

# Model Toxics Control Account

## Fiscal Year 2009

### Annual Report



Each person has a fundamental and inalienable right to a healthful environment, and each person has a responsibility to preserve and enhance that right. The beneficial stewardship of the land, air, and waters of the state is a solemn obligation of the present generation for the benefit of future generations.

--Model Toxics Control Act, RCW 70.105D.010(1) Declaration of policy

## Publication and Contact Information

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Cover photo courtesy of Rick Roeder – Fall fishing on the Yakima River, about five miles upstream from Ellensburg.  
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The Model Toxics Control Account Report for Fiscal Year 2009 describes how state and local governments use Toxics Control Account revenue to protect human health and the environment. It also shows the large, broad scope of the Model Toxics Control Act (MTCA) – the state law that provides powerful tools for cleaning up, protecting and restoring Washington’s environment, which is so crucial to our way of life and our economy.

Revenue for the Toxics Control Account is generated by a hazardous substances tax on petroleum and other products. Here are just a few examples of how Ecology uses that funding:

- Provide funds to local governments to protect children from harmful diesel emissions from school buses, help people buy new wood stoves to replace their old, air-polluting devices, and restore shorelines in several counties.
- Prevent polluted stormwater from reaching Puget Sound and other Washington waters.
- Remove contaminated soils at playgrounds and daycare centers.
- Improve solid waste management and recycling services.
- Protect children from lead and other harmful materials found in children’s toys and products.
- Restore and protect Puget Sound so future generations can enjoy its recreational and economic benefits.
- Fund Remedial Action Grants to help public agencies clean up contaminated land and return it to productive use.
- Provide Clean Sites Initiative funding for properties that past owners abandoned or can’t afford to clean up.

Other state agencies also use MTCA revenue:

- The Washington State Department of Health funds programs and activities that protect people from toxic substances.
- The Washington State Department of Agriculture works with farmers to reduce and eventually eliminate their use and storage of banned pesticides.
- The Washington State Patrol helps train firefighters who respond to hazardous-materials incidents.

MTCA needs to be powerful – not just to support these and other efforts, but because the environmental challenges that we face also are large and broad.

Risks surround us. We find them where our natural environment (our air, land and water) meets our created environment (our homes, workplaces and the many goods that we produce and use). For example, emissions from our vehicles, industries, and homes taint the air we breathe, which hurts our health and drives up costs for health care and employers. Contaminated stormwater washes off our streets and driveways into water needed for sustaining people, crops, wildlife and fish. MTCA helps us clean up those problems and aids in preventing them from ever happening – the less expensive, smarter solution in the long run. That’s where we must focus our efforts and our MTCA revenue in coming years.

We will continue working together with local governments, industry and communities to use MTCA revenue to promote and maintain a healthy environment that sustains our economy and our citizens.

A handwritten signature in blue ink, appearing to read "Ted Sturdevant". The signature is stylized and written in a cursive-like font.

Ted Sturdevant, Director  
Washington State Department of Ecology

## 2 Basis of the Model Toxics Control Act

The Model Toxics Control Act became Washington state law in 1989, following voter approval of Initiative 97. Threats to human health and harm to the environment had been linked to hazardous waste sites throughout the nation. In Washington, the task of tracking hazardous wastes to their sources uncovered chemical contaminants in both our natural and our built environments. The Model Toxics Control Act (MTCA) defines and supports hazardous waste site cleanup activities, and toxics\* control programs, to restore and protect our quality of life.

MTCA's stated purpose is to:

- Raise sufficient funds to clean up all hazardous waste sites.
- Prevent the creation of future hazards that result from improper disposal of toxic substances into the state's land and waters.
- Clean up and reuse contaminated industrial properties, and to make clean land available for future social use.

\*We define "toxics" as manufactured or combined chemical compounds. Toxics do not include the class of *toxins* formed by plants (e.g., poison ivy) or secreted by animals (e.g., snake venom) through natural biological processes.

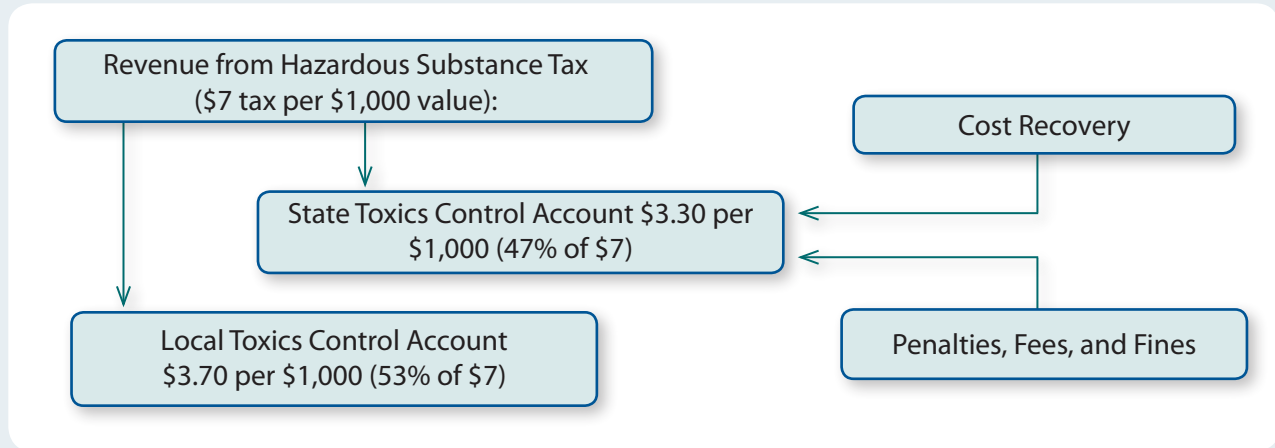


## Toxics Control Account

### RCW 70.105D.070 – The Toxics Control Account

The primary source of revenue into the Model Toxics Control Account is payments of the hazardous substance tax. The tax applies to the first in-state possession of petroleum products, pesticides, and certain other toxic chemicals.

### MTCA Revenue Streams



**Hazardous Substance Tax** – The Department of Revenue collects payments of the tax for deposit into the Model Toxics Control Account. More than 85% of the revenue deposited to the Toxics Control Account comes from payments of the hazardous substance tax.

See the Department of Revenue page 78 for a more detailed description of the Hazardous Substance Tax.

**Cost Recoveries** – Ecology recovers its costs of conducting site cleanup, overseeing cleanup actions conducted under the terms of a formal Decree or Order, or evaluating independent site cleanup documents. Charges for Ecology’s services are billed at an hourly rate defined by rule.

**Litigation Recoveries** – Example: When a liable party (historic polluter) files for bankruptcy protection from creditors, Ecology incurs costs for securing our claim to the party’s liquidated assets.

**Fines and Penalties** – Ecology issues fines and imposes penalties when parties fail to comply with the state’s environmental protection or cleanup laws.

**Mixed Waste Fees** – Ecology obtains permit fees from one site at Hanford, and from several non-Hanford businesses that collect, transport, or dispose of mixed wastes (combinations of hazardous wastes and radiation-exposed wastes).

Shaded rows show deposits made by Department of Ecology.

### State Toxics Control Account – Fiscal Year 2009 Revenue Sources

Revenue Source	Amount	Percent of Total
Hazardous Substance Tax	\$ 55,668,461.20	77.0%
Mixed Waste Fees	\$ 11,453,483.00	15.8%
Cost Recovery	\$ 5,749,203.40	8.0%
Voluntary Cleanup Program	\$ 676,216.39	0.9%
Fines & Penalties	\$ 165,586.68	0.2%
Miscellaneous	\$ 13,438.79	0.0%
Transfers	\$ (1,423,000.00)	-2.0%
<b>Total</b>	<b>\$ 72,303,389.46</b>	<b>100.0%</b>

## 4 Toxics Control Account Fiscal Year 2009 Expenditure Summary

### Distribution of Toxics Control Account Funds Appropriated to the Department of Ecology

#### MTCA Funding Distribution

The legislature appropriates Model Toxic Control Account funds to select state agencies—the Departments of Ecology, Health, Agriculture, Natural Resources, and Revenue; the Parks and Recreation Commission, the Puget Sound Partnership, and the Washington State Patrol's Fire Training Academy—through the biennial budget process.

By operation of law, the legislature appropriates the greatest level of funding to the Department of Ecology, the state's primary environmental protection agency. MTCA divides the revenues into two funding sources. Local Toxics Control Account funds go exclusively to Ecology, for distribution as grants or loans to local government entities. State Toxics Control Account funds go to state agencies, to pay for regional or statewide programs that fulfill one or more of MTCA's purposes.

#### Ecology's MTCA Appropriations Transfer History 2007-09 Biennium

State Toxics Control Account to General Fund	\$ 2.0 Million
State Toxics Control Account to Oil Spill Prevention Account	\$ 2.4 Million
<b>Total State Toxics Control Funds Transferred</b>	<b>\$ 4.4 Million</b>

#### State Toxics Control Account Expenditures by Ecology's Programs

Department of Ecology Program	Capital	Operations	Sum of Expenditures	Percent of Total
Agency Admin., Facilities, Communications (AAFC)	36,937	5,916,843	\$ 5,953,780.09	8.9%
Environmental Assessment Program (EAP)			\$ 4,323,090.27	6.5%
Hazardous Waste & Toxics Reduction (HWTR)	183,289	6,381,542	\$ 6,564,831.55	9.8%
Nuclear Waste Program (NWP)			\$ 5,805,769.70	8.7%
Shorelands and Environmental Assistance (SEA)			\$ 93,485.06	0.1%
Spill Prevention, Preparedness, & Response (SPPR)			\$ 4,707,765.24	7.0%
Toxics Cleanup Program (TCP)	9,649,639	18,239,865	\$27,889,504.47	41.7%
Waste 2 Resources Program (W2R)			\$ 4,432,153.41	6.6%
Water Quality Program (WQP)	5,017,034	2,109,747	\$ 7,126,781.56	10.7%
<b>Ecology's Total 2009 State Toxics Control Expenditures</b>			<b>\$66,897,161.35</b>	<b>100.0%</b>

**AAFC** (Program A) provided leadership, administrative coordination, and facilities services to all regions.

**EAP** provided objective, scientifically valid information about existing environmental conditions.

**HWTR** fostered sustainable practices, and ensured safe management of hazardous substances.

**NWP** oversaw nuclear waste cleanup at the US Hanford Site and nearby, and regulated mixed waste.

**SEA** reviewed plans and published dredging projects guidance, to avoid creating new contamination.

**SPPR** maintained capability, equipment, and training to respond 24/7/365; we emphasized prevention.

**TCP** staffers removed toxics from soil or water, and kept toxics out by integrating cleanup and land use.

**W2R** continued Ecology's work to reduce Persistent Bioaccumulative Toxics (PBTs) uses and exposures.

**WQP's** programs and activities reduced toxics flow into Washington's fresh and marine water sources.

Examples of Ecology's State Toxics Control Account-funded projects appear on pages 12 - 36.



## Toxics Control Account Fiscal Year 2009 Expenditure Summary

### Distribution of Toxics Control Account Funds Appropriated to the Department of Ecology

2009 Local Toxics Control Account – Revenue	Amount	Percent
Hazardous Substance Tax	\$62,871,377.91	100.0%

### Ecology's MTCA Appropriations Transfer History 2007-09 Biennium

Local Toxics Control Account to the State General Fund	\$ 75.0 Million
Local Toxics Control Account to State Toxics Control Account	\$ 3.0 Million
<b>Total Local Toxics Control Account Funds Transferred</b>	<b>\$78.0 Million</b>

### 2009 Local Toxics Control Account Expenditures by Ecology's Programs

Department of Ecology Program Name	Total Expenditures	Percent of Total
Agency Admin., Facilities, Communications (AAFC)	\$ 507,705	0.8%
Capital Program – AAFC, Air Quality, Waste 2 Resources, Water Quality	\$ 50,192,030	77.1%
Hazardous Waste & Toxics Reduction (HWTR)	\$ 2,279,578	3.5%
Spills Prevention, Preparedness & Response (SPPR)	\$ 1,643,543	2.5%
Toxics Cleanup (TCP)	\$ 750,870	1.2%
Waste 2 Resources (W2R)	\$ 2,786,653	4.3%
Water Quality (WAP)	\$ 6,969,642	10.7%
<b>Total Local Toxics Expenditures</b>	<b>\$ 65,130,022</b>	<b>100.0%</b>

**AAFC** (Program A) gave communications and outreach support to local governments for their toxics control projects.

**Capital Program** grants paid for diesel retrofit devices, certified wood stoves; cleanup at high-priority community sites; stormwater or wastewater system upgrades at sites along or near Puget Sound.

**HW&TR** gave technical assistance to business operators; wrote and enforced pollution limiting permits, inspected regulated facilities.

**TCP** performed, or funded local governments to contract for, actual cleanup activities at priority sites.

**W2R** grant awards supported local hazardous sites cleanup projects, community waste reduction planning and infrastructure programs, and public participation activities.

**WQP** grants to local communities funded Stormwater Control systems and activities.

Examples of Ecology's Local Toxics Control-funded grant projects appear on pages 37 - 58.

## 6 Toxics Control Account Fiscal Year 2009 Expenditure Summary

### State Toxics Control Account Funds Expended by Other Agencies

#### 2009 State Toxics Control Account Expenditures by Agency

State Agency	Expenditure Amount	Percent of Total
Department of Agriculture	\$ 2,145,031.42	2.8%
Department of Ecology	\$66,897,161.35	86.2%
Department of Health	\$ 2,046,448.47	2.6%
Department of Natural Resources	\$ 3,659,864.55	4.7%
Parks and Recreation Commission	\$ 189,385.30	0.2%
Puget Sound Partnership	\$ 1,408,257.54	1.8%
Department of Revenue	\$ 42,000.00	0.1%
University of Washington	\$ 942,568.30	1.2%
Washington State Patrol	\$ 276,621.99	0.4%
<b>Total All Recipient Agencies</b>	<b>\$77,607,338.92</b>	<b>100.0%</b>

**Department of Agriculture** held regional banned-pesticides or pesticide-containers collection events.

**Department of Health** studied toxics availability in our food chain, issued fish consumption advisories.

**Department of Natural Resources** removed creosote-treated pilings, structures, and beach debris.

**Parks and Recreation Commission** prioritized sanitation and storm water control system upgrade plans.

**Puget Sound Partnership** conducted Low Impact Development – Regulation Assistance workshops.

**Department of Revenue** collected Hazardous Substance Tax [Chapter 82.21 RCW] payments.

**University of Washington** cleaned up pollution from the More Hall Annex building and grounds.

**WSP's Fire Training Academy** controlled water runoff, reclaimed water; gave chemical hazards training.

Examples of Other Agencies' State Toxics Control Account-funded projects appear on pages 59 - 78.

## Toxic Control Account - Fiscal Year 2009 Expenditure Reports

In 1970 state government entities which had performed environmental measurement and protection tasks were combined into a single umbrella agency, the Department of Ecology. Title 70 of the Revised Code of Washington (RCW) gave Ecology certain powers to perform its duty to protect Washington's environmental quality. In 1989 the Model Toxics Control Act defined Ecology's leadership role in site cleanup, toxics control—and funding accountability.

### Ecology's Fiscal Year 2009 Toxics Control Activities

**Clean up.** *Ecology identified toxic releases to the environment, assessed risks, and conducted cleanup.*

- Ecology cleaned up pesticide residue from school grounds that were constructed on former orchard lands.
- Ecology collaborated with local governments, funding and overseeing cleanup within affected communities.
- Ecology used MTCA funding to move the cleanup process forward, despite liability disputes.

**Reduce.** *Ecology programs promoted safe waste management and reduced waste generation.*

- Ecology provided informal advice and assistance to small quantity generators (service businesses).
- Our permits imposed certain practices and release limits, and recorded allowances for defined sectors.
- MTCA grants paid capital costs of "swapping out" or modifying devices, to reduce particulate emissions.

**Prevent.** *Ecology prevented the creation of future hazards due to improper disposal of toxic wastes.*

- Ecology paid auto recyclers to remove mercury switches from vehicles before crushing the frames.
- We inspected facilities and vessels, and compelled operators to up-date safety plans and run practice drills.
- Our model integrated land use and site cleanup policies to promote redevelopment of industrial property.

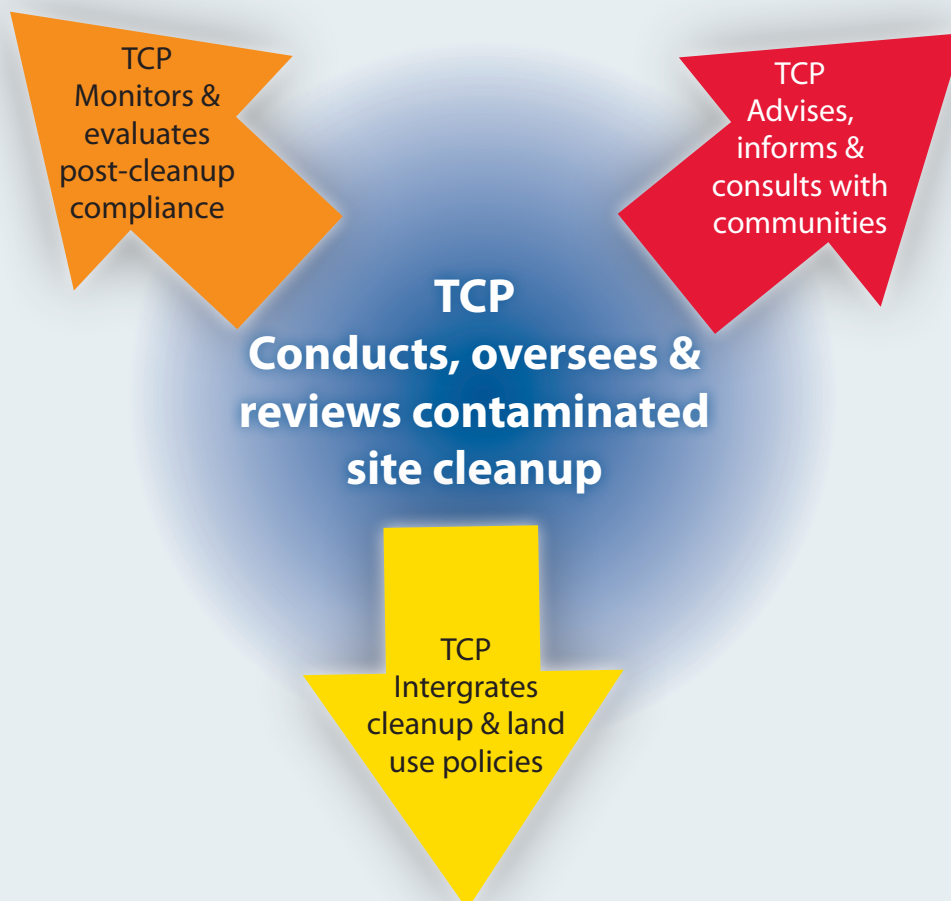
### Funding Recipients' Reported 2009 Toxics Control Achievements

1. The first section of this Report tells results of *Ecology's support from the State Toxics Control Account*. Each Program focused on protecting certain media (air, land, or water) or on performing a task defined by state law and rules. This Report tells about the Toxics Cleanup Program's 2009 expenditures first, because site cleanup is the most visible and expensive mechanism for controlling toxics; site cleanup spent nearly 42% of the State Toxics Control funds appropriated to Ecology for 2009. Examples of other Ecology Programs' State Toxics -funded projects follow, arranged alphabetically by Program names.
2. The next section, also arranged alphabetically by Ecology Program names, tells about toxics control projects that local governments identified as their priorities. Each recipient of a *Local Toxics Control Account grant or loan* from Ecology, had to complete project tasks—within a prescribed budget and timeframe. Ecology's smallest Local Toxics administrative role entailed awarding a grant or loan to a local entity, writing the funding agreement, and regularly verifying that the recipient's expenditures conformed to its terms. Ecology's largest role included acting as General Contractor on a project— subcontracting certain tasks to licensed and bonded firms, overseeing work progress, and paying the agreed contract price for satisfactory performance— from the community's Local Toxics Control funds.
3. The final section describes 2009 *expenditures from the State Toxics Control Account* by state agencies other than the Department of Ecology. These agencies received State Toxics appropriations to (a) clean up toxic contamination, (b) reduce the amount of toxics flowing into the environment, or (c) prevent improper disposal of toxic wastes. Find each recipient's toxics control story; we arranged them alphabetically, by the state agencies' names.

