERCLA orders (including orders issued prior to the date of the rule amendments);
   - Allowing proceeds from insurance claims to be used to meet the match requirement for a grant; and
   - Increasing the funding limit for independent remedial action grants.

(4) To improve the clarity and usability of the rule: Ecology reorganized the rule to improve its clarity and usability.

Table 5: Coordinated Prevention Grants-Fiscal Year 2005

Recipient	Grant Number	Total Project Cost	Local Toxics Control Account Amount
Adams County HD	G0500192	22,502.67	16,877
Benton County Solid Waste	G0500184	16,372.00	12,279
Chelan County Public Works	G0500019	26,666.67	20,000
Clark County Public Works	G0500066	18,208.00	13,656
Clark County Publis Works	G0500080	4,842.67	3,632
Jefferson Co Environmental Health	G0500132	10,000.00	7,500
Kitsap County Health District	G0500091	33,333.33	25,000
Kittitas County Solid Waste	G0500031	114,666.67	86,000
Klickitat Co Solid Waste	G0500020	1,000.00	750
Pacific County DCD	G0500162	12,500.00	9,375
Port Angeles City of	G0500038	120,000.00	90,000
Port Angeles City of	G0400376	51,190.00	38,393
Port Angeles City of	G0500055	40,000.00	30,000
Public Health Seattle&King Co	G0500059	70,000.00	52,500
Sedro Woolley City of	G0400364	65,000.00	48,750
Skagit Co Health Dept	G0500047	6,874.67	5,156
Skagit Co Public Works	G0500001	85,000.00	63,750
Skamania County Solid Waste	G0500149	7,000.00	5,250
Snohomish Co Solid Waste Mgmt	G0500002	12,500.00	9,375
Snohomish Co Solid Waste Mgmt	G0500048	22,500.00	16,875
Spokane Regional Solid Waste	G0500148	26,666.67	20,000
Sultan City of	G0500003	11,700.00	8,775
Thurston Co Water & Waste Mgmt	G0400369	50,000.00	37,500
Thurston County Environmental Health	G0500082	80,000.00	60,000
Walla Walla DCD	G0500167	15,000.00	11,250
Amendments to Previous Year Grants			(128,800)
FY05 Coordinated Prevention Grants		**$ 923,523**	**$ 563,843**
Ongoing Coordinated Prevention Grants from FY04		**$ 23,189,874**	**$ 17,392,409**
Total Coordinated Prevention Grants		**$ 24,113,398**	**$ 17,956,251**

Other Activities Funded with Local Toxics Control Account Dollars

Department of Ecology:
Toxics Cleanup Program
Remedial action grants are available to local governments for cleaning up publicly-owned contaminated sites and related work. Staff from the Toxics Cleanup Program oversees the cleanup of these sites to ensure the cleanup meets the requirements of the Model Toxics Control Act.

Department of Ecology:
Administrative Services
Administrative Services uses funds from the Local Toxics Control Account interchangeably across Ecology activities. These services provide the foundation from which Ecology is able to address its core environmental goals.

Department of Ecology:
Hazardous Waste and Toxics Reduction Program

- Providing Technical Assistance on Hazardous Waste-Derived Fertilizers. In fiscal year 2005, Ecology reviewed three hundred seventy-one fertilizer product registration applications for the state of Washington.

All fertilizers must meet the standards required by the Washington State Department of Agriculture and in addition, fertilizers that contain waste materials must also meet compliance standards set by Ecology. Technical assistance provided to the public and other state agencies in a one-on-one format or by the Fertilizer Database on Ecology's web site is an important part of this activity.

Wenatchee Schools built on orchard lands have dirty soil

by Valarie Drew – Central Regional Office
Toxics Cleanup Program – Department of Ecology

In August 2004, several schools were scheduled for soil cleanup in the Wenatchee School District. Two schools with the highest levels of lead and arsenic in the school district, Washington and Lincoln Elementary Schools, were cleaned up first. At both schools the payground soil was replaced, as well as athletic sod and an irrigation system installed at Lincoln. The soil contamination was due to the schools being built on orchards land where pesticides, containing lead and arsenic, were sprayed on apple orchards through the 1940s to fight the codling moth. There are 4 other schools where site plans for cleanup have been developed and remediation is underway (Sunnyslope Elementary school, Orchard Middle school, Pioneer Junior High, and Wenatchee High School).

Table 6: Remedial Action Grants-Fiscal Year 2005

Recipient	Grant Number	Total Project Cost	Local Toxics Control Account Amount
Site Study and Remediation			
Mason County Fire Protection Division no. 5	G0500124	59,605	44,704
Grays Harbor Port of-Hungry Whale	G0500112	32,210	28,989
Seattle, City of	G0500131	1,415,658	707,829
Seattle, Port of	G0500143	679,900	339,950
Moses Lake City of	G0500004	742,000	556,500
Bellingham Port of - I&J Waterway site City of Bellingham	G0500141 G0500154	195,000 375,000	97,500 175,000
Bellingham Port of - Cornwall Ave Landfill site	G0500168	50,000	25,000
Bellingham Port of - Whatcom Waterway site	G0500169	403,632	201,816
Subtotal			**2,177,288**
Amendments to Previous Year Grants		8,527,962	4,263,981
Total			**6,441,269**
Site Hazard Assessments			
Benton-Franklin Health District	G0500087	40,000	40,000
Amendments to Previous Year Grants		174,957	174,957
Total			**214,957**
Drug Labs			
Benton-Franklin Health District	G0500087	20,000	20,000
Amendments to Previous Year Grants		55,000	55,00
Total			**75,000**
Area Wide Study and Remediation			
Amendments to Previous Year Grants		14,000	14,000
Total			**14,000**
Voluntary Cleanup Actions			
Mason County PUD #3	G0500032	40,000	40,000
South Kitsap School District	G0500037	9,645	4,823
Brewster School District	G0500099	97,591	73,374
City of Spokane Fire Department	G0500157	125,192	62,596
Total			**166,142**
FY05 Remedial Action Grants		$ 13,051,150	$ 6,911,368
Ongoing Remedial Action Grants from FY04			21,433,129
Total Remedial Action Grants			**$ 28,344,497**

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