## Department of Ecology Toxics Cleanup Program

8

Ecology's Toxics Cleanup Program - State Toxics



**The mission of the Toxics Cleanup Program is to remove and keep contaminants out of the environment.** The Toxics Cleanup Program exercises all the powers and performs all of the duties assigned to the Department of Ecology by RCW 70.105D.030 of the Model Toxics Control Act.

Fiscal Year 2009 (July 1 2008 through June 30 2009) cleanup activities focused our resources:

**TCP removed contamination from soil and water—**

- We cleaned up some asbestos waste that contaminated Swift Creek
- We removed historic pesticides contamination from school yards in Yakima
- We removed heavy metals contamination from Western Washington playgrounds
- We funded public works projects to clean up toxics from high priority sites
- We focused resources to cleanup sites located within half a mile of Puget Sound

**TCP kept contaminants out of the environment—**

- We enforced the Uniform Environmental Covenants Act protections
- We published a cost-benefit analysis tool to promote Brownfields revitalization

## Toxics Cleanup Program

### What's a hazardous site?

Any property or structure where toxic chemicals were manufactured, used, or stored –or any property located downstream or down-gradient of such a site— likely contains toxic contaminants.

When Ecology receives a report of a hazardous substance release, the nearest Regional Office sends a TCP inspector to the site. The inspector looks at structures, soil, water and sediment, and air-flow patterns for signs of (1) toxic substance spills or (2) threats posed by residue from the manufacture, use, or storage of toxics on-site or nearby. We may collect soil, sediment, or water samples for analysis.

We compare the samples' contaminant levels to MTCA standards. If the comparison suggests a need for further investigation, a TCP expert conducts a Site Hazard Assessment (SHA). The SHA evaluates environmental traits and peculiarities at the site, and may include the site's land use history, to estimate the likelihood that the contamination could spread and that people could be exposed. **During Fiscal Year 2009 we completed 161 site hazard assessments. Based on those assessments, we added 73 new sites to the state Hazardous Sites List.**

The Hazardous Sites List includes all assessed and ranked sites, whether engaged in some phase of cleanup or waiting to begin it. We publish updated lists in February and August each year, showing additions of sites, changes in any listed site's cleanup status, and proposed removals from the list (after cleanup). **During Fiscal Year 2009 Ecology issued "No Further Action" opinions at 186 sites** where final cleanup actions satisfied Model Toxics Control Act standards and requirements. **Ecology also removed 22 sites** from the Hazardous Sites List during that year. You may conduct an electronic search of the state Hazardous Sites List and link to other searchable lists by going to: <http://www.ecy.wa.gov/programs/tcp/sites/SiteLists.htm>.

### Hazardous Site Cleanup Process

Procedures for hazardous waste site cleanup are published in Chapter 173-340 WAC. Consult the rules for specific requirements; the process steps are listed below:

1. **Site Discovery:** Any Site where contamination is found or suspected must be reported to Ecology's Toxics Cleanup Program (TCP).
2. **Initial Investigation:** Ecology conducts an initial investigation; based on information obtained about the site, Ecology determines whether to perform additional investigation, emergency cleanup, or no further action. If further action is required under MTCA, Ecology invites owners, operators, and other potentially liable persons to work cooperatively to find a remedy.
3. **Site Hazard Assessment:** After Ecology confirms the presence of a hazardous substance on site, a TCP expert weighs the relative threat the contamination poses to human health and the environment.
4. **Hazard Ranking:** Having worked with the Science Advisory Board to create the Washington Ranking Method, TCP applies it (data gleaned from previous site hazard assessments) to rank sites on a scale; a rank of 1 represents the highest risk, and 5 the lowest. Ranked sites are published on the state Hazardous Sites List.
5. **Remedial Investigation/Feasibility Study:** A remedial investigation closely defines the extent and magnitude of the contamination. A feasibility study evaluates the contamination's potential impacts to human and environmental health and weighs appropriate technologies to avoid those impacts.
6. **Cleanup Action Selection:** A cleanup action plan identifies the preferred cleanup methods and the applicable cleanup standards and protections required by MTCA.
7. **Site Cleanup:** Implementation of the cleanup action plan includes applying the design, actual construction (or site de-construction) operations, and monitoring throughout the activities. After Ecology verifies a completed cleanup meets MTCA standards, Ecology can allow the site's removal from the state Hazardous Sites List.

## Toxics Cleanup Program

### Site hazard ranking

Ecology considers the amount of contamination, the types of contaminants, the risk that the contamination will spread, and primary exposure routes (i.e., how easily people and other living creatures could be exposed to the contaminants). The greatest risks arise from sites where contamination—

- Threatens drinking water supplies or delivery systems
- Exists in quantity or spreads over a large area
- Is toxic to animals or fish that absorb, inhale, or ingest it
- May affect the health of a water body/flow, its biota, and sediments
- May affect the health of people who live, work, or recreate there

Hazard ranking helps Ecology apply MTCA cleanup funding effectively. After TCP's expert applies the ranking method, the site receives a score ranging from one to five. A score of "1" denotes the highest level of concern—and a first priority for cleanup, relative to other ranked sites. A score of "5" denotes the lowest priority for public investment or using direct Ecology staff oversight to achieve cleanup.

**High-priority sites.** Ecology's TCP site cleanup efforts focus first on high-priority sites. Federal Super-fund sites—ranked "0" on the Hazardous Sites List—and sites the Toxics Cleanup Program expert (TCP) ranked as either "1" or "2" are defined as high-priority. Public concern and an immediate social or economic need may also draw attention to a site scored as a lower risk.

**During Fiscal Year 2009 Ecology listed 46 sites 1, 2, or 3, as high-priority projects.**

At high-priority sites Ecology's TCP staff conduct, or direct and oversee, the phases of the cleanup— site investigation, immediate and long-term remedy selection (appropriate cleanup technologies/methods plans), plan implementation, and cleanup action completion. Ecology's TCP experts consult with the public and affected communities during stages of the planning processes for site investigation, remedy selection, and planning the site cleanup methods application and performance sequence. Ecology staff also review certified cleanup action reports and verify that monitoring results satisfy MTCA standards.

**Lower-ranked sites.** Projects ranked 3, 4, or 5 on the Hazardous Sites List do not pose an imminent threat to human health or the environment. TCP staff directly managed formal cleanup actions, or gave technical assistance to the managers of cleanup projects, at 27 lower-ranked sites during fiscal year 2009.

Owners of some lower-ranked sites engaged in the cleanup process during Fiscal Year 2009. Long-term monitoring, to verify cleanup action results, was under way at others. TCP staff issued "No Further Action" [needed] opinions at lower-ranked sites where certified reports from licensed and bonded contractors indicated satisfaction of MTCA standards (limits on concentrations of toxic contaminants).

Persons responsible for lower-ranked contaminated sites (the potentially liable parties) may wait for Ecology to conduct a formal cleanup process, but a majority chose to conduct site cleanup projects independent of Ecology's direct oversight. One alternative process available to a site owner or operator not compelled to act (by an Order or Decree) is the Voluntary Cleanup Program.

## Toxics Cleanup Program

### Voluntary Cleanup Program

TCP's Voluntary Cleanup Program (VCP) offers an option at lower-ranked sites where both the source of contamination, and a reasonable and available cleanup methodology, can be readily identified. A majority of VCP projects address sites contaminated by leaks or spills from fuel storage tanks.

Benefits to the state: (i) Entry into the VCP allows prompt cleanup of a lower-ranked site. (ii) Ecology's reviewer can advise and consult with multiple customers. (iii) The costs for Ecology's review and evaluation are paid by the respective customer /beneficiary, rather than by tax payers.

Benefits to the VCP customer: (i) A "No Further Action" opinion satisfies financial assurance requirements. (ii) The VCP gives certain decision-making power into the site owner's/tenant's hands. (iii) The VCP cleanup process tends to proceed predictably, due to the nature of a lower-ranked site, and to foregoing public comment on each planning or action phase of the cleanup. The customer can obtain an "opinion" from Ecology in less time than formal oversight of a cleanup requires—thereby saving time and money.

Benefits to the community: (i) When residents become aware of the nature and cause of contamination at the site, they can adopt safer habits. (ii) Awareness of the risks posed by the contamination and by cleanup-related construction allows residents to avoid exposures. (iii) A completed cleanup boosts the site's potential to attract investments and redevelopment.

During Fiscal Year 2009 the Voluntary Cleanup Program's 1,228 invoices billed a total of \$474,772.16 in consultation service charges, and Ecology's fiscal office received VCP payments of \$483,294.16. The Toxics Cleanup Program deposited all VCP receipts into the State Toxics Control Account.

### Who pays for site cleanup?

Any person's past or present connection to a contaminated site may result in liability:

- Past or current facility owner, tenant, or operator
- Hazardous product storage facility, or a hazardous substance treatment or disposal business
- Hazardous substance transporter (commercial or contract carrier)
- Seller of a hazardous product where use –according to written instructions—results in contamination

The Model Toxics Control Act holds each potentially liable person (PLP) jointly and individually responsible for the entire cost of cleanup. When a PLP has been identified, Ecology oversees the cleanup to ensure that site investigation, public involvement in planning and decision review, and the actual site cleanup and monitoring results, are achieved. If the PLP is unknown or has no assets, Ecology conducts the cleanup and the costs are paid by Toxics Control Account funds.

**Cost recovery.** Through a process prescribed by the Model Toxics Control Act, and defined by rule, TCP staff recovered costs of supervising the site cleanup process. During Fiscal Year 2009 the Toxics Cleanup Program deposited \$5,749,203 recovered dollars into the State Toxics Control Account, to support other cleanup projects.

## 12 State Toxics Control Account – TCP Operations

### Example: City Parcel Site

#### Land Use

The City Parcel Site (the Site), a former transformer repair facility, is located in Spokane.

In 1979 the property sold to City Parcel became a package delivery business operated from the site. But the previous owner's transformer repair operations at this facility, from 1961 to 1979, resulted in the release of Polychlorinated Biphenyls (PCBs) within the building structure and to soils beneath and around the structure.

PCBs are a mixture of man-made chemicals that were used as insulating fluids in transformers. In 1977 production of PCBs ended in the United States due to knowledge that they are harmful to human health and the environment.

#### Site Investigation

In 1976 when the federal Environmental Protection Agency (EPA) first investigated the Site, PCBs were found in site soils. EPA's subsequent investigations confirmed the presence of PCBs in the soils, in dry wells, and in sediments inside drain lines. Ecology took the lead in 1997 to undertake cleanup under the Model Toxics Control Act, while liability for cleanup costs was being sorted out. In 2002, after the liable parties were unable to reach an agreement to conduct investigations at the Site, Ecology conducted a Remedial Investigation (RI) to determine the extent of the contamination. Results of our Remedial Investigation confirmed extensive contamination by PCBs in the soil and in the building.

#### Feasibility Study

In 2004, Ecology prepared a Feasibility Study to identify alternative methods for remedying the PCB contamination at the Site; to announce the cleanup method (alternative) Ecology preferred, we published a Cleanup Action Plan (CAP). The CAP defined remedial actions to address the PCBs exposure pathways at the Site. The remedy in the CAP included (1) demolition of the building, (2) removal of drywells, drain lines, and underground storage tanks, (3) soils excavation, and (4) disposal or treatment of PCB-contaminated soils and materials.

Ecology and the liable parties did not agree on how to implement cleanup at the Site. In 2006, Ecology took legal action against the liable parties; the parties reached settlements in December 2007. Under the settlements the liable parties would each contribute \$270,000 to the cleanup, and Ecology would provide both cleanup action leadership and the majority of funding (from the Model Toxics Control Account) to pay for conducting it.

#### Cleanup Action

Those cleanup actions began in June 2009 and were completed in September 2009. Before demolishing the building, special contractors were brought in to remove asbestos-tainted materials. After the building was demolished came excavation of approximately 6,960 tons of contaminated soils, and the removal of underground structures—three storage tanks, four dry wells, and drain lines. A total of 8,200 tons of PCB-contaminated materials and soils were taken to hazardous waste facilities designed to treat or dispose of these materials. The excavated area was backfilled with clean soils.



## TCP Operations City Parcel Site



Figure 1. This is the City Parcel property with the building still standing before the cleanup actions began.

Figure 2. The City Parcel building was demolished to clear the area for the removal of the drain lines, dry wells, and underground storage tanks, and to access the soils for systematic excavation.



Figure 3. Removal of an underground storage tank which contained oil with PCB contaminants.



Figure 4. The Site after cleanup actions.



## Sauros Cleanarama Site by Marv Coleman

### Land Use

This site is located in Tacoma's International Financing District. Years of typical dry cleaning business operations left high levels of perchloroethylene contamination. It affected the structure, and the soil and groundwater beneath the building.



### Cleanup

The first photo shows drilling to install tie backs. Tie backs secure the shoring (walls that prevent the sides of an excavation from collapsing). The second photo shows excavation equipment that the contractors lowered into the hole, using a crane. The excavation actually went deeper than this photo shows.

## Burlington Northern Santa Fe – D Street Pipeline Site, Photographs and story by Marv Coleman

Heavy fuel leaked from an historic pipeline owned by the BNSF Railroad. Two photos show the black ooze of tarry oil making its way to Thea Foss Waterway—where it fouled water and coated boat hulls.



To remove the maximum amount of contamination, and minimize disruption to a nearby business, we used an innovative method to control the limits of the excavation area. Rather than trenching around the contamination and driving sheet pile shoring into the ground to line the perimeter with retaining walls, we froze soil "walls" around the contamination.



## Port of Vancouver (USA), Swan/Cadet Manufacturing Interim Cleanup Action

Photos and story by Craig Rankine

This site is comprised of two separate contaminant release areas. The primary contaminants of concern are trichloroethylene (TCE) and perchloroethylene (PCE, also called tetrachloroethylene).

The first photo shows assembly of the top half of an air-stripping tower. The Port's pump-and-treat plant began operations in mid-2009. Two air-stripping towers currently receive contaminated groundwater, pumped at volume from a single large extraction well. As the water shoots upward, air forced into the flow removes contaminants.

Other tanks and pipes provide pre- and post-stripping groundwater treatment.



Because the pump-and-treat system has been successful, this designated "Interim Action" will likely become the primary remediation facility for the site.



The white objects surrounding the hole are the tops of tubes. We drove the tubes into the ground and pumped a freezing agent into them; it stabilized the soil walls down to a depth of about 30 feet. The frozen soil walls kept shallow groundwater from pouring into the hole. This innovation saved time and money. It avoided costs –and wastes— related to disturbing a larger area, and to pumping contaminated groundwater out of the hole and disposing of it.



## 16 State Toxics Control Account – Capital Budget Program

The State Toxics Control Account's Capital Budget provides funding to pay actual costs of performing large-scale public works projects. Through the Department of Ecology's Toxics Cleanup Program, during Fiscal Year 2009 Capital funds paid for:

- Safe Soils Remediation Grants – Orchard pesticides cleanup / Heavy metals plume cleanup
- Clean Sites Initiatives – Cleanup projects at high priority sites
- Puget Sound Initiative – Cleanup activities at sites located within half a mile of the Sound

Some of the projects are described below.

### Fiscal Year 2009 Soil Remediation Projects

**Central Washington** produces a variety of food crops, including orchard fruits. Pesticides historically used to protect the crops, left lead and arsenic contamination behind when those orchard lands were converted to other uses. Throughout Central Washington, former orchards were cleared of trees and the properties were purchased by local governments who built schools on the land. Untreated, the school grounds pose long-term risks that playing children will inhale or ingest decades-old lead and arsenic.

Ecology's Central Regional Office began cleaning up contaminated soil from school yards in the summer of 2006. An important aspect of school yard cleanup actions is the time constraint—work cannot begin until school is out for the summer, and the work must be completed three weeks before school resumes in the fall. At each of two Yakima elementary schools, during the summer of 2009 Ecology's contractors (1) removed and disposed of the contaminated soil, (2) laid a geotextile membrane over the surface, (3) placed a layer of clean soil on top of the liner, and (4) rolled sod over the play area and hydro-seeded the rest of the school landscape.

<b>Gilbert Elementary School</b>	<b>\$ 326,646.65</b>	<b>Robertson Elementary School</b>	<b>\$ 268,853.26</b>
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Gilbert Elementary School excavation and prep



Robertson Elementary School placing geotextile



Gilbert Elementary School complete



Robertson Elementary School complete

## State Toxics Control Account – Capital Budget Program

### Example: \*The Soil Safety Program

In Western Washington, school playgrounds and childcare centers’ yards within the Tacoma Smelter Plume area were systematically sampled by local health departments. Analyses of those samples showed some soil was contaminated with lead and arsenic concentrations greater than the limits allowed by Model Toxics Control Act standards. Ecology staff met with officials of those schools or childcare centers; together we developed a site-specific Soil Safety Action Plan. Each Action Plan incorporated health actions (habits to promote child safety, such as hand-washing and using door mats to avoid bring contaminants into the building) and construction actions (removing the contaminated soil, replacing it with clean soil, and covering the area with new sod or play chips).

Once the school or childcare operator and Ecology agreed upon the facility’s Soil Safety Action Plan, Ecology lets public works contracts; successful bidders performed the construction work under close (daily, with written records) supervision by Ecology staff. Where school district officials preferred to advertise the work and select the construction contractor directly, they signed an Interagency Agreement with Ecology to acquire the funds to pay the contractor, but Ecology supervised performance and the contractor’s satisfaction of the Scope of Work.

**During Fiscal Year 2009, local health departments evaluated more than 200 childcare centers and sampled 165 of them.** Sixteen facilities had soil contamination at levels that required action. Ecology staff visited twenty facilities to discuss sampling results and begin a Soil Safety Action planning process. Ecology implemented Soil Safety Actions at nine schools and at nine childcare facilities within the King County and Pierce County Tacoma Smelter Plume area.

### July 1, 2008 through June 20, 2009 School and Childcare Center Cleanups

Schools	Date Completed	
Lake City Elementary	7/11/2008	Ecology Contractor
Custer Elementary	7/25/2008	Ecology Contractor
Lochburn Middle	7/15/2008	Ecology Contractor
Sanislo Elementary	7/22/2008	Ecology Contractor
Star Lake E Elementary	7/22/2008	Ecology Contractor
Downing Elementary	4/10/2009	Interagency Agreement
Whittier Elementary	4/10/2009	Interagency Agreement
Wainwright Elementary	4/10/2009	Interagency Agreement
Pt Defiance Elementary	6/30/2009	Interagency Agreement
Childcare Centers	Date Completed	
St Lukes Preschool	9/1/2008	Ecology Contractor
Skyline Presbyterian Preschool	6/4/2009	Ecology Contractor
Barbara Zanger	6/16/2009	Ecology Contractor
Charlotte Bishop	5/7/2009	Ecology Contractor
Debbie Amell	3/31/2009	Ecology Contractor
Katherine Green	6/23/2009	Ecology Contractor
Marcehal Fink	4/23/2009	Ecology Contractor
Mary Alvarado	4/10/2009	Ecology Contractor
Jeff Sagmoen	6/26/2009	Ecology Contractor

### Puget Sound Initiative

The Puget Sound Initiative focused efforts on contaminated sites located within half a mile of Puget Sound. Toxics Cleanup Program staff designed a “bay-wide” or geographic approach to these sites. This approach results in faster cleanup than the site-by-site method can. Larger areas of cleaned up and restored shoreline benefit habitat for fish, wildlife, and people.

#### Cleanup work in the Anacortes area

The Washington Department of Ecology (Ecology) identified Skagit County's Fidalgo and Padilla bays as high-priority, “early-action” cleanup areas under the Puget Sound Initiative. In and around Fidalgo Bay, an Ecology team worked with the Port of Anacortes, other site owners, area tribes, and others to clean up and restore sites contaminated with gasoline, diesel fuel, metals, and other toxic substances.

Here's a list of those sites we focused on during Fiscal Year 2009:

- Cap Sante Marine— Work on the site in the Cap Sante Boat Haven wrapped up earlier this year, resulting in the removal of 15,000 tons of contaminated soil. The cleanup work coincided with improvements at a newly restored shoreline and public walkway. Public access was improved and amenities such as a retaining wall, natural plantings, benches and upgraded lights were added.
- Dakota Creek Industries (DCI) shipyard—Work was under way at Project Pier 1, a joint effort involving DCI and the Port, to redevelop the shipyard along Guemes Channel. The Port disposed of more than 30,000 tons of sediments that were contaminated with gasoline, diesel, arsenic, dioxins, and metals related to historic shipyard operations. The Port mitigated impacts to eelgrass in south Fidalgo Bay. The Port also promised to create more intertidal area and restore the shoreline just west of the shipyard, and construct low-impact development stormwater demonstration projects.
- Former Shell Oil tank farm—Ecology and the Port signed an Agreed Order for investigation and cleanup of this Port-owned site. Soil and groundwater were contaminated with gasoline and diesel from [operating] the former tank farm. Some removal of contaminated soil has begun.
- Former Scott Paper mill—Ecology works with the site's current owners – the Port and MJB Properties – and with former owner Kimberly Clark. Upland soil, groundwater, and marine sediments are contaminated with chemicals, metal, and wood waste.
- March Point (Whitmarsh) Landfill—Ecology, Texaco, Shell, Skagit County, and DNR signed an Agreed Order to outline a site investigation. Site samples show a variety of contaminants—including metals, polycyclic aromatic hydrocarbons (PAHs), dioxins and furans.
- Custom Plywood—Ecology, and site owner GHB Investments LLC, worked on a cleanup action plan. Site contamination includes petroleum products, beach and intertidal debris, creosote pilings, and wood waste from past manufacturing practices.

Read more about efforts to clean up Puget Sound:  
[http://www.ecy.wa.gov/puget\\_sound/index.html](http://www.ecy.wa.gov/puget_sound/index.html)

Port of Anacortes website:  
<http://www.portofanacortes.com>

## Keeping Toxics Out of the Environment

“Brownfields” properties are abandoned or underused because of real or perceived contamination from past industrial or commercial use. While liabilities associated with such properties can hinder redevelopment, site cleanup can act as a catalyst.

The qualitative benefits of Brownfields redevelopment are generally known and widely accepted. Cleaning up contamination removes known threats to public health and puts land back into productive use. But it can also achieve public policy objectives such as economic development and community revitalization. During fiscal year 2009 Ecology staff focused on developing a model for estimating the probable economic benefits of combining site cleanup and building a specific Brownfields project—short term economic activity and job creation, and the return on public investment and long-term benefit.

**Timing** We began identifying the elements and planning the structure of our Brownfields redevelopment forecasting model before the economic downturn of 2008 nearly brought the project to a halt. With the level of state funding for Brownfields assessment and cleanup declining, the need for a reliable model became more urgent. At this juncture, the remaining—economically challenged—projects would require greater public sector investment. We reasoned that exercising due diligence to compute a more accurate estimate of both the probable redevelopment costs and the possible future economic returns, would better inform decisions about site cleanup and reuse.

**Legislative Charge** The Washington State Legislature, through a 2009 budget proviso, directed the Washington State Department of Ecology (Ecology) to study financing alternatives for Remedial Action Grants. Under this directive we weighed potential options to finance the large number of projected cleanup projects identified in Ecology's 2009 HB 1761 report, including:

1. Capitalizing cleanup costs using debt issuance.
2. Capitalizing cleanup costs using environmental insurance.
3. Other financial instruments as identified.
4. Assessment of economic benefits / job creation by using MCTA funds for cleanup.

**Study Components** We looked at the Remedial Action Grant Program financing background information and history of the grant program. The background included a summary of HB1761, and (a) the program's only revenue source, (b) historical property re-use trends, (c) recent changes in conditions for obtaining a grant through the program, and (d) current fiscal policies applied to the program.

In 2009 Ecology retained Eric Hovee, an experienced economic and development analyst from Vancouver, Washington, to develop an economic analysis tool. Hovee designed a computer model that addressed the question of “return on investment” from the perspectives of the landowner/commercial investor, and of the public sector/community at large.

**Report to the Legislature** We analyzed alternative finance structures and strategies for options 1, 2, and 3 (above). Using pro-con arguments for each alternative, we evaluated the three funding options listed. We presented the results of our analyses to the Legislature without endorsement or recommendations. We left it to the Legislature to decide which finance structures and strategies best suit individual community needs.

Our report also evaluated economic implications of the Remedial Action Grant program funding (option 4), using a new tool—a model to assess qualitative and quantitative outcomes.

### Applying the Model

The Steering Committee chose three projects on which to perform quantitative analysis of their economic impacts. These case studies represented a range of (a) cleanup and redevelopment projects—from large, complex sites to smaller, isolated parcels; of (b) affected population size from small, to medium, to large cities; and (c) of geographic breadth.

We used the “Economic & Fiscal Impact Model for Brownfields Property Reuse” that E. D. Hovee & Company, LLC prepared for Ecology, to assess the economic impacts of the three projects. The planned development programs we evaluated used information provided by the Port of Bellingham and by Tacoma Foss Development Authority; the Palouse development program assessment was prepared by Hovee & Company in July 2009.

### Potential Job Creation/ Economic Benefits

Based on the average job creation ratio of the three case studies reviewed for this report (Bellingham, Tacoma and Palouse), a forecasted Remedial Action Grant need of \$532 million over the next ten years could potentially generate an estimated 42,560 long-term jobs.

The following findings highlight the potential return on the state’s Remedial Action Grant investment in cleanup.

Every MTCA dollar spent on Brownfields development results in:

- \$7 created in ongoing payroll value
- \$32 created in business revenue
- \$6 created in new local and state tax revenues

The listed economic benefits do not include short-term employment for performing remediation work, for building area infrastructure, and for promoting vertical development. Forecasting possible employment is a function of many factors, among them are geographic location, the nature of the cleanup, population density, and the projected land use. It illustrates the value of reintroducing underutilized sites into the local economy.

Read the full report posted on Ecology’s website: <http://www.ecy.wa.gov/biblio/1009043.html>.

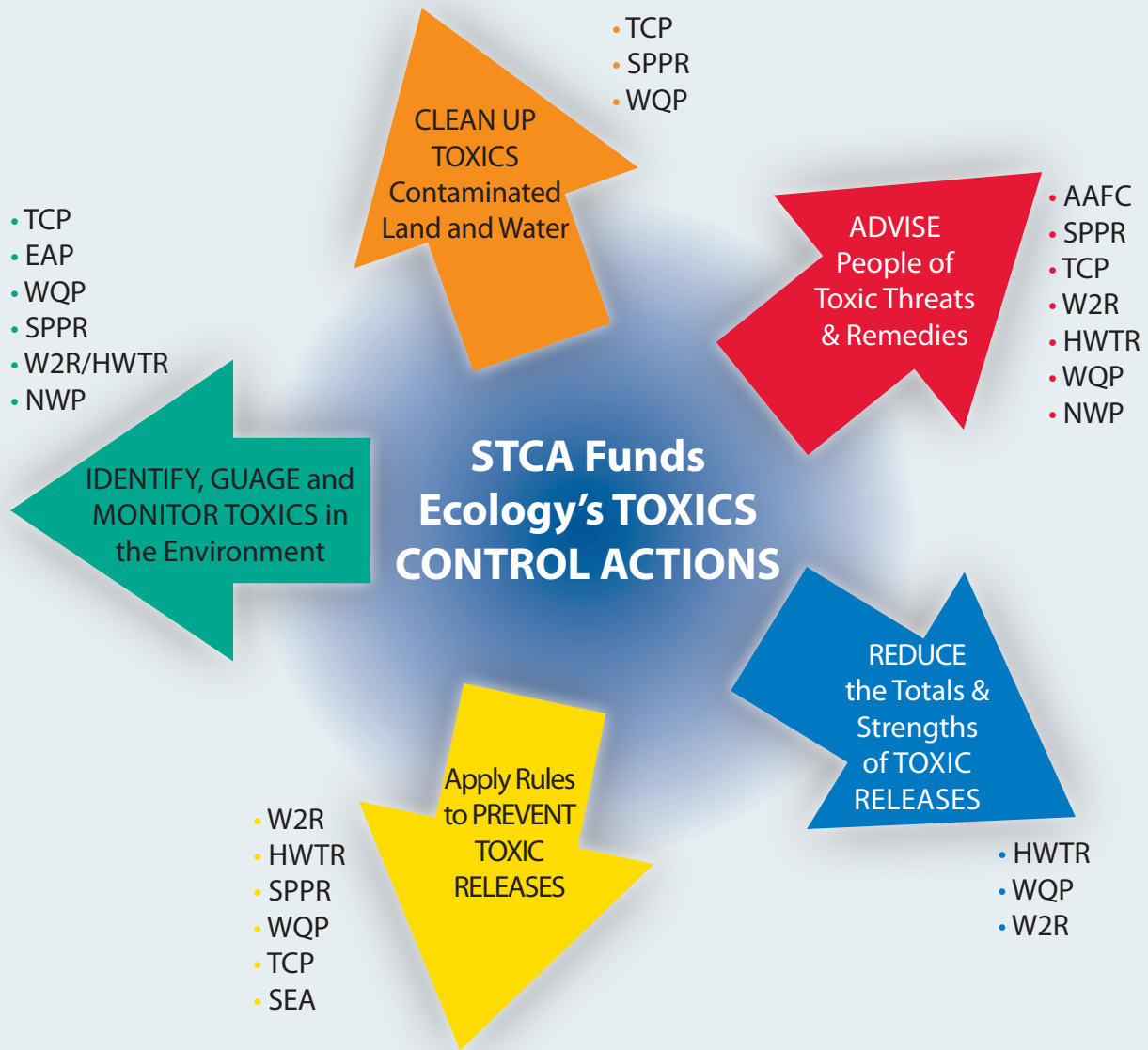


Bellingham waterfront



# Ecology's Statewide Toxics Control Programs

## State Toxics Control Account Support



Toxics Cleanup Program (TCP)	●	●	●	●	
Environmental Assistance Program (EP)	●				
Hazardous Waste and Toxics Reduction (HWTR)	●	●		●	●
Nuclear Waste Program (NWP)	●			●	
Shorelands and Environmental Assistance (SEA)		●			
Spills Prevention Preparedness and Response (SPPR)		●	●	●	
Waste 2 Resources Program (W2R)	●	●		●	●
Water Quality Program (WQP)	●	●	●	●	●
Agency Administration - Program A (AAFC)				●	

## 22 Environmental Assessment Program

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

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

Our program staffers monitor and report environmental status (baseline measurements), trends (change influences), and results (human impacts upon the environment). We used accepted scientific methods to gather samples and analyze the data; publishing our reports ensures that Ecology staff, that state and local governments and tribal authorities, and that individuals, informal communities, and business interests can obtain and rely upon the information's veracity.

Program activities during Fiscal Year 2009 emphasized (1) Environmental studies of toxic pollutants in priority water bodies, and (2) Technical review and investigations of toxic chemical contamination in marine and freshwater aquatic organisms, sediments, and groundwater.

Staff also conducted total maximum daily load (TMDL) evaluations in priority watersheds. The TMDL evaluations identify sources of contamination and help us recommend ways to reduce pollutant loading to achieve compliance with state water quality standards. Activities we conducted during Fiscal Year 2009 included:

- **PBT trend monitoring of lead in suspended particulate matter.** The program began the first year of lead monitoring as part of the agency's persistent, bioaccumulative, and toxic chemical (PBT) trend monitoring program. Suspended particulate matter was collected from 15 monitoring sites across the state and analyzed for total lead. This round of sampling established a baseline of lead concentrations in Washington State's rivers and lakes, against which we will compare future measurements to evaluate trends.
- **Long-term effectiveness monitoring at toxics cleanup sites.** Groundwater data are collected quarterly at multiple sites statewide to determine whether cleanup standards have been met or additional remedial actions are needed.
- **Toxics monitoring.** We continued the Washington State Toxics Monitoring Program. Staff evaluated concentrations of a variety of toxic chemicals found in the tissue of a variety of edible fish. Based on our sampling of freshwater fish from sixteen sites, we recommended adding five lakes and one river to the federal Clean Water Act Section 303(d) List of impaired waters in Washington State.

**In Fiscal Year 2009 the Environmental Assessment Program spent \$4,323,090.27 from STCA funds.**



"Ecology staff collect sediment samples from near shore Elliott Bay."

## Hazardous Waste and Toxics Reduction Program

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### Hazardous Waste and Toxics Reduction Program

The Hazardous Waste and Toxics Reduction (HWTR) Program's long-term vision sees transition to a society where waste is viewed as inefficient and where most wastes and toxic substances have been eliminated. To achieve this vision, HWTR has set goals to foster sustainability, prevent pollution, and ensure safe waste management of millions of pounds of the hazardous substances used and disposed of annually by businesses and consumers in Washington.

The HWTR Program's personnel engage in three main types of activities – prevention of toxic threats, hazardous waste management, and toxics cleanup.

- **Prevention** – Preventing pollution breaks the cycle of endless, costly cleanups. HWTR staff review business pollution prevention plans and provide technical assistance to operators and managers, offering specific recommendations for reducing their use of hazardous substances.
- **Waste Management** – Safely managing hazardous waste helps protect people and the environment. HWTR staff provide technical assistance and conduct formal inspections to help businesses stay in compliance with hazardous waste rules. Where necessary, the program pursues enforcement to reduce risk or impact to human health and the environment. HWTR staff also enforce permits for treatment, storage and disposal (TSD) facilities that treat, store or dispose of their own or other businesses' hazardous wastes.
- **Cleanup** – Cleaning up current and former TSD sites stops contamination of ground water, stormwater, soil and air. HWTR staff specialize in the management of cleanups at TSD facilities. These sites have often been severely contaminated over many decades of use. Ecology recovers most cleanup costs from the property owners or business operators.

The State Toxics Control Account supports certain HWTR Program activities designed to accomplish our pollution prevention, waste management, and facility cleanup responsibilities. During Fiscal Year 2009 we spent \$6,564,831.55 from the STCA fund to conduct those activities.

### Technical Assistance to Businesses

Using fewer toxic chemicals and safely managing those hazardous substances for which no substitute is available, are the keys to breaking the cycle of ongoing cleanup expenses. Businesses of all types and sizes produce and manage toxic chemicals. Facilities that produce more hazardous waste tend to run a higher risk of mismanagement. Mismanagement of wastes can result in contamination that threatens human and environmental health, and that eventually requires cleanup.



During a technical assistance site visit, Hugh Lobban of KP Corporation Printing, explains how he cleans the press to Ecology Pollution Prevention Specialists Scott Lamb and Paul Fabiniak, (right), while plant manager Jim Moore looks on.

## Hazardous Waste and Toxics Reduction Program

**Compliance and Prevention Assistance Site Visits.** In FY 2009, HWTR staff conducted nearly 900 business assistance visits. We provided business-specific advice to reduce hazardous material use, to avoid generating waste, and to manage hazardous waste safely. We focused on improving the operations and maintenance in industries that have the highest rates of waste generation and non-compliance. We showed their staff how to **achieve energy savings, conserve water, and use fewer toxic chemicals.**

HWTR's technical assistance helped business operators learn how to **manage waste** in ways that protect people and the environment—and avoid the significant costs of cleanup. **Our technical assistance visits increased the number of businesses that achieved and stayed in compliance** with regulatory requirements during 2009. We also visited new businesses to explain hazardous waste handling requirements and to describe best management practices.

We spent \$183,289.60 on our continued work with auto recyclers; we asked them to remove mercury-triggered switches from vehicles prior to shredding or smelting them. In FY 2009, they collected 32,000 switches, containing 71 pounds of mercury. Since the beginning of the switch rebate program in July 2006, approximately 92,000 switches have been collected. **Over three years, this program prevented the release into our environment of more than 200 pounds of mercury.**

HWTR addressed emerging environmental concerns as well. While pharmaceuticals can be an important tool in maintaining human health, they can also pollute the environment. Recent studies found pharmaceutical contaminants in the waterways of thirty US states, including Washington. Current wastewater treatment technologies don't remove all pharmaceuticals. Using the sewer, regulated medical waste containers, or a landfill to dispose of pharmaceutical waste contributes to the contamination of groundwater, surface water, and drinking water. To address this problem, in FY 2009 **HWTR staff conducted 75 technical assistance site visits to hospitals, clinics, and veterinary facilities;** we also worked with 70 representatives of local health departments, or county and city environmental services departments, promoting best management practices for disposing of unused medications.

**Agricultural Pesticide Container Recycling.** Ecology's partnership with the Farwest Agribusiness Association promoted container recycling, established a pilot project of permanent drop sites, and increased the amount of pesticide containers recycled in 2009.

**Washington State recycled over 637,000 pounds of plastic from pesticide containers in 2009 – an 11 percent increase from 2008.** Other successes in 2009 included (i) Northwest Ag Plastics, Inc. purchased eight storage units and placed them at various businesses around the state—increasing total storage capacity and allowing container drop-off/pick-up at all times of the year; and (ii) FarWest Agribusiness developed a training video to show growers, applicators, and distributors, acceptable pesticide container rinsing methods, to promote container recycling, and to show acceptable disposal methods (when container recycling services are not available).

The legislature appropriated \$154,904.01 to Ecology to fund this pesticide containers collection and recycling program during Fiscal Year 2009. Under a Memorandum of Agreement between Ecology and FarWest Agribusiness, \$153,571.75 of the funds were used to conduct the program. The Memorandum of Agreement, and the appropriation, expired June 30, 2009 (the end of the Fiscal Year). No funds were available to continue the program.

## Hazardous Waste and Toxics Reduction Program

### Compliance with Requirements, Action on Environmental Threats

**Hazardous waste inspections** comprise a critical regulatory line of defense between millions of pounds of hazardous waste generated in Washington and possible contamination of our soil and groundwater. Mismanagement of hazardous waste lets toxic chemicals contaminate our water, soil, and air—risking consequences such as polluted stormwater runoff and expensive cleanups. **While we work to prevent tomorrow's toxic threats, we strive to safely manage today's hazardous waste** (112 million pounds per year), from nearly 4,000 businesses required to notify the agency of their activities. We also work to safely manage more millions of pounds from thousands of smaller businesses in Washington that are rarely inspected.

Routine, formal state hazardous waste inspections at larger businesses are critical to environmental health because these businesses handle huge amounts of toxic chemicals. During 2009, **HWTR staff performed 248 (scheduled or unannounced) compliance inspections** at facilities that generate or manage hazardous waste. The inspections revealed how well facilities complied with state and federal regulations. We also resolved over 200 serious environmental threats (potential to pollute our environment through hazardous waste leaks or spills, from unsafe storage methods or containers).

A compliance inspection revealed improper handling of hazardous waste. Open and leaking waste containers contaminate soil, ground water, and storm water.



#### Before

Main Facility: View of south yard showing stacked drums of waste, some leaning, and a large open container of oil-soaked absorbent booms and pads.

Photo by Sara Maser, Ecology

#### After

Main Facility: View of south yard after drums and sorbents were removed.

Photo by Hideo Fujita, Ecology



## Hazardous Waste and Toxics Reduction Program

Unfortunately, **we found serious environmental violations at 57 percent of regulated businesses we inspected in 2009**, one of the highest rates in 20 years. With a stronger field presence ten years ago, hazardous waste inspectors found serious environmental threats at 27 percent of businesses. Why? An EPA study of Washington businesses showed a 20 percent increase in environmental threats when the time lapse between inspections was more than three years. At current staffing levels, it will take almost six years to inspect all existing regulated businesses.

Our HWTR shrinking work force struggles to minimize and resolve environmental threats posed by ever increasing amounts of hazardous waste from larger producers. **Nine percent of inspections in FY 2009 found toxic substance spills.** Such violations directly threaten human health and the environment.

When our technical assistance and informal efforts don't help a facility avoid violations, we use our formal enforcement capability to halt significant violations. **HWTR officials issued seven penalties in FY 2009**, on par with the program's historic average of 6-8 penalties issued each year.

### Permitting, Corrective Action

**Ecology wrote or modified permits** for facilities that treat, store, or dispose (TSDs) of hazardous waste. The permits defined how such facilities must operate (protective of human and environmental health). Our personnel monitored permit-holders' performance and reporting, to ensure TSD operations complied with permit requirements and did not release contaminants to the environment. Historic operations at TSD sites often led to contaminated soil and groundwater. Under authority of HWTR permits, permit modifications, or Orders, we required cleanup at contaminated TSD facility sites.

**The cleanup process** at TSDs moves through four steps—(i) discovery/identification, (ii) investigation/scoping, (iii) available remedies/remedy selection, and (iv) remedy implementation. The full cleanup process takes 10-12 years to complete. Our goal is to complete cleanups at all existing TSD sites by 2020. By close of FY 2009 we had completed an overall average of 78% of the work at high priority sites and more than 60% of the work at medium priority sites.

### Access to Hazardous Substance and Waste Information

HWTR's automated data systems gather, maintain/store, and report hazardous substance and waste information. We retrieve and report the data to individuals and businesses, emergency responders, and local government decision makers. Our Website, printed materials, telephone help line, and quarterly newsletters, provide the most current hazardous substance and waste information.

During 2009, we responded to more than 4,600 calls and e-mail requests to our hazardous substance information phone line, and our HWTR program Web sites logged more than 431,000 visits.

## Nuclear Waste Program

The mission of the Nuclear Waste Program is to lead the effective and efficient cleanup of the U.S. Department of Energy's Hanford Site, ensure sound management of mixed hazardous wastes in Washington, and protect the state's air, water, and land at and adjacent to the Hanford Site.

"Mixed waste" contains both a hazard component and a radioactive component. Our Program works to protect people and the environment from exposures threatened by any mismanagement of mixed hazardous wastes—including during the waste's storage, treatment, or disposal—at the Hanford Site and at certain non-Hanford facilities.

Nuclear Waste Program personnel collect fees from facilities in the state that manage mixed waste. We deposit the fee payments into the State Toxics Control Account. The legislature appropriates those fee payments from the STCA, to the Program, to implement the Hazardous Waste Management Act at these facilities.

In Fiscal Year 2009, \$5,805,769 appropriated from the State Toxics Control Account helped pay costs of:

- Litigation to enforce the Tri-Party Agreement and other protective legal mandates
- Compliance inspections
- Regulatory oversight
- Technical assistance
- Review and approval of permit applications from operators of mixed waste management facilities

### Washington State asks court to enforce federal cleanup at Hanford

RICHLAND – Gov. Chris Gregoire and Attorney General Rob McKenna filed suit in U.S. District Court to compel the U.S. Department of Energy to complete the cleanup of 53 million gallons of highly toxic and radioactive waste buried in tanks at the Hanford Nuclear Reservation. The state officials said the Energy Department is grossly out of compliance with state and federal environmental laws and with the Tri-Party Agreement cleanup order signed in 1989 by Washington State, the Energy Department, and the U.S. Environmental Protection Agency.

- The [Tri-Party Agreement], as amended, currently requires emptying all single-shell underground storage tanks by the year 2018 and completing all [hazardous and radioactive waste] treatment by the year 2028. [The treatment would solidify those wastes, to prevent leakage and migration off site].
- The state lawsuit asks the court to establish and enforce specific new deadlines for emptying 142 single-shell [waste storage] tanks, and for treating the 53 million gallons of hazardous and radioactive waste [stored] in all 177 underground tanks.
- The state also formally requests that the federal agencies ... implement new groundwater and soil cleanup deadlines ... around the Hanford site, especially next to the Columbia River.

[Because each] passing day increases the risk of leakage and catastrophic tank failure at Hanford, each delay [threatens] the environment and more than a million people who live and work near the Columbia River downstream from Hanford. The state [therefore contends] this work [and] other work covered within the Tri-Party Agreement can and must proceed while the lawsuit concerning treatment of the tank waste advances through the federal courts.

**Enhanced Puget Sound Cleanup Projects**

The SEA Program received funds from the State Toxics Control Account (STCA), specifically to regulate dredging operations and to ensure that contaminated sediments were safely removed and disposed.

Recent increased numbers of dredging projects in progress, and increased amounts of material dredged at those projects, result from three factors:

1. Economic development activity by Puget Sound Ports.
2. Navigational dredging to make water ways passable by large ships.
3. Sediment cleanup activities to improve water quality for people and fish in the near-shore marine environment.

**State Toxics Support**

During Fiscal Year 2009 STCA funding paid for one full-time employee to prevent dredging projects from creating new contamination. That funding helped manage the following activities affecting Puget Sound dredging projects:

- Evaluating sampling and analysis plans to determine their suitability for each proposed project and its site.
- Scrutinizing project plans to ensure they include appropriate dredging operations, water quality monitoring protocols, and post-dredge affects monitoring.
- Providing special guidance for addressing bioaccumulative chemicals of concern.
- Updating our freshwater sediment quality guidelines.
- Developing guidance to avoid risks posed by dioxin-contaminated dredged material.
- Revising our regional sediment evaluation framework.

The staff person funded by this money supported the multi-agency and the multi-state dredged material management program activities that addressed both fresh and marine water sediments. During Fiscal Year 2009 the State Toxics Control Account contributed \$93, 485.06 to the effort.



## Spill Prevention, Preparedness and Response Program

### The Spill Prevention, Preparedness and Response (Spills) Program relies on State Toxics Control Account funding to protect public health, public safety, and our environment.

During Fiscal Year 2009, a total of \$4,707,765.24 paid costs of responding to, and cleaning up, oil and other hazardous materials spills. These activities included overseeing the cleanup of spills where a responsible party was taking appropriate action to manage the incident and minimize environmental damage. We also addressed "orphan" spills where the owner was unknown, unwilling, or unable to fund the necessary removal of the subject hazards.

Ecology collaborated with the responsible party and with other government entities to manage spill incidents. The Spills Program responds immediately to spills that impact or threaten Washington's waters.

Ecology Spill Responders maintain the capability, equipment, and training to respond 24/7/365 to manage and clean up oil and hazardous materials spills.

We respond as rapidly to releases of petroleum or other hazardous materials, to soil and air—a threat to public health and safety.

Other related activities the program engages in include:

- Participating in oil and hazardous materials spill response drills.
- Providing technical assistance for spill prevention and cleanup planning.
- Investigating spills to determine the cause and source.
- Providing training for first responders around Washington State.
- Taking appropriate enforcement actions.

### Fiscal Year 2009 Program Accomplishments:

- Ecology's Spills Program responded to 3,642 reported spills.
- Our responders recovered 61,624 gallons of the reported 70,692 gallons of oil spilled (87% recovery rate) from 2,299 reported oil spills. An additional 17,120 gallons of oil was recovered and properly disposed from the Lewis County Floods.
- Our responders contained and recovered an estimated 63,424 pounds of hazardous material (other than oil products) from the environment. An additional 8,255 pounds of hazardous materials was recovered and properly disposed from the Lewis County Floods.
- Clandestine drug lab and dump site cleanup activity resulted in the disposal of 240 highly toxic and corrosive compressed anhydrous ammonia cylinders, 81 ammonia generators and 46 hydrochloric acid gas generators. This resulted in the safe disposal of over 5,000 pounds of compressed toxic and corrosive gas.

### Responding to Meth Labs

The Spills Program uses State Toxics Control Account funds to pay costs to remove and dispose of hazardous chemicals and wastes found at clandestine methamphetamine drug labs. The number of illicit drug labs and associated abandoned dump sites rose dramatically through the mid 1990s. Since 2001 when the number of labs and dump sites peaked at 1,890, the number of reported labs has steadily declined. During FY 2009, Ecology responded to 199 reported meth labs and dump sites around Washington.



## Spill Prevention, Preparedness and Response Program

The Spills Program continues to coordinate with local governments and authorities to address the after affects of meth activities. **We are the only public agency in Washington that performs cleanup of the hazardous chemicals and waste that result from meth lab operations.** We've developed expertise in safely handling and disposing of some highly hazardous wastes found at meth labs, such as pressurized cylinders of anhydrous ammonia, ammonia generators, and pressurized containers of gaseous hydrochloric acid.

The Spills Program continues to coordinate with local governments and authorities on meth activities. **We are the only public agency in Washington that performs cleanup of the hazardous chemicals and waste that result from meth lab operations.** We've developed expertise in safely handling and disposing of some highly hazardous wastes found at meth labs, such as pressurized cylinders of anhydrous ammonia, ammonia generators, and pressurized containers of gaseous hydrochloric acid.

### Emergency Cleanup of the CACTUS

The CACTUS was a 180-foot seagoing US Coast Guard buoy tender in service until 1971 when she ran aground and was decommissioned. After being sold and placed in service as a work barge, the CACTUS ended up illegally moored in Tacoma and King County. Additionally, the platform was used as a floating hazardous waste storage platform storing tons of waste. Ecology Spill Responders and Washington Conservation Corps staff coordinated the removal and disposal hundreds of containers of solid and hazardous waste. The vessel is currently in the custody of King County and awaits final disposition.



### Barge Accident at The Dalles Dam, Columbia River

On May 15, 2009, Ecology responded to an allusion at The Dalles Dam, about 85 miles east of Vancouver, Washington on the Columbia River. The double-hulled Tidewater barge was carrying two million gallons of gasoline. The barge struck the "long wall" at the entrance to the locks, breaching the outer hull of the barge about three feet above the water line. The accident caused a four-foot by four-foot gash but did not damage the interior cargo tanks. Due to the high volume and high hazard of the product, Ecology mounted an aggressive precautionary response. Fortunately, no fuel spilled.

### Oil Spill Response Equipment Cache Investments Pay Off

In the 2006 Legislative session, the Department of Ecology was granted \$1.45 million to implement a state-wide oil spill response equipment caching grant program. The purpose of the program was to pre-position (pre-stage) response equipment caches throughout the state. This grant provided communities –at 99 key locations across Washington State— with spill response equipment that previously had not been available to them. Additionally, this equipment was added to the state's inventory of response equipment in the event of a large spill requiring regional response equipment resources. More than 1,000 people state-wide have been trained to use the equipment as first responders.

## Spill Prevention, Preparedness and Response Program

Pre-positioned oil spill response equipment caching has already paid off for a cleaner environment. As of June 2009 local and tribal first responders had deployed this equipment to more than 50 oil spills. Early containment of spilled oil reduced the amount of toxic pollutants that entered Washington waters and has protected our natural resources. Quick containment of oil spills made cleanup by Ecology responders and contractors faster and less expensive.

### Emergency Response Tug at Neah Bay

For the past 10 years, the state funded an emergency response tug, stationed at Neah Bay, to prevent disabled ships and barges from running aground in the western Strait of Juan de Fuca or off our outer coast. Since 1999, the tug has deployed to standby or directly assist 42 vessels that were either completely disabled or had reduced maneuvering ability. On eight of these responses the tug took the disabled vessels in tow to prevent them from drifting onto the rocks and spilling oil. The actions taken in those eight cases helped prevent a combined spill potential of nearly 5 million gallons of oil. Within the past year, the response tug was dispatched twice to tow or escort these vessels safely to ports inside the entrance of the Strait of Juan de Fuca.



Until this past year the tug was only on station during the harshest season, winter; 2009 represented the first year that the response tug was funded for full-year coverage. The funding for the response tug for fiscal year 2009 included \$2.4 million of state and local toxics funding. As of July 2010, the financial responsibility for maintaining this emergency response capability will shift to the maritime industry.

**Mission: To reduce the amount and the effects of wastes generated in Washington State.****What's in a name?**

For years the Solid Waste and Financial Assistance Program name had not accurately reflected the work and mission of the program. A new name was needed after the rollout of the Beyond Waste Plan. So... we solicited staff nominations. A committee comprised of program staff, management, and public information officers reviewed the more than 150 entries submitted, and narrowed the list to three recommendations for management's consideration. "Waste 2 Resources" was selected and unveiled at an all staff meeting... also shared with and supported by stakeholders. This name was selected because:

- "Waste 2 Resources" implies the program covers everything [on the spectrum] from managing solid wastes to developing new resources. It includes our financial assistance, technical assistance, and regulatory resources.
- The name reflects our Beyond Waste Initiative (including Green Building, Organics, and Moderate Risk Waste), which encourages use of recycled/reused materials previously viewed as wastes [and focuses] on turning those wastes into resources such as energy conservation, organic nutrients, organic nutrients in lieu of [chemical] fertilizers, and green energy [produced] through new technologies.
- In order to derive resources from wastes [the] materials [need to] be toxics-free and PBT-free, which reflects the work of our Reducing Toxic Threats Section.
- Unlike the old program name, we believe Waste 2 Resources also reflects work the Industrial Section does through the Footprint Project and [recognizes the changes at] numerous mills that take [and repurpose] used cardboard, hog fuel, and commingled recyclables.

This...name change...will not affect the availability and understanding of budget information for policy makers and the public. Funding from the State Toxics Control Account supports statewide Waste 2 Resources efforts:

- Providing technical assistance to local officials dealing with solid waste management problems
- Working to reduce toxic substances allowed in consumer products offered for sale/use in Washington
- Measuring hazardous chemical releases from large industries (pulp and paper mills, oil refineries, metals smelters)

**Reduce Persistent Bioaccumulative Toxics in the Environment—**

Persistent, bioaccumulative toxics (PBTs) are a group of chemicals that can significantly affect the health of humans and wildlife. PBTs remain in the environment for a long time, build up in organisms and in the food chain, and can cause cancer, impair immune systems, and damage human brains and nervous systems.

The 2006 PBT Rule established specific criteria for identifying PBTs and a clear process for both developing chemical action plans and for scheduling priority PBTs for future chemical action plans.

**Chemical Action Plans**

In 2006, we published a Chemical Action Plan for reducing uses of a class of flame retardants known as polybrominated diphenyl ethers (PBDEs), found in many household products. This plan proposed to phase out the use of PBDEs statewide, find safer alternatives, and safely dispose of PBDE-laden products. In January 2009 the Departments of Ecology and Health published their joint report on safer alternatives to one type of PBDE (decaBDE) used in some consumer products. As a result of the alternatives assessment and approval by a committee of fire safety experts, effective in January 2011 decaBDE will be banned from use in new televisions, computers, and residential upholstered furniture sold in Washington State.

In 2009 we published the Lead Chemical Action Plan. The CAP identified

1. the dangers of lead exposure,
2. where it can be found in the environment,
3. how people and animals are exposed and
4. ways to reduce uses and exposures.

During FY2009, many citizens attended one of the public hearings or commented in other ways on the draft CAP. Also during FY2009, program staffers worked with businesses and the legislature to pass a law banning the use of lead wheel weights as of January 2011. We continue our work to reduce exposure to old lead-based paint, which is the most frequent cause of childhood lead poisoning.

In future years, we expect to develop chemical action plans to address polycyclic aromatic hydrocarbons (PAHs) and to battle perfluorooctane sulfonates (PFOS).

### Children's Safe Products Act

In accordance with the Legislature's directive (below), our Toxics Reduction Unit conducted work with collaborators from Ecology's Hazardous Waste & Toxics Reduction Program, and in consultation with staff from the State Department of Health, to explore and define ways to protect children from exposures to toxics-laden products.

#### RCW 70.240.030

#### Identification of high priority chemicals — Report.

(1) By January 1, 2009, the department, in consultation with the department of health, shall identify high priority chemicals that are of high concern for children after considering a child's or developing fetus's potential for exposure to each chemical. In identifying the chemicals, the department shall include chemicals that meet one or more of the following criteria:

(a) The chemical has been found through biomonitoring studies that demonstrate the presence of the chemical in human umbilical cord blood, human breast milk, human urine, or other bodily tissues or fluids;

(b) The chemical has been found through sampling and analysis to be present in household dust, indoor air, drinking water, or elsewhere in the home environment; or

(c) The chemical has been added to or is present in a consumer product used or present in the home.

(2) By January 1, 2009, the department shall identify children's products or product categories that may contain chemicals identified under subsection (1) of this section.

(3) By January 1, 2009, the department shall submit a report on the chemicals of high concern to children and the children's products or product categories they identify to the appropriate standing committees of the legislature. The report shall include policy options for addressing children's products that contain chemicals of high concern for children, including recommendations for additional ways to inform consumers about toxic chemicals in products, such as labeling.

[2008 c 288 § 4.]

Program staff applied several screening methods to narrow a list from the hundreds of chemicals that satisfy the legislation's criteria. We narrowed our "action" list to an array of 59 high priority chemicals found in consumer products. Consumer products commonly used on, by, or for infants-to-young children might include:

- (a) Wipes, lotion, powder; diapers, clothing, bedding; squeeze bulb, ointment or remedy;
- (b) Pacifier, teething ring; toys; baby bottle, sippy-cup, toddler tableware; baby walker;
- (c) Snuggle-sack carrier, stroller, car seat; crib, play-pen, swing; bathtub, or high-chair.

**The mission of the Water Quality Program is to protect and restore Washington's waters. State Toxics Control Account funds paid for activities that helped us pursue and fulfill our mission.**

#### **Lower Columbia River N.E.P.—**

Congress established the National Estuary Program in 1987 to identify those nationally significant estuaries threatened by overuse, development, and pollution. The Program would help develop local management plans designed to protect and preserve those important natural systems. The Lower Columbia River entered the National Estuary Program in 1995.

The State Toxics Control Account funded a grant to the Lower Columbia River National Estuary Partnership (the Partnership) whose Board members include representatives from:

- Washington State Office of the Governor
- Oregon State Office of the Governor
- Washington State Department of Ecology
- Oregon Department of Environmental Quality
- U.S. Environmental Protection Agency
- Industry and Commerce
- Local Governments and Citizens



Pictured: Kayaking on the Lower Columbia River.

The Estuary Partnership works concertedly in three areas to:

1. Protect the ecosystem and species - restore 19,000 acres of wetlands and habitat by 2014 and promote improvements in stormwater management.
2. Reduce toxic and conventional pollution - conduct long term monitoring and work with partners to eliminate persistent bioaccumulative toxics, bring water bodies up to water quality standards, reduce hydrocarbon and heavy metal discharges and reduce bacterial contamination.
3. Provide information about the river to a range of audiences - provide applied learning programs for children and build federal, state, local, public and private coordination.

#### **Aquatic Pesticide Program—**

The program aims to reduce risks to human health and the aquatic environment from exposure to pesticides used to manage aquatic weeds, invasive plants, and foreign water-dwelling creatures. We developed and clarified rules that pertain to aquatic pesticides and we gave expert technical assistance to pesticide applicators, lake associations, and similar interests. We also gave permit information to chemical manufacturers, and to pesticide applicators and their client groups; we provided materials to educate these interest groups about the uses and dangers of specific pesticides and about using other methods to control aquatic pests.

#### **Limit Toxics Contamination—**

Water Quality Staff applied their expert knowledge to develop water quality standards (concentration limits) for toxic substance incursions.

We began by looking at ways to assess the human and environmental health risks of exposure to toxics in water bodies, and we collaborated with Wastewater Discharge Permit Writers who use water quality standards to set effluent limits. Staff also led work groups seeking ways to reduce toxic substances in water, including an inter-agency committee developing Ecology's strategy to combat persistent bioaccumulative toxic chemicals (PBTs), and the interagency Marine Toxics work group.

## Water Quality Program

### Stormwater Program—

The federal Clean Water Act and our state laws require entities (approximately 2,000 businesses and 150 local or municipal governments) to obtain a National Pollutant Discharge Elimination System (NPDES) permit before they may discharge stormwater into Washington's water bodies.

State Toxic Control Account dollars allowed our staff to:

- Develop new permits, providing a compliance pathway \*\*to industrial facility operators and to local government entities.
- Provide technical assistance and support to permit \*\*holders.
- Develop and maintain tools to help permit holders\*\*and others operate their facilities in ways that meet our stormwater management requirements.

State Toxics Control Account funds provided \$3,000,000 to non-Puget Sound communities to retrofit existing stormwater projects, remove non-stormwater discharges into municipal stormwater treatment systems and to fund local innovative stormwater management grants.

Eastmont Metropolitan Park District expanded its existing shop to house an equipment wash bay, where an oil/water separator will capture and separate contaminants released by equipment cleaning



## Agency Administration, Facilities, Communications

### Regional and Field Offices

Staff stationed at Ecology's four regional offices (Lacey, Yakima, Spokane, and Bellevue) and four field offices (Bellingham, Richland, Vancouver, and Wenatchee) provide core administrative support for Ecology's local environmental work in all regions of the state. In addition to administrative functions this support includes complaint tracking and State Environmental Policy Act (SEPA) compliance. The Regional Directors in these offices help local communities and provide cross-program coordination and management of large, multiple-program environmental reviews and permitting projects.

### Executive, Financial, and Administrative Services

Ecology leadership comes from the executive office. Financial Services personnel perform centralized accounting, budget, contracts, purchasing, and inventory functions. This office also manages and coordinates strategic planning for Ecology, measures agency performance, and develops environmental indicators. Duties of the Administrative Services Office include information technology management (desktop and network services, applications development, and data administration), and managing both facility and vehicle maintenance and security tasks. This office maintains Ecology's central records, responds to public records requests, performs mail intake/distribution and out-going postal services, and manages extensive library resources (books, periodicals, and research publications) at headquarters and the regions.

## Agency Administration, Facilities, Communications

### Climate Policy Group

Climate change poses a significant threat to Washington's economy, but also offers the state enormous new economic and job creation opportunities. These new opportunities will require Washington to act quickly to reduce our greenhouse gas emissions and lead the transformation to a new low-carbon economy.

The agency's Climate Policy Group provides leadership, policy support, and coordination on state and federal climate change programs for both emission reductions and preparing for a changing climate. It works closely with Ecology's Air Quality Program and other environmental programs, with the state Energy Office, Department of Transportation and other state agencies, as well as with other states and Canadian provinces, stakeholder groups, and the public.

This group's work includes:

- Implementing and tracking state laws on climate change, enacted in recent years.
- Reporting on the state's emission profile and identifying further actions needed to meet statutory reduction limits.
- Working with Washington's congressional delegation and the federal government to help design national programs that reflect state priorities.
- Working with six other western states and four Canadian provinces in the Western Climate Initiative to develop a regional emissions reduction program.
- Working collaboratively with industries to develop emission reduction actions and strategies to ensure we meet Washington's 2020 reduction limits.
- Examining industry benchmarks and promoting those that can be used in a national or regional greenhouse gas reduction program.
- Working with DOT to develop options for reducing carbon emissions from the transportation sector.
- Working with Commerce on the state's energy policy.
- Working with other natural resource agencies to develop the state's climate change response plan.

### Governmental Relations

The Governmental Relations Office provides leadership, policy support, and coordination for issues that affect local governments, tribes, and British Columbia. This office also provides economic analysis including Small Business Economic Impact Statements and cost/benefit studies.

### Communication and Education

Ecology conducts enforcement actions, toxic site cleanup, and other work that demands substantial public information and public involvement. Ecology is committed to being transparent, open and accountable to the public, policy leaders, and to the communities we serve. The Communication and Education Office provides needed support to Ecology leadership and our environmental programs to fulfill this commitment.

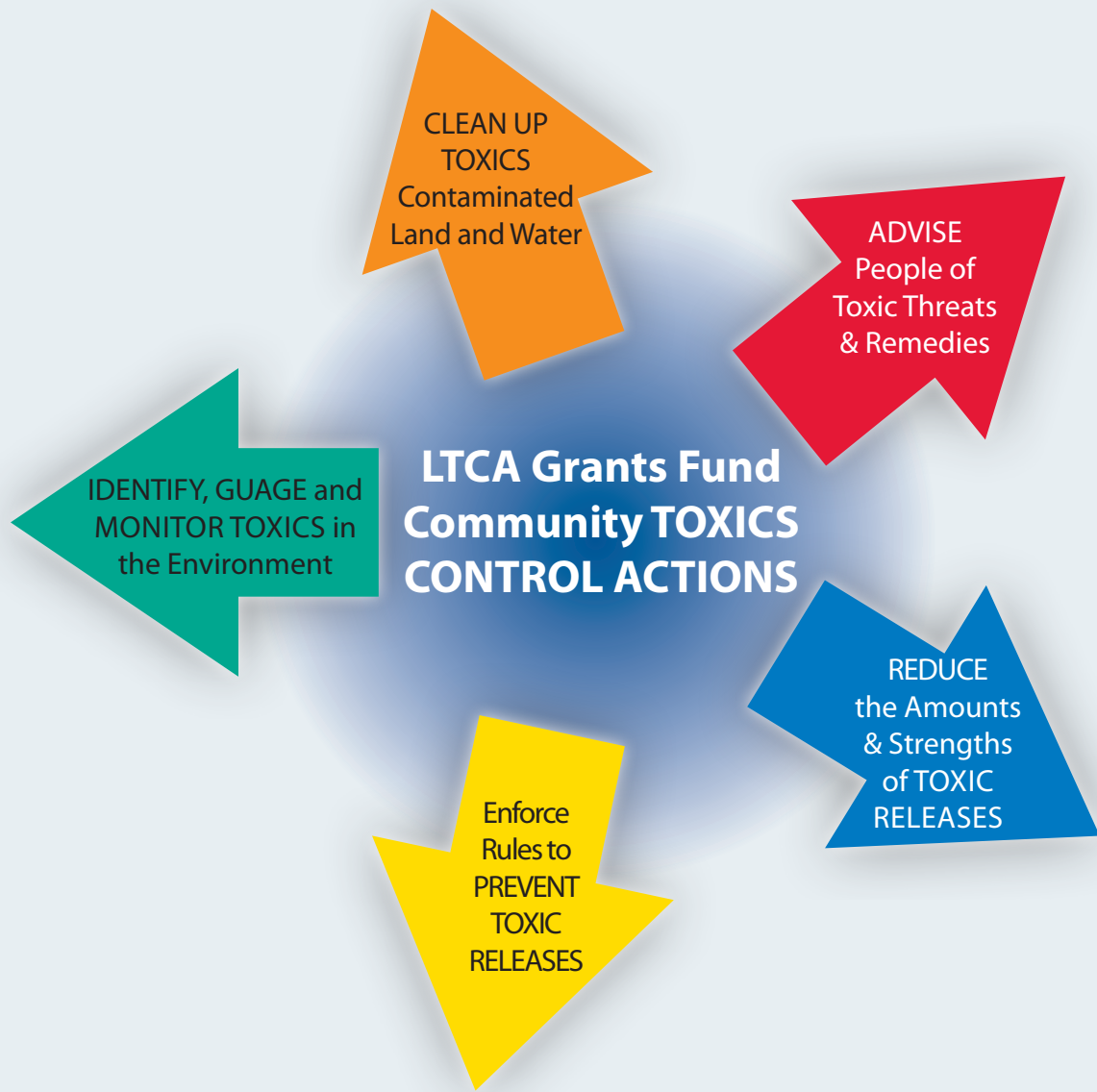
The public relies on Ecology to make information easily accessible.

- This office ensures that messages Ecology sends are consistent, timely, and specific, and that access is available through publication, and through the internet and other interactive media technologies.
- The office coordinates Ecology's use of the Internet and other technologies, with a focus on understanding our customers, what they need, and making information easily accessible to them.
- The office also leads Ecology's participation in education partnerships with local governments, with community groups, and with schools and universities to help Washington residents make informed choices about using and protecting Washington's waters and air, about reducing toxic threats, and about reducing risks related to climate change.
- When Ecology responds to oil and other hazardous chemical spills. Staff provide timely information to the media and the public and serve on multi-jurisdiction incident response teams when they're established.



# Ecology Distributes Funding for Local Toxics Control Projects

## Local Toxics Control Account



Air Quality Program

- Diesel Retrofit
- Woodstove replacement

Hazardous Waste and Toxics Reduction Program

- Urban Waters Initiative

Waste 2 Resources Program

- Coordinated Prevention Grants
- Remedial Action Grants
- Public Participation Grants

Water Quality Program

- Stormwater management

## Local Toxics Control Account

### Ecology's Distribution Programs

#### Revenue - Fiscal Year 2009

The Local Toxics Control Account (LTCA), receives 53% of total Hazardous Substance Tax revenues. LTCA funds are appropriated exclusively to the Department of Ecology for to distribution to local public entities as grants or loans. The grant and loan programs support specific toxics control purposes—clean up toxic contamination, reduce the amounts and concentrations of toxics flowing into the environment, and prevent toxic waste generation.

Revenue Source	Revenue	Percent of Total
Hazardous Substance Tax	\$62,871,377.91	100.0%
<b>Total</b>	<b>62,871,377.91</b>	<b>100.0%</b>

#### Local Toxics Control Account Expenditures by Ecology's Programs

Department of Ecology Program	Total Expenditures	Percent of Total
Agency Administration, Facilities, Communications (AAFC)	\$ 507,705	0.8%
Capital Program – AAFC, Air Quality, Waste 2 Resources, Water Quality	\$ 50,192,030	77.1%
Hazardous Waste & Toxics Reduction (HWTR)	\$ 2,279,578	3.5%
Spills Prevention, Preparedness & Response (SPPR)	\$ 1,643,543	2.5%
Toxics Cleanup Program (TCP)	\$ 750,870	1.2%
Waste 2 Resources Program (W2R)	\$ 2,786,653	4.3%
Water Quality Program (WQP)	\$ 6,969,642	10.7%
<b>Total Local Toxics Expenditures</b>	<b>\$ 65,130,022</b>	<b>100.0%</b>

The pages that follow describe some of the grants or loans funded projects conducted by local entities.

## Air Quality Program

#### Local Toxics Control Account FY 2009 Grants

Air quality affects public health, the environment, and quality of life. Air pollution causes lung disease, makes existing heart and lung disease worse, and is associated with cancer. The Air Quality Program's goal is to safeguard public health and the environment by preventing and reducing air pollution. Washington's main sources of air pollution are motor vehicles, outdoor burning, and wood smoke.

Toxic air pollutants, or "air toxics", refer to a broad category of more than 400 chemicals known or suspected to cause cancer or other serious health problems. Ecology identified twenty-one priority toxic air pollutants that pose the greatest health risks in Washington State, of which diesel particulate matter (PM) and wood smoke rank number one and number two. On-road and non-road diesel engines are the primary sources of diesel PM. Residential home heating using wood, plus intermittent wild fires, are the primary sources of wood smoke.

The Air Quality Program manages two of Ecology's most successful grant programs, the Washington Diesel Retrofit Program and Woodstove Change-out Program. The Diesel Retrofit Program provides funds to install emissions control technologies and idle reduction technologies on heavy-duty diesel vehicles and equipment. The Woodstove Change-out Program grants funds to replace older, uncertified wood stoves with new cleaner burning certified wood stoves, fireplace inserts, or pellet stoves.

## Air Quality Program

### Washington State Clean Diesel Program

For Washington residents, diesel exhaust causes more health problems than any other form of air pollution.<sup>1</sup> Diesel exhaust contains a mix of hazardous pollutants. When inhaled, fine particles, known as diesel particulate matter (PM), penetrate deep into the lungs to aggravate or create lung and heart conditions. People with health problems such as asthma, and heart and lung disease, experience more health problems when exposed to diesel exhaust. Even healthy people are at risk for respiratory disease and cancer after diesel exhaust exposure.

Health studies have linked diesel PM to the onset or worsening of cancer, emphysema, auto-immune disorders, asthma, heart disease, stroke, and the underdevelopment of children’s lungs. Research also indicates diesel PM causes premature deaths within populations and occupations where people are regularly exposed to these toxics. For this reason, reducing diesel PM is one of our most urgent air pollution control goals.

More than four million people in Washington live or work close to busy roads, where diesel PM is at its highest levels.<sup>2</sup> The Air Quality Program has determined that diesel PM harms human health more than any other air pollutant in Washington State. About 70% of all cancers caused by air toxics are attributable to diesel PM.<sup>3</sup>

The Air Quality Program works with fleet managers to reduce diesel emissions by installing retrofit emissions control technologies and idle reduction technologies on diesel vehicles and equipment. The Diesel Program pays for state-hired contractors to appropriately match emissions control technologies to each diesel vehicle and diesel-powered apparatus. The program has granted funds to retrofit nearly 400 diesel fleets, including those of school districts, cities, counties, public utility districts, port authorities, transit authorities, and municipal waste haulers. These technologies effectively reduce diesel PM emissions by 25% to 99% and toxic emissions by 50% to 99%. We posted information about Ecology’s Clean Diesel Programs at: [http://www.ecy.wa.gov/programs/air/cars/diesel\\_exhaust\\_information.htm](http://www.ecy.wa.gov/programs/air/cars/diesel_exhaust_information.htm)

The Air Quality Program manages the Washington State Clean Diesel Program, which provides funds to install retrofit emissions controls on heavy-duty diesel vehicles and equipment. The Governor’s 2007-2009 biennial and 2008 supplemental budgets, combined with the 2005-2007 biennial carry-over, provided a total of \$11,956,000 in Local Toxics Control Account funds to reduce diesel emissions.

### Revenue and Expenditures for 2007-2009 Biennium Fiscal Period

Diesel Program Grants	Revenue	Expenditures	Fund Balance
Local Governments Retrofit (05-07 Carryover)	\$1,786,000	\$1,786,000	\$0
Local Governments Retrofit (07-09)	\$4,830,000	\$2,448,235	\$2,381,765
School Bus Retrofit/Replacement (07-09)	\$5,340,000	\$5,340,000	\$0
<b>Total</b>	<b>\$11,956,000</b>	<b>\$9,574,235</b>	<b>\$2,381,765</b>

For Fiscal Year 2009, the Clean Diesel Program spent \$5,684,767 to purchase and install 1,680 retrofit emissions controls on 1,095 diesel engines and to help replace 33 diesel school buses. These retrofits and replacements reduced diesel PM emissions by 7.4 tons annually.

1 Concerns About Adverse Health Effects of Diesel Engine Emissions White Paper, Harriet Ammann and Matthew Kadlec, December 3, 2008, Publication No.08-02-032.

2 Diesel Particulate Emission Reduction Strategy for Washington State, Washington State Department of Ecology, Air Quality Program, December, 2006.

3 Washington State Toxic Air Pollutants Priorities Study, Matthew Kadlec, Washington State Department of Ecology, November 12, 2008, Publication No. 08-02-030.

## Air Quality Program

### Fiscal Year 2009 Expenditures

Diesel Program Grants	Expenditures
Local Governments Retrofit (05-07 Carryover)	\$657,498
Local Governments Retrofit (07-09)	\$1,739,268
School Bus Retrofit/Replacement (07-09)	\$3,288,002
<b>Total</b>	<b>\$5,684,768</b>

The benefits to human health far outweigh the costs of reducing diesel pollution. The California Air Resources Board found that every dollar invested in reducing diesel emissions results in three to eight dollars in savings from improved public health and avoided health problems.<sup>4</sup> The Union of Concerned Scientists estimates that for every dollar invested in diesel retrofits, nine to sixteen dollars are returned to society.<sup>5</sup> These estimates pale as endorsements, compared to actual testimonials provided by Washington fleet managers, fleet mechanics, school teachers, and school employees:

#### Diesel Retrofit Grants for Local Governments

We granted funds to cities, counties, port authorities, public utility districts, and transit authorities to purchase and install retrofit emissions controls on heavy-duty diesel vehicles and equipment. We also purchased and installed diesel particulate filter cleaning machines at transit facilities.

Started in 2005, the Diesel Retrofit Program for Local Governments has now retrofitted more than 1000 public works vehicles and apparatus. Examples of diesel vehicle and equipment retrofits include transit buses, refuse trucks, and public works and road maintenance vehicles.

In Fiscal Year 2009, we spent \$1,939,906 to retrofit vehicles and equipment owned and operated by forty-three local government fleets. We installed 491 emissions controls on 459 vehicles, reducing emissions of diesel particulate matter by 4.9 tons annually.

4 Emission Reduction Plan for Ports and Goods Movement in California – Proposed, California Environmental Protection Agency, Air Resources Board, March 21, 2006.

5 Sick of Soot: Reducing the Health Impacts of Diesel Pollution in California, Union of Concerned Scientists, Cambridge, MA, 2004.

## Air Quality Program

### Fiscal Year 2009 Local Government Expenditures

Local Government	Amount Spent
Ben Franklin Transit Authority	\$68,824.65
Benton County Public Works	\$1511.87
Chelan County Public Works	\$11,314.08
Chelan County PUD	\$28,928.88
Clark Public Utility District	\$32,281.47
Colville, City of	\$9,543.86
Community Transit Authority	\$36,000.00
C-TRAN Transit Authority	\$91,481.13
Du Pont, City of	\$3,816.76
Everett, City of	\$18,921.38
Federal Way, City of	\$3,122.94
Friday Harbor	\$10,166.88
Grant PUD	\$8,311.00
Intercity Transit Authority	\$57,452.00
King County Metro Transit Authority	\$166,126.01
Link Transit	\$14,364.38
Longview, City of	\$102,584.08
Mason County Transportation Authority	\$149,297.17
Mercer Island, City of	\$2,120.40
Moses Lake, City of	\$1,564.55
Port Angeles, City of	\$5,198.86
Port Orchard, City of	\$3067.95
Port of Everett	\$1,813.19
Pullman, City of	\$10,272.15
Richland, City of	\$79,892.92
San Juan County Public Works	\$12,446.77
Snohomish County Public Utility District	\$84,435.62
Snohomish County Public Works	\$15,705.66
Skagit County Public Works	\$30,799.13
Sound Transit	\$125,000.00
Spokane, City of	\$32,713.74
Spokane County Roads Department	\$31,383.87
Spokane Transit Authority	\$294,519.87
Tacoma Public Utilities District	\$136,000.00
Tacoma Rail	\$50,000.00
University of Washington	\$73,933.50
Valley Transit Authority	\$4,744.84
Vancouver, City of	\$22,652.75
Walla Walla, City of	\$15,048.29
West Richland, City of	\$1,765.29
Whatcom County Public Works	\$5,325.18
Yakima, City of	\$102,800.82
Yakima County	\$13,452.23
<b>Total</b>	<b>\$1,939,906.39</b>

*“Previous to the install of the idle reduction units, we were in the practice of starting vehicles 30 to 45 minutes prior to leaving the yard for the day. As you can imagine, the notorious blue cloud of diesel smoke would hang over the facility for hours during cold wintery mornings. Since installing the units, the cloud is no longer a factor. The transit operators love these things because they don’t have to wait an hour for heat, scrape windows, etc. Personally I believe we have reduced the emissions risk in Mason County.”*

*-Mike Oliver, Maintenance Manager for Mason Transit Authority*

### School Bus Retrofits and Replacement Grants

To help reduce children’s exposure to diesel emissions from school buses, we provided grants to:

- Local Clean Air Agencies and Ecology Regional Offices to install retrofit emissions controls
- School Districts to replace old, high-polluting buses with new school buses
- University of Washington to study children’s exposure to diesel school bus emissions

Started in 2002, the Washington Clean School Bus Program has installed 9,382 tailpipe and crankcase controls on 6430 school buses. The Program has also helped replace 49 of the state’s oldest school buses. These school bus retrofits and replacements annually reduce 18 tons of diesel PM.

For Fiscal Year 2009, Local Clean Air Agencies spent and Ecology Regional Offices spent \$2,890,657 to install retrofit emissions controls on school buses. The retrofit emission controls reduced diesel PM by 30% to 60% on each bus, depending on the emissions control selected. These funds paid for the installation of 549 tailpipe emissions controls and 640 crankcase emissions controls that annually reduce 2.5 tons of diesel PM.

## Air Quality Program

### Fiscal Year 2009 School Bus Retrofit Expenditures

Clean Air Agency	Amount Spent
Benton Clean Air Agency	\$143,163
Ecology Regional Offices	\$358,115
Northwest Clean Air Agency	\$285,000
Olympic Clean Air Agency	\$254,000
Puget Sound Clean Air Agency	\$1,400,504
Southwest Clean Air Agency	\$35,141
Spokane Clean Air Agency	\$350,000
Yakima Clean Air Agency	\$64,734
<b>Total</b>	<b>\$2,890,657</b>

Because many school buses are too old and too polluting for emissions control technologies, we provided \$660,000 in assistance grants to replace thirty-three high-polluting buses with new school buses. These new buses reduced diesel particulates by 99% for each bus replaced.

### Fiscal Year 2009 School Bus Replacement Expenditures

School District	Award Amount	Number of Buses
Bridgeport School District #75	\$20,000	1
Concrete School District #011	\$20,000	1
Davenport School District #207	\$20,000	1
Deer Park School District #414	\$40,000	2
Ferndale School District #502	\$60,000	3
Grand Coulee Dam District #301	\$40,000	2
Hoquiam School District #28	\$20,000	1
Longview School District #122	\$60,000	3
Loon Lake School District # 183	\$20,000	1
North Mason District #403	\$20,000	1
Northshore School District #211	\$40,000	2
Oak Harbor School District #201	\$60,000	3
Orondo School District #013	\$20,000	1
Port Angeles School District #121	\$60,000	4
Quincy School District #144	\$20,000	1
Skamania School District #002	\$20,000	1
Wapato School District #207	\$20,000	1
Washougal School District #112	\$60,000	3
Washtunca School District #109	\$20,000	1
White Pass School District #303	\$20,000	1
Wishram School District #	\$20,000	1
<b>Total</b>	<b>\$660,000</b>	<b>33</b>

We also provided \$96,371 to the University of Washington to help study children's exposure to diesel school bus emissions. This study should be available to the public in 2011.

*Mercer Island School District's transportation supervisor, head mechanic, and bus drivers suddenly realized they no longer smelled diesel exhaust when they walked behind the buses in the morning. Because the District's bus facilities are located in a residential area, the supervisor historically received complaints from the neighbors about diesel exhaust. Once the buses were retrofitted, the complaints stopped.*

*Walt Gobel, retired fleet manager for Pasco School District reported after retrofitting his buses, "For the first time in my career, we went through an entire school year without a single bus driver submitting a sick leave slip, complaining of illness from breathing diesel fumes from school buses."*

*Marcella Lindert, Manson Elementary School Teacher, says, "This year I have not noticed fumes in my classroom before or after school. In years past, I was often forced out of my room because the smell was so strong as to give me a headache. I would have to leave long enough to allow the smell to dissipate. This year I have not had one bad day. The fume problem seems to be solved."*

*Stan Lindert, Head Custodian for Manson Elementary School, says "Just today I noticed how nice it's been to not receive constant complaints about the exhaust fumes in the building this school year. I believe ...the new systems you are using are well worth whatever they cost."*

## Air Quality Program

### Woodstove Change-out Program

Burning wood can be a cheap way to heat a home, but using inefficient devices releases large amounts of smoke—comprised of both fine particles and cancer-causing chemicals. During the winter months, burning wood for home heating emits more toxic smoke in Washington than any other source. When a weather system stagnates, smoke from wood heating devices can create a dense blanket of pollution over towns and cities. Some communities experience levels of particle pollution above healthy limits ( $20 \mu\text{g}/\text{m}^3$  on a 24-hour average) many times a year.

Wood smoke is the second most harmful air pollutant in Washington State. Inhaling wood smoke's fine particles carries them deep into the lungs, exacerbating serious health problems including asthma, lung disease, and heart disease. The particles also carry cancer-causing chemicals into the body, increasing a person's risk of developing certain types of cancer.

Children, the elderly, and people susceptible to heart and lung ailments are more likely to suffer serious health problems due to wood smoke exposure. People who heat their homes by burning wood have more breathing problems than those who don't, and smoke particles from their homes also invade neighboring homes. An Ecology study on the health effects of fine particle pollution estimates that 1,100 people die each year from exposure to particulate matter in Washington, and that the health care and societal costs of smoke-related disease approach \$200 million per year.

In 1991 Washington state legislation established tougher emission standards for wood heating devices. Wood stoves sold in our state prior to that year had inadequate, if any, emission controls. Replacing these older stoves with "certified" stoves that meet Washington's health protective standards, helps reduce the amount of wood smoke polluting Washington communities. Certified stoves are 60-80% cleaner than uncertified stoves. The EPA estimates that replacing twenty uncertified woodstoves with twenty certified stoves reduces toxic smoke particles by approximately 1 ton each year. Replacing those older stoves with cleaner-burning heating devices (e.g., pellet stoves, or natural gas or propane heating appliances) reduces the amount of air pollution even further.

The Department of Ecology received an appropriation of \$1.5 million in Local Toxics Control Account money for a woodstove change-out program. During fiscal year 2009 we awarded six grants to five local air agencies to change-out woodstoves in areas that exceeded (or risked exceeding) the federal limits/ standards for fine particles (PM 2.5 or smaller). By the end of June 2009, we had replaced 844 uncertified wood-fueled heating stoves—thereby stopping at least 25.2 tons [using Ecology data] or as much as 36.6 tons [using EPA's emissions calculator] of toxic fine particles from polluting our air.

More wood stove owners asked to participate than we could fund, last year. Each recipient local air quality agency compiled a waiting list of would-be participants, in case more wood stove change out funding becomes available.

Ecology's Air Quality Program posted useful information about using wood for home heating at [http://www.ecy.wa.gov/programs/air/indoor\\_woodsmoke/wood\\_smoke\\_page.htm](http://www.ecy.wa.gov/programs/air/indoor_woodsmoke/wood_smoke_page.htm)

## 44 Hazardous Waste Toxics Reduction Program



Arianne Fernandez, Ecology Urban Waters Specialist, prepares to sample the sewer for contaminants at Liberty Lake in the Spokane River watershed.

### Hazardous Waste Toxics Reduction - Urban Waters Initiative

Urban waters are rivers, bays, and other water bodies close to high-population areas prone to pollution. In the 07-09 biennium, six inspectors were funded to work in established urban areas such as the Lower Duwamish Waterway in south Seattle, Tacoma's Commencement Bay, and the Spokane River where it flows through the city. Urban Waters inspectors boost efforts to prevent contamination or re-contamination of urban waterways by finding and inspecting sources of pollution. Re-contamination occurs when a waterway or property that has been cleaned up starts becoming polluted again. Nearly half of the 596 Urban Waters inspections completed in FY 2009 found compliance concerns needing resolution.

This geographic approach to compliance relies on the knowledge of persons hired by local governments in each of the three water areas. Ecology staff provide technical support as Local Source Control Specialists assist small businesses with on-site technical assistance, pollution-prevention advice, Best Management Practices information, and education to control and prevent toxic pollution from reaching the waters. (See LTCA section for more information about Local Source Control Specialists.)

Visit Ecology's internet site <http://www.ecy.wa.gov/biblio/0901002.html> for a complete look at the Urban Waters Initiative focus on Commencement Bay and <http://www.ecy.wa.gov/programs/hwtr/lsp/> for information on the Local Source Control Partnership.



## Waste 2 Resources

### Coordinated Prevention Grants

The Coordinated Prevention Grant (CPG) program helps protect human health and the environment by (1) reducing/preventing exposures to toxins, (2) reducing/avoiding waste generation, and (3) ensuring proper management of solid and household hazardous wastes. CPG offers funding assistance to local governments for their planning and implementation of local solid and hazardous waste management plans.

#### CPG Benefits to Washingtonians:

The base CPG program supports ongoing waste reduction and recycling programs, household hazardous waste collection and regulatory oversight. Without this funding programs would cease to exist in many small communities across Washington. Beyond Waste grants encourage innovative programs to increase organics diversion and reuse of materials, reduce toxic threats and increase green building and low impact development. These initiatives also reduce greenhouse gas emissions statewide. Our goal is to work toward the elimination of waste and use of toxic substances, while recognizing that we will still have these wastes to manage for a long time.

Outcomes can be described in terms of waste management, diversion, converting waste to resources and prevention. Outcomes for the 07-09 biennium won't be available until final reporting occurs in February 2011 so the outcomes reflected below are based on the 05-07 biennial results.

#### Waste Management

Washington has 700 solid waste management facilities that work to reduce the risks to human health and groundwater. Local Health Authorities regulate all solid waste facilities in the state. Local Health officials permit and regulate facilities, oversee construction at solid waste landfills, and review environmental monitoring data. Up to 15 landfills are in need of either construction of new waste disposal cells and leachate collection systems or closing existing waste disposal cells. During the 05-07 biennium CPG funding supported the following activities:

- Local health officials conducted about 3,200 facility inspections statewide.
- Local health officials also resolved about 13,000 illegal dumping and illegal waste storage complaints, and provided technical assistance to over 27,000 businesses and citizens.

Household Hazardous Waste collection and disposal does not prevent waste, but CPG funded collection activities removed more than 108,000 tons of hazardous materials from homes and businesses. Many household hazardous waste programs collect waste oil for energy recovery. Some materials contain PBTs (thermostats, fluorescent bulbs), while others contain toxins and carcinogens (pesticides, cleaning agents, solvents). Some collected hazardous materials (e.g., paint) are reused or recycled, but many are simply disposed of at hazardous waste landfills.

#### Recycling or Energy Recovery

Recycling prevents waste and saves energy. Manufacturing processes that use recycled materials replace the need for resource extraction, generally a wasteful and energy intensive process. Typically processes using recycled materials consume between 10 and 50 percent of the energy and water required by those using virgin materials. CPG plays a pivotal role in financing the local programs that now recycle and reuse 1.5 million tons of residential material annually. CPG supports ongoing recycling operations, education, and promotion.

- During the 05-07 biennium, CPG supported local programs that collected 193,246 tons of recyclables in Washington State.
- Recycling reduced greenhouse gas emissions by 160,694 metric tons of carbon equivalent\*. In addition, recycling saved 3,260,195 BTUs of energy\*, which is equivalent to 562,103 barrels of oil or the annual energy consumption of 30,396 households.

## Waste 2 Resources

### Closing the Loop on Organics

Many CPG organics projects focus on taking materials considered waste and putting them to beneficial use. This has the double benefit of reducing waste and creating a useful product. The compost, in turn, improves soil quality, creates cleaner storm water, and eliminates or reduces the need for pesticides and fertilizers, which are often toxic. Just as CPG funds helped curbside recycling become a statewide practice, these funds are now creating a broad base of organics projects. CPG funds everything from home composting workshops and bin distribution to regional composting facilities.

- During the 05-07 biennium, CPG projects turned 413,592 tons of yard and food waste into compost.
- Composting reduced greenhouse gas emissions by 51,508 metric tons of carbon equivalent\*. In addition organics recycling saved 85,212 BTU's of energy,\* which is equivalent to 14,692 barrels of oil or the annual energy consumption of 794 households.

### Eliminating Waste through Prevention and Green Building

The most cost-effective way to handle waste is not a matter of which technology is used to manage it, but how waste can be prevented in the first place. This reduces the amount of materials, chemicals, and energy needed to produce and transport products. When buildings are deconstructed, materials can be salvaged for reuse. But perhaps the greatest benefit lies with the buildings being built today. Green buildings use building practices that create less waste during construction. They are also designed to use fewer resources by capturing natural light and ventilation, requiring far less energy to heat, cool, or light. In addition, green building avoids exposure to dozens of toxics commonly found in building materials, thus improving indoor air quality. CPG supports local government technical assistance programs for builders and demonstration projects.

### Alternatives to Burning

Although outdoor burning is now prohibited in all urban growth areas, burning yard and land-clearing debris continues to be a common practice in other areas of the state. Burning is often considered a convenient and inexpensive method for eliminating wastes. However, the health effects of smoke and fine particle pollution, and the dangers of fires getting out of control, are rarely considered in those calculations. Back yard and land clearing burning impact peoples' health and generate frequent smoke complaints. Citizens in many rural urban growth areas still struggle to find alternative ways to deal with their yard debris. In order to reduce these types of burning emissions, cost-effective and readily-available alternatives for disposing of these types of waste are needed.

- The ATB projects that ended in December 2009 prevented over 17,000 tons of organic wastes from being burned or disposed of. According to the EPA's WARM model, this is equivalent to reducing green house gas emissions by 2,117 metric tons of carbon equivalent\*.
- By not burning that organic waste, PM2.5 pollutant release was eliminated. Reducing fine particle pollution in communities reduces negative health effects including the incidence and exacerbation of serious heart and lung diseases. Direct and indirect health care costs were reduced.

\*Calculated using the EPA's Waste Reduction Model (WARM) applied to 05-07 CPG biennial outcomes

## Waste 2 Resources

### Funding Allocation

Ecology awarded CPG funds to local governments, based on two different criteria:

- a. The *regular cycle* (a two calendar-year period that starts in January each even-numbered year) distributes funding based upon a formula published in the rule. This is not a competitive cycle.
- b. The *offset cycle* (a two calendar-year period that starts in January each odd-numbered year) awards funding based upon a competitive process.

In 2009, Ecology allocated Offset cycle funds. This included funding available from unrequested/unspent dollars carried from the Regular cycle, and from special budget proviso funds awarded by the legislature. The 07-09 Biennial budget included a Beyond Waste proviso. The Beyond Waste proviso allocated \$4 million to help local governments fulfill portions of the Beyond Waste Plan, Washington State’s Solid and Hazardous Waste Management plan. The Beyond Waste Plan identified strategies to reduce the amount of solid waste generated, to reduce the kinds and concentrations of toxic chemicals used to produce/contained in consumer products, and to persuade residents to see so-called “wastes” as potential resources. The funding helped local governments initiate programs that best help them meet our Beyond Waste goals. The target areas include programs for processing organics (such as yard debris and food waste), for reducing/collecting/disposing moderate risk waste (small quantities of hazardous wastes from households or small retail operations), and for promoting green building.

### Competitive selection process

Grant officers ensure that the Offset cycle applications meet the two minimum requirements of consistency with the local solid and hazardous waste management plan and readiness to proceed. The projects are evaluated to determine whether they meet the intent of the Beyond Waste proviso.

Grant officers and local government representatives serve as a scoring and awards committee. The committee develops a project ranking list and funds are awarded among the highest ranking projects.

Applications were scored (1-5) based on the following criteria:

- Defined Outcome
- Potential for lessons learned
- Return on Investment
- Partnership/Coordination
- Meets a Local or Statewide Need

### Coordinated Prevention Grants 2009-2010 Offset Cycle Awards

Ecology awarded 45 grants to Washington counties, cities, and health agencies totaling \$4,877,685 during the Offset cycle.

Organics (agricultural, yard, and food waste)	2,305,770
Green Building (energy efficient, low-toxicity)	603,520
Waste Reduction/Recycling	270,550
Solid Waste Enforcement	752,083
Moderate Risk Waste	574,513
Other	371,250
<b>*LTCA Funds for Offset Cycle</b>	<b>\$4,877,685</b>

NOTE: The 2009-11 Legislature switched the funding source for CPG to the State Building Construction Account (SBCA) effective July 1, 2009. The first 6 months of the offset cycle spending came from the LTCA and the last 18 months out of the SBCA.

## CPG Project Examples

### Kittitas County (G0900149 and G0800403)

CPG funds paid to locate, design, construct and operate a county-wide composting facility as a community alternative to burning. Staff purchased a grinder, loader and turner. The goal was to collect organic material, turn it into compost, and sell by the truckload for a nominal fee. The sales revenue will be used to sustain continued operation of the facility.



### King County (G0900183)

Staff conducted a demonstration testing the feasibility of using asphalt shingles in a paving project. King County Road Services Division's contractor, Woodworth & Company, paved Southeast 416th Street near Enumclaw with hot mix asphalt containing recycled asphalt shingles. Learn more at <http://your.kingcounty.gov/solidwaste/linkup/shingles/paving-demo.asp>

### Jefferson County (G0900105)

CPG funds paid to develop a hands-on education program encouraging more than 500 students, from Grant Street and Quilcene schools to garden and compost at school. Kids and staff are bringing this knowledge home, and many are motivated to start gardening and composting with their families.



### City of Olympia (G0900099)

CPG funds paid to expand the public event recycling program beyond traditional recycling to include the collection of organics. They upgraded existing collection infrastructure by purchasing recycling drop boxes and a trailer to focus on up to four major public events and the Olympia Farmer's Market.

## Waste 2 Resources

### CPG Awards-Fiscal Year 2009

Agreement	Recipient	County	Project Title	LTCA	Project Cost
G0900204	Asotin County Landfill	Asotin	Beyond Waste-Organic and wood waste material collection	206,500	275,333
G0900169	Benton County	Benton	Organics Feasibility Study	37,500	50,000
G0900108	Clallam County	Clallam	Creating Markets for C&D	15,000	20,000
G0900113	Clark County Solid Waste	Clark	Washington Green Schools	196,500	262,000
G0900210	Clark County Solid Waste	Clark	Sustainable Communities in Clark County, On-line Exchange for Commercially generated surplus food, Home Grown Gardens	138,900	185,200
G0900161	Columbia County	Columbia	Solid Waste and Moderate Risk Waste Planning	60,000	80,000
G0900110	Cowlitz County Public Works	Cowlitz	Update Moderate Risk Waste Management Plan, Screen for Yard Waste Composting Program	114,750	153,000
G0900160	Ferry County Waste Management	Ferry	Solid Waste Management Plan Update	45,000	60,000
G0900145	Town of Coulee Dam	Grant	Wood Chipper	30,000	40,000
G0900159	Grant County Solid Waste	Grant	Master Composter Training and Used Oil Collection Truck Purchase	15,225	20,300
G0900105	Jefferson County PW	Jefferson	Food & Yard Debris Diversion Program	74,246	98,995
G0900109	Jefferson County PH	Jefferson	Enforcing Solid Waste Codes	48,584	64,779
G0900165	Public Health Seattle & King County	King	Investigations of Permitted and Permit Exempt Recycling Facilities in King County under WAC 173-350-210;173-350-310	196,143	261,524
G0900179	City of Bothell	King	Create Event Recycling and Organics Collection Program for Parks Department, Commercial Organics Collection Program and Recycling Education, Recycling collection at City facilities (in house)	77,250	103,000
G0900183	King County Solid Waste Division	King	Shingles in Paving Demonstration, Green Building Program Guidance Document and Assistance to Suburban Cities in King County, Northwest Product Stewardship Council	217,500	290,000
G0900189	North Bend	King	North Bend Yard Waste Program Enhancement	30,000	40,000
G0900209	Snoqualmie	King	City of Snoqualmie Yard Waste Program Enhancement,	30,000	40,000
G0900164	Public Health Seattle & King County	King	Local Hazardous Waste Plan Update with Beyond Waste Goals	85,000	113,333
G0900212	Seattle Public Utilities	King	Train the Trainer for Seattle Schools, Hybrid Deconstruction Center, Multi-family Friends of Recycling and Composting (FORC) Training and Outreach	285,000	380,000
G0900162	Kitsap County Health Dept.	Kitsap	Solid Waste Complaint Response and Compliance, Solid Waste Enforcement Policy Development and Interagency Coordination	100,000	133,333
G0800403	Kittitas County Solid Waste	Kittitas	Kittitas County Compost Facility Construction	382,917	510,556
G0900149	Kittitas County Solid Waste	Kittitas	Kittitas County Compost Facility Enhancement Project	210,000	280,000
G0900146	Kittitas County Environmental Health	Kittitas	GPS Tracking & Enforcement	7,500	10,000
G0900112	Lewis County	Lewis	Paint processing equipment improvements	15,000	20,000
G0900158	Lincoln County Public Works	Lincoln	Solid Waste Plan Update	45,000	60,000

## Waste 2 Resources

Agreement	Recipient	County	Project Title	LTCA	Project Cost
G0900139	Mason County	Mason	MRW Facility, WA Corrections Center On-site Food Waste Composting, School Food Waste Composting	196,663	262,217
G0900140	Okanogan County Health	Okanogan	Solid Waste Enforcement	40,000	53,333
G0900203	Pend Oreille Public Works	Pend Oreille	Complete Recycling Facility upgrade and equipment purchase	60,000	80,000
G0900111	Tacoma Pierce County HD	Pierce	Natural Yard Care Project, Solid Waste Enforcement-Closed/Abandoned Landfill Evaluation	132,917	177,223
G0900173	San Juan Public Works	San Juan	Residential Food and Yard Waste Reduction, Agricultural Plastics Recycling	21,075	28,100
G0900162	Snohomish County Health District	Snohomish	Youth Educational Outreach for Household Hazardous Waste Identification, Reduction and Disposal, Feedstock Handling Practices at Solid Waste Handling Facilities,	110,000	146,667
G0900174	City of Everett	Snohomish	Commercial Food Waste Composting Program	26,250	35,000
G0900175	City of Arlington	Snohomish	Commercial Food Waste Composting Program	15,000	20,000
G0900185	Snohomish County SWMD	Snohomish	Update Snohomish County Comp Solid Waste and Hazardous Waste Management plan to include BW, and Climate Change related components, Non Residential Organics Collection, Comprehensive Product Stewardship Program	443,513	591,351
G0900202	Spokane Regional Health District	Spokane	Additional Funding For Solid Waste Enforcement Of Illegal Dumping Activities	33,000	44,000
G0900205	Stevens County Department of Public Works	Stevens	Statewide Electronics Waste Education Program	56,250	75,000
G0900099	City of Olympia	Thurston	Zero Waste Public Events/Areas (Beyond Recycling to Organics), Commercial Organics Collection	49,479	65,972
G0900106	Thurston Co WWM	Thurston	Green Building Awareness/Museum, Home Composting, C&D Waste Diversion Program and Green Building Incentive Study, Organics Video	238,650	318,200
G0900107	Thurston County PHSS	Thurston	Integrated Pest Management partnerships, Illegal Dumping Prosecution	346,550	462,067
G0900176	Walla Walla County	Walla Walla	Permanent Green Waste Processing and Recycling Facility	348,862	465,149
G0900186	Whitman County Public Works	Whitman	Expansion of Community Drop-Off Program for Mixed Metals Recycling - Town of Garfield	7,125	9,500
G0900187	Whitman County Public Works	Whitman	Town of Oakesdale Compost Project	19,812	26,416
G0900188	Whitman County Public Works	Whitman	Move out and Pitch In	6,775	9,033
G0900206	Whitman County Public Works	Whitman	City of Palouse-Compost Expansion Project	9,750	13,000
G0900147	Yakima County Public Services – Solid Waste Division	Yakima	Organics Feasibility Study and Green Built Greenhouse	52,500	70,000
<b>Total CPG Grants for FY 2009</b>				<b>4,877,686</b>	<b>6,503,581</b>
<b>Amendments to Previous Cycle Grants</b>				<b>1,113,253</b>	<b>834,940</b>
<b>Total CPG Projects in FY 2009</b>				<b>5,990,939</b>	<b>7,338,521</b>

## Waste 2 Resources

### Remedial Action (RA) Grants

The legislature appropriates Local Toxics Control Account funding to Ecology for a two-year period. For the period from July 1, 2008 through June 30, 2009, the legislature appropriated funds to the Department of Ecology for distribution to local governments in accordance with RCW 70.105D.070. The law dedicates the money for loans or grants to help pay the costs for investigation and cleanup of publicly-owned or abandoned contaminated sites. Ecology awarded a total of \$34.559 million in RA Grants to local governments for use during Fiscal Year 2009.

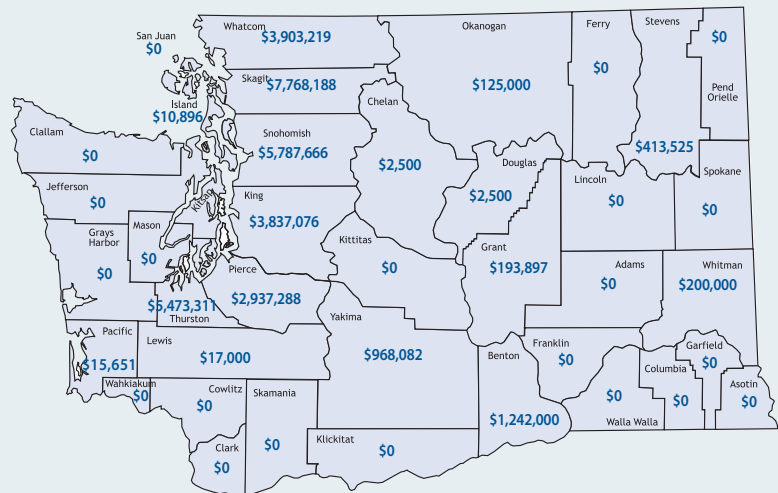
### Categories of Remedial Action Grants

When local governments need to clean up contaminated sites, the Department of Ecology offers remedial action (RA) grants to encourage and expedite cleanup activity. These funds lessen the cleanup cost burden on local governments (or on their rate payers and local taxpayers).

The kinds of local government projects typically supported with RA Grants awards include:

- **Oversight of Remedial Actions:** These grants help pay for local government’s review of investigation and cleanup plans designed for a contaminated site on publicly owned land.
- **Site Hazard Assessment:** These grants help local health departments or districts pay the costs to assess the scope/degree of contamination at a suspected hazardous waste site within their area.
- **Integrated Planning:** These grants enable local governments to develop integrated project plans for both contaminated-site cleanup and property reuse (i.e., Brownfields Redevelopment Projects).
- **Safe Drinking Water Actions:** These grants provide financial assistance to a local government, applying on behalf of a purveyor of drinking water, to serve areas where a hazardous substance has contaminated the local supply/source.
- **Area-Wide Ground Water Contamination:** These grants help finance assistance to local governments seeking to clean up and redevelop property within the local government’s jurisdiction. Generally, these grants fund ground water cleanups where hazardous substances from multiple sources have comingled. The local government need not own the property to obtain this type of grant.
- **Independent Remedial Actions:** These grants offset some of the costs where a local government will conduct a voluntary cleanup under consultation of Ecology’s Voluntary Cleanup Program. Funds available for conducting an independent cleanup project cap at \$300,000.
- **Methamphetamine Labs:** These grants help fund a local government’s initial investigation and assessment of suspected methamphetamine laboratories, and pay for oversight of the cleanup activities within its jurisdiction.\*
- **Derelict Ships:** Ecology makes funding available to local governments to remove and dispose of hazardous substances released from derelict or abandoned vessels.

\*Compare with State Toxics Control funding to Ecology’s “Spill Prevention, Preparedness and Response Program” role, and the “Clandestine Drug lab” program.



Department of Ecology Remedial Action Grant/Loan Awards for Fiscal Year 2009

## Waste 2 Resources

### Remedial Action Agreements - Fiscal Year 2009

Recipient Oversite Remedial Action	County	Agreement Number	Project Cost	SBCA Funding
Port of Benton - Prosser Airport Cleanup	Benton	G0900222	1,380,000	1,242,000
Seattle Public Utilities - Gas Works Park	King	G0900054	498,352	249,176
King County International Airport NBF/GTSP	King	G0900086	315,000	157,500
Seattle Public Utilities - NBF/GTSP	King	G0900088	317,000	158,500
Seattle City Light - NBF/GTSP	King	G0900087	311,800	155,900
Seattle Public Utilities	King	G0900217	1,000,000	500,000
City of Bothell	King	G0900245	600,000	300,000
Port of Seattle	King	G0900249	89,834	44,834
Seattle Public Utilities	King	G0900217	1,000,000	500,000
Seattle Public Utilities	King	G0900054	942,866	471,166
Bremerton, Port of - Norseland	Kitsap	G0900021	456,640	228,320
City of Bremerton Former Chevron Property	Kitsap	G0900223	1,569,000	1,412,100
City of Gig Harbor - Eddon Boat Yard	Pierce	G0900181	461,804	230,902
City of Tacoma - Thea Foss Waterway	Pierce	G0900227	1,000,000	500,000
Port of Tacoma	Pierce	G0900251	4,350,000	2,175,000
Port of Anacortes - Focus Fidalgo	Skagit	G0900082	6,800,380	3,400,190
Port of Anacortes - Focus Fidalgo	Skagit	G0900082(1)	2,135,996	1,067,998
Port of Anacortes - Focus Fidalgo	Skagit	G0900082(2)	4,000,000	2,000,000
Skagit County - Whitmarsh Landfill (March Pt)	Skagit	G0900211	2,000,000	1,000,000
Port of Skagit County	Skagit	G0900246	600,000	300,000
Port of Everett - North Marina Redevelopment	Snohomish	G0900024	6,775,000	3,387,500
City of Everett - Landfill	Snohomish	G0900083	3,775,332	1,887,666
City of Olympia - Old Safeway	Thurston	G0900075	474,500	237,250
Port of Olympia - Sediments	Thurston	G0900144	4,483,476	2,241,738
Port of Olympia - East Bay Remediation Site	Thurston	G0900182	974,370	487,185
City of Olympia - Solid Wood Incorporated	Thurston	G0900218	1,000,000	500,000
Port of Olympia	Thurston	G0900182	1,800,000	900,000
City of Olympia	Thurston	G0900075	1,600,000	800,000
Port of Bellingham - Harris Ave	Whatcom	G0900104	386,000	193,000
Port of Bellingham - Central Waterfront	Whatcom	G0900177	2,844,000	1,422,000
Port of Bellingham - Georgia Pacific Mill	Whatcom	G0900178	1,770,000	885,000
Port of Bellingham - Cornwall Ave Landfill	Whatcom	G0900180	1,718,000	859,000
City of Bellingham - Blvd Park/S. State St	Whatcom	G0900207	850,000	425,000
City of Palouse - Palouse Producers Site	Whitman	G0900226	200,000	200,000
City of Yakima - Richardson's Airway	Yakima	G0900224	520,091	468,082
City of Yakima	Yakima	G0900252	666,667	500,000



## Waste 2 Resources

### Amendments to Previous Years Agreements

Port of Seattle	King	G0800557	1,600,000	800,000
King County - Denny Way CSO	King	G0800503	800,000	400,000
Kitsap County Public Works	Kitsap	G0600048	43,276	21,638
Port of Everett - Everett Shipyard	Snohomish	G0800608	1,025,000	512,500
Port of Olympia - Cascade Pole	Thurston	G0600051(3)	339,138	169,569
Port of Bellingham - I&J Waterway	Whatcom	G0500141	142,857	50,000
Port of Bellingham - Weldcraft	Whatcom	G0400049	50,000	25,000
Port of Bellingham - Comwall Ave	Whatcom	G0500168	80,000	40,000
Port of Bellingham - Comwall Ave	Whatcom	G0500168	8,438	4,219
<b>Oversight Subtotal</b>			<b>63,754,817</b>	<b>33,509,933</b>

### Independent Cleanup

Coulee-Hartline School District #151	Grant	G0900148	305,294	152,647
Oak Harbor, City of	Island	G0900035	21,792	10,896
City of Ilwaco - UST	Pacific	G0900055	20,868	15,651
Bethel School District - Kapowsin Elementary	Pierce	G0900191	62,972	31,486
Stevens County	Stevens	G0900229	400,000	300,000
Stevens County	Stevens	G0900248	151,366	113,525
<b>Independent Cleanup Subtotal</b>			<b>962,292</b>	<b>624,205</b>

### Site Hazzard Assesment (SHA)

Grant County Health District	Grant	G0900020	41,250	41,250
Okanogan County Public Health	Okanogan	G0900081	122,000	122,000

### Amendments to Previous Years Agreements

Public Health Seattle King County	King	G0800117	100,000	100,000
Lewis County Public Health and Social Services	Lewis	G0600080(5)	17,000	17,000
Thurston County Health and Social Services	Thurston	G0600074(#4)	100,000	100,000
Thurston County Health and Social Services	Thurston	G0600074	37,569	37,569
<b>Site Hazzard Assesment Subtotal</b>			<b>417,819</b>	<b>417,819</b>

### Drug Lab

Okanogan County Public Health	Okanogan	G0900081	3,000	3,000
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### Amendments to Previous Years Agreements

Chelan-Douglas Health District	Chelan-Douglas	G0800035(2)	5,000	5,000
<b>Drug Lab Subtotal</b>			<b>8,000</b>	<b>8,000</b>

<b>Remedial Action Agreements - FY 2009 Total</b>			<b>65,142,928</b>	<b>34,559,957</b>
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## Waste 2 Resources

### Public Participation Grants – Fiscal Year 2009

Under Chapter 70.105D RCW, the Model Toxics Control Act (MTCA), state law reserves funding for a grant program that enables people to influence contaminated site cleanup decisions and solving waste management problems. Funding comes from both the State and Local Toxics Control Accounts.

The Public Participation Grant (PPG) Program awards funding to non-government entities, not-for-profit organizations, or public interest groups whose proposed PPG projects rank highest among competing proposals. Each biennium, PPG applicants submit their proposals outlining their objectives and plans for reaching them. Ecology's panel of experts from different science and technical disciplines, rank the submittals.

A recipient can receive a maximum of \$120,000 to conduct a two-year project. For the 2009-11 funding cycle, the average award was about \$54,000.

PPG applicants focus on serving a defined need and achieving specific results. Each PPG project falls into one of two categories: contaminated site cleanup or waste management. The definition for each category is as follows:

- Contaminated Site Cleanup Projects encourage people to involve themselves in clarifying contaminated sites' scope of investigation and commenting on cleanup methods. Examples include community oversight of the Hanford, Duwamish River, and Spokane River cleanup projects.
- Waste Management Projects encourage people to engage in practices to eliminate and reduce waste. Examples include demonstrating recycling methods and sustainable decision-making to low-income communities; informing homeowners about the dangers of using pesticides and hazardous household products, and offering effective alternatives; and educational campaigns to keep toxic consumer products or packaging out of Puget Sound.

In 2009, PPG Project Officers accomplished four major tasks:

1. We added five additional grant recipients to the 2007-09 funding cycle.
2. We closed out the 2007-09 funding cycle projects.
3. We selected the recipients from applicants for the 2009-11 biennium.
4. PPG integrated supplemental federal funding from the U.S. Department of Energy into public participation for Hanford-specific projects.

#### 1. PPG Added Five Additional Recipients to the 2007-09 Funding Cycle

In 2009, the PPG Program offered five additional grants. PPG administered these projects with those of the Fiscal Year 2008 funding cycle. The summaries of the grants include the following:

**Category:** Waste Management (Green Building)

**Recipient:** Built Green Washington

**Award:** \$74,200

Built Green Washington created a comprehensive informational DVD that provided information on multiple facets of building green. The DVD consisted of sections for both homebuyers and architects/builders. The recipient produced 300 DVDs for distribution to local broadcasters and posted the material on line for a free download.

## Waste 2 Resources

**Category:** Waste Management (Green Building)  
**Recipient:** Northwest EcoBuilding Guild Inland Chapter  
**Award:** \$45,360

The Northwest EcoBuilding Guild Inland Chapter developed a course for homeowners to raise awareness of how actions in the home affect the environment. The course consisted of seven classes that allowed participants to create sustainable living plans that incorporated their individual values, goals and living situation. The homeowners course covered topics such as:

- Hazardous substances and environmentally preferable alternatives.
- Recycling.
- Working with natural processes.
- Product selection.
- Green methods for home repair, remodeling, cleaning, and yard maintenance.

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**Category:** Waste Management (Green Building)  
**Recipient:** Olympia Salvage  
**Award:** \$16,500

Olympia Salvage conducted a skill-building workshop that allowed participants to learn how to build structures with reused and salvaged materials. The Grant Recipient showed how to apply the workshop concepts—guiding workshop participants through a three-day, hands on, intensive building class. By the end of the class, participants had built a small, portable home out of reused and salvaged materials for under \$5,000. Olympia Salvage posted a video of this project on YouTube at:

<http://www.youtube.com/watch?v=J8L-hil4W0c>

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**Category:** Waste Management (Green Building)  
**Recipient:** The Sustainability Foundation  
**Award:** \$60,000

The Sustainability Foundation promoted green building in Washington State through marketing and communications. They also provided technical research and assistance for Washington builders.

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**Category:** Waste Management  
**Recipient:** Environmental Education Association of Washington  
**Award:** \$85,000

Environmental Education Association of Washington created a statewide environmental education outreach website. Users are now able to search for environmental projects and interact with other environmental specialists around the state. Users can also view available resources for assistance in project development. Environmental Education Association of Washington posted the website at:

<http://www.e3washington.org/submit/submit-news.html>

## Waste 2 Resources

### 2. PPG Closed Out the 2007-09 Funding Cycle

PPG awarded just over \$3.7 million toward 68 projects mounted in the 2007-09 funding cycle. When the biennium concluded on June 30, 2009 recipients had spent nearly \$3.5 million toward their education and outreach projects. This is an effective spending rate greater than 94 percent. All recipients fulfilled the conditions defined in their agreements, except one.

### 3. PPG Selected the Applicants for the 2009-11 Biennium

Due to the budget shortfall, half of PPG funding was diverted back to the general fund. For that reason, PPG received less than \$1.3 million in funding.

Conversely, more organizations submitted applications to PPG in 2009 than in any previous year. When the application period ended, PPG received 121 applications requesting more than \$9.3 million in funding. Contaminated site applications alone exceeded more than \$1.7 million in requests.

A five-person panel reviewed the grant applications. Additionally, a technical expert reviewed each submission and commented on the specific elements of each application. PPG read and rated each project and made selections based on the following criteria:

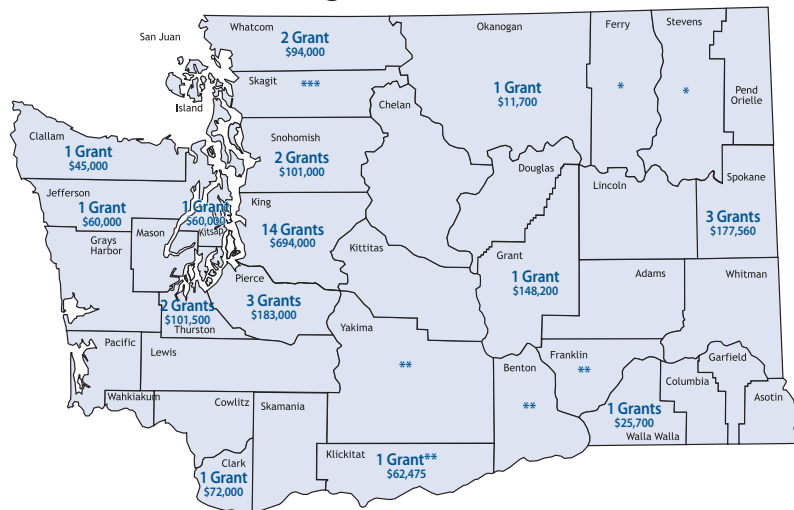
- The quality of the application.
- The administrative capacity of the applicant.
- The quality of the project proposal versus the cost.
- The project's measurable outcomes.
- Environmental Justice issues.
- Level of need for the geographic area served.
- Past performance history of returning applicants.

Upon conclusion of the application process, PPG funded 30 projects totaling more than \$1.6 million. Please see the attached graphics for a complete list of recipients and a map of the funding distribution.

### 4. PPG integrated supplemental federal funding from the U.S. Department of Energy into Hanford-specific cleanup monitoring projects.

Federal funding from the U.S. Department of Energy (USDOE) contributed an additional \$462,000. USDOE provided the funding specifically for Hanford Cleanup education and outreach. PPG distributed the funding between four recipients (Heart of America, Hanford Challenge, Columbia Riverkeepers, and Washington Physicians for Social Responsibility). Approximately half of this funding is dedicated for 2009, and PPG will release the second half of funding to the recipients in 2010.

**Department of Ecology**  
**2009 Public Participation Grant (PPG) Distribution by County**  
**Total Funding: \$1,477,660 - Statewide**



\* Project work occurs in respective counties.

\*\*\$258,475 was provided by the U.S. Department of Energy in fiscal year 2009 for Hanford projects in the mid Columbia River region

\*\*\* Project work occurs in respective counties.

## Combined Waste Management Grants

Organization	Category	Requested	PPG Offer	Area(s) Served
Facing the Future	Waste Reduction	\$91,023	\$80,000	Statewide
Puget Soundkeeper Alliance	PSI	\$89,000	\$53,000	Puget Sound Basin
Habitat for Humanity of Washington State	Green Building	\$120,000	\$75,000	Spokane, Chelan, Yakima, Skagit, Clallam, Pierce, and Benton Counties
Washington State Hotel and Lodging Association	Green Building	\$120,000	\$53,000	Statewide
Methow Recycles	Waste Reduction	\$11,700	\$11,700	Okanogan County
Port Townsend Marine Science Center	PSI	\$74,000	\$60,000	Puget Sound Basin
YMCA of Tacoma-Pierce County	PSI	\$120,000	\$66,000	Puget Sound Basin
Spokane Neighborhood Action Programs	Toxics	\$58,000	\$40,000	Spokane, Stevens and Pend Oreille Counties
Evergreen Habitat for Humanity	Waste Reduction	\$118,900	\$72,000	Clark County
Washington Citizens for Resource Conservation	Toxics	\$60,000	\$50,000	Statewide
Sustainable Connections	Green Building	\$52,000	\$52,000	Whatcom County
Walla Walla Area Resource Conservation Committee	Waste Reduction	\$25,700	\$25,700	Walla Walla County
Washington Agricultural Family Assistance	Toxics	\$120,000	\$48,200	Grant County
Stilly-Snohomish Fisheries	PSI	\$99,008	\$65,000	Puget Sound Basin
<b>Combined Waste Management sub total</b>		<b>\$1,060,323</b>	<b>\$751,600</b>	

## Contaminated Site Grants

Organization	Site Covered	Requested	PPG Offer	Area(s) Served
Washington Physicians for Social Responsibility	Hanford, Richland	\$22,000	\$51,000*	Benton
Hanford Challenge	Hanford, Richland	\$120,000	\$120,000*	Benton
Columbia Riverkeepers	Hanford, Richland	\$120,000	\$62,475*	Benton
Heart of America	Hanford, Richland	\$200,000	\$120,000*	Benton
Brackett's Landing	UNOCAL/Chevron at Pt. Edwards, Edmonds	\$49,000	\$36,000	Snohomish
Citizens for a Healthy Bay	Commencement Bay, Tacoma	\$80,000	\$42,000	Pierce
Duwamish River Cleanup Coalition	Duwamish River, Seattle	\$120,000	\$45,000	King
Sailish Sea Expeditions	Duwamish River, Seattle	\$45,000	\$45,000	King
Georgetown Community Council	Phillip Service's Georgetown cleanup, Seattle	\$75,000	\$42,000	King
Lake Roosevelt Forum	Lake Roosevelt, see counties list	\$57,200	\$47,200	Ferry, Grant, Lincoln, Stevens
The Lands Council	Spokane River, Spokane	\$68,820	\$45,000	Lincoln, Stevens, Spokane
Port Gamble S'Klallam Foundation	Port Gamble Bay, Hood Canal	\$120,000	\$60,000	Jefferson, Kitsap, Mason
Re Sources	Fidago/Padiallia Bay, Anacortes	\$42,433	\$42,000	Skagit
Olympic Environmental Council	Rainer Mill cleanup site, Port Angeles	\$117,800	\$45,000	Clallam
Skykomish Environmental Coalition	Town of Skykomish/BNSF Railroad cleanup	\$20,000	\$20,000	King
People for Puget Sound	Budd Inlet, Dumas Bay, Port Gardner Bay, Oakland Bay	\$120,000	\$50,000	Mason, King, Snohomish, Thurston
<b>Contaminated Sub Total</b>		<b>\$1,377,253</b>	<b>\$872,675</b>	
			<b>\$751,600</b>	<b>waste management</b>
			<b>\$872,675</b>	<b>contaminated sites</b>
<b>Public Participation Grants</b>			<b>\$1,624,275</b>	<b>total</b>

\*Project funded through a grant from U.S. Department of Energy

## Water Quality Program

### Stormwater Control Program

Stormwater Control Program activities managed by Ecology's Water Quality Program were funded by the Local Toxics Control Account. During Fiscal Year 2009, the Stormwater Program funneled **\$5,400,000** to communities throughout the state. Those communities used the funds to:

1. Retrofit existing stormwater catchment and treatment equipment
2. Close-off/re-route non-stormwater discharges, away from municipal stormwater treatment systems
3. Award grants to local creators of innovative stormwater control projects [See Table below]

#### Table of Stormwater Program Grants

Grant No.	Grant Recipient	Amount
G1000168	Aberdeen	\$50,000
G1000206	Algona	\$50,000
G1000197	Anacortes	\$50,000
G1000207	Arlington	\$50,000
G1000266	Asotin County	\$150,000
G1000208	Auburn	\$50,000
G1000209	Bainbridge Island	\$50,000
G1000169	Battle Ground	\$50,000
G1000210	Bellevue	\$50,000
G1000198	Bellingham	\$50,000
G1000211	Black Diamond	\$50,000
G1000170	Bonney Lake	\$50,000
G1000212	Bothell	\$50,000
G1000213	Bremerton	\$50,000
G1000214	Brier	\$50,000
G1000171	Buckley	\$50,000
G1000215	Burien	\$50,000
G1000199	Burlington	\$50,000
G1000172	Camas	\$50,000
G1000173	Centralia	\$50,000
G1000258	Chelan County PWD	\$50,000
G1000216	Clyde Hill	\$50,000
G1000217	Covington	\$50,000
G1000194	Cowlitz County	\$50,000
G1000218	Des Moines	\$50,000
G1000259	Douglas County	\$50,000
G1000174	DuPont	\$50,000
G1000219	Duvall	\$50,000
G1000254	East Wenatchee	\$50,000
G1000175	Edgewood	\$50,000
G1000220	Edmonds (PWD)	\$50,000
G1000262	Ellensburg	\$50,000
G1000176	Enumclaw	\$50,000
G1000221	Everett	\$50,000
G1000222	Federal Way	\$50,000
G1000200	Ferndale	\$50,000
G1000177	Fife	\$50,000
G1000178	Fircrest	\$50,000
G1000179	Gig Harbor	\$50,000
G1000223	Granite Falls	\$50,000
G1000224	Issaquah	\$50,000
G1000180	Kelso	\$50,000
G1000225	Kenmore	\$50,000
G1000260	Kennewick	\$50,000
G1000226	Kent	\$50,000
G1000227	Kirkland	\$50,000
G1000252	Kitsap County	\$50,000
G1000181	Lacey	\$50,000
G1000228	Lake Forest Park	\$50,000
G1000229	Lake Stevens	\$50,000
G1000182	Lakewood	\$50,000
G1000183	Longview	\$50,000
G1000230	Lynnwood	\$50,000
G1000231	Maple Valley	\$50,000

Grant No.	Grant Recipient	Amount
G1000232	Marysville	\$50,000
G1000233	Medina	\$50,000
G1000234	Mercer Island	\$50,000
G1000235	Mill Creek	\$50,000
G1000184	Milton	\$50,000
G1000236	Monroe	\$50,000
G1000269	Moses Lake	\$50,000
G1000201	Mount Vernon	\$50,000
G1000237	Mountlake Terrace	\$50,000
G1000238	Mukilteo	\$50,000
G1000239	Newcastle	\$50,000
G1000240	Normandy Park	\$50,000
G1000203	Oak Harbor	\$50,000
G1000185	Olympia Public Works	\$50,000
G1000186	Orting	\$50,000
G1000241	Pacific	\$50,000
G1000270	Pasco	\$50,000
G1000187	Port Angeles	\$50,000
G1000242	Port Orchard	\$50,000
G1000243	Poulsbo	\$50,000
G1000271	Pullman	\$50,000
G1000188	Puyallup	\$50,000
G1000244	Redmond	\$50,000
G1000245	Renton	\$50,000
G1000263	Richland	\$50,000
G1000246	Sammamish	\$50,000
G1000247	Sea Tac Public Works	\$50,000
G1000202	Sedro-Woolley	\$50,000
G1000265	Selah	\$50,000
G1000248	Shoreline	\$50,000
G1000204	Skagit County	\$50,000
G1000249	Snohomish	\$50,000
G1000272	Spokane City	\$50,000
G1000275	Spokane County	\$50,000
G1000273	Spokane Valley	\$50,000
G1000196	Steilacoom	\$50,000
G1000189	Sumner Public Works	\$50,000
G1000257	Sunnyside	\$50,000
G1000195	Thurston County	\$50,000
G1000250	Tukwila	\$50,000
G1000190	Tumwater	\$50,000
G1000261	Union Gap	\$50,000
G1000191	University Place	\$50,000
G1000192	Vancouver	\$50,000
G1000274	Walla Walla	\$50,000
G1000276	Walla Walla County	\$50,000
G1000193	Washougal	\$50,000
G1000253	Wenatchee	\$50,000
G1000264	West Richland	\$50,000
G1000205	Whatcom County	\$50,000
G1000251	Woodinville	\$50,000
G1000255	Yakima	\$50,000
G1000256	Yakima County	\$50,000

# State Agencies' Toxics Control Programs

## State Toxics Control Account Support



Department of Agriculture	● Banned pesticides collection events
Department of Health	● Test for lead poisoning ● Fish consumption advisories
Department of Natural Resources	● Removed Creosote-treated pilings
Puget Sound Partnership	● Conducted LID Workshops
Parks and Recreation	● Updating wastewater and Storm water systems
U of W	● More Hall Annex Toxics Site Cleanup
WSP/Fire Training Academy	● Toxic chemical recognition and handling ● Limit waste, reuse water

## State Toxics Control Account

The Department of Revenue collects payments of the Hazardous Substance Tax on a continuing basis, and deposits the tax revenues into the Model Toxics Control Account. By law, receipts deposited into the Account are divided into two separate funds:

1. Funds in the Local Toxics Control Account can be appropriated only to the Department of Ecology, for disbursement to local government entities facing toxics contamination problems.
2. Funds in the State Toxics Control Account can be appropriated to the Department of Ecology, and to other state agencies, to conduct toxics control programs.

The Department of Ecology collects "Cost Recovery" charges associated with site cleanup actions, and payments of service fees and of environmental pollution fines and penalties, on a continuing basis. Ecology deposits these revenues into the State Toxics Control Account.

Funds provided to state agencies out of the State Toxics Control Account must be obtained through the Biennial Budget Appropriation Process.

During Fiscal Year 2009 those state agencies that applied for and received STCA fund appropriations from the legislature spent them in the following amounts:

DEPARTMENT OF AGRICULTURE	\$ 2,145,031
DEPARTMENT OF ECOLOGY	\$ 66,897,161
DEPARTMENT OF HEALTH	\$ 2,046,448
DEPARTMENT OF NATURAL RESOURCES	\$ 3,659,864
PUGET SOUND PARTNERSHIP	\$ 1,408,257
DEPARTMENT OF REVENUE	\$ 42,000
STATE PARKS AND RECREATION COMMISSION	\$ 189,365
UNIVERSITY OF WASHINGTON	\$ 942,568
W S P – FIRE TRAINING ACADEMY	\$ 276,621
<b>Total STCA Expenditures for FY 2009</b>	<b>\$ 77,607,338</b>



## Washington State Department of Agriculture

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In Fiscal Year 2009, the State Toxics Control Account supported several pesticide-related environmental protection activities carried out by the Washington State Department of Agriculture (WSDA) through its Pesticide Management Division.

### Waste Pesticide Identification and Disposal

The department's Waste Pesticide Identification and Disposal activity protects water and land from potential pesticide contamination. The activity's objectives are to (1) reduce and eventually eliminate stockpiles of unusable pesticides, now stored by small businesses and on farms and similar rural locations; and (2) prevent future accumulations of unusable pesticides through user and purchaser education.

In FY 09, WSDA held 14 regional collection events, two mini-events, and two special site projects. In total we collected 161,535 pounds of unusable pesticide products and pesticide

material, from 350 customers. Since the start of this program in 1988, WSDA has removed more than 2.25 million pounds of pesticides from more than 6,000 storage locations in the state, and we have assisted more than 6,500 individuals. The program has collected and properly disposed significant amounts of persistent, bioaccumulative and toxic (PBTs) pesticides such as dinoseb, DDT, endrin, parathion, pentachlorophenol and lead arsenate. Cyanide-based pesticides and highly toxic vertebrate poisons have also been removed from private storage locations. These are designated priority pesticides due to their potential adverse impacts to public health and the environment through accidental exposure or intentional misuse.

We collected most pesticides at two types of events: (i) At regional events people transported waste pesticides to a collection site; and (ii) at special site events, WSDA and the hazardous waste contractor traveled to the customer's site to collect, sort, pack, and ship those pesticides that could pose extra risks if brought to a regional event. When WSDA takes possession of the pesticides we become legally responsible for their proper transportation to a federally permitted treatment, storage, and disposal facility (TSDF). Most of the pesticides we collected were thermally destroyed at one of two TSDFs.

During FY 09, WSDA collaborated with the Department of Ecology on a Memorandum of Agreement (MOA) to create a two-year pilot project designed to increase efficiency and improve customer service for waste pesticide collections statewide. In some instances the pilot project allowed WSDA to accumulate economic quantities of pesticide products, before shipping the waste to a TSDF, rather than immediately upon collection. During the project, which runs through the end of 2010, WSDA will demonstrate greater benefits to rural areas and in geographic areas of lower disposal volume, than our previous processes and procedures achieved.

To help prevent future accumulations of unusable pesticides, WSDA encourages pesticide users, and distributors and retailers, to stay current on federal and state pesticide use laws, and to limit pesticide purchases to amounts needed only for specific applications or seasons.

The need to limit purchases continues as pesticides become "waste" due to changes in pesticide use patterns, to agricultural land being converted to alternative uses, and to federal and state pesticide registrations and residue tolerances being restricted or discontinued.

Find more information at <http://agr.wa.gov/PestFert/Pesticides/WastePesticide.aspx>

**State Toxics Control Account: \$538,528 (FY 09)**



### Endangered Species Program / Water Quality Assessment

WSDA's endangered species protection activities are located within the Natural Resource Assessment Section (NRAS) of the agency. This section collects data to evaluate the impacts of current pesticide use on threatened and endangered species and on general water quality. We posted the collected data in a geographic information mapping system, which links usage and location, to assess the impact of pesticide use on these species. This data helps us develop potential management measures to reduce or eliminate the impact of pesticide residues to any threatened or endangered species. NRAS can apply this data and the groundwater information collected by state and federal agencies, to evaluate currently registered pesticides' impacts on human and environmental health. Using the *Pesticide Management Strategy* approved by EPA Region 10, we can define and implement those management measures necessary to protect water quality and to prevent the designation as impaired water bodies.



In 2003, the Department of Ecology and the WSDA cooperatively began a long-term monitoring study. The study data, collected during typical pesticide use seasons, helps characterize pesticide concentrations in surface water designated as salmon habitat. We expanded the study area from two watersheds to four, representing a wider range of agricultural land uses in Washington State. Resulting annual data reports were published jointly by the Department of Ecology and the WSDA. In 2010 we will publish a three-year summary report which analyzed trends and the effectiveness of pesticide label requirements and of select application methods.

The 2008 monitoring study included samples collected during March through October, in the four watersheds. Concentrations of all pesticides monitored were generally low and close to analytical detection limits, with the exception of endosulfan detections in the Wenatchee Basin. As a result, WSDA has implemented response actions per the *Pesticide Management Strategy* that will address these exceedences of endosulfan in surface waters.

In addition to ongoing activities in the Wenatchee Basin, the WSDA continues to work with agricultural commodity groups to address possible pesticide sources, and to refine application methods to avoid the potential for pesticide drift or runoff. Find further information at <http://agr.wa.gov/PestFert/natresources/EndangSpecies.aspx>

**State Toxics Control Account: \$1,223,962**

### Pesticide Compliance and Registration

The State Toxics Control Account provided funding for three positions in WSDA's core Pesticide Regulation program—one in the Compliance program area and two in Registration. The Compliance position covers all irrigated areas of the state and provides technical assistance to those involved in chemigation (the application of pesticides, plant or crop protectants, or related compounds with irrigation water). This includes commercial applicators, growers, irrigation equipment distributors and manufacturers, irrigation districts, farm chemical distributors and consultants, lawn care businesses, and others.

The technical assistance program emphasized system inspections and education. In 2009, WSDA made presentations to about 500 people; we focused on proper chemigation system set-up and use. New EPA re-registration activities concerning fumigants, greatly increased grower interest in our information. Compliance field staff inspected 75 separate systems, by request of the growers, to help them come into compliance with federal and state requirements.

The two Registration positions provided WSDA with assessment capacity. The assessment results helped WSDA determine whether a “special local need” (SLN) or emergency pest situation would justify limited use of certain pesticides not registered with EPA for such use. Staff weighed pesticide residue, efficacy, and adverse effects data to make decisions that protect human health, endangered species, beneficial organisms, and ground and surface water. Washington’s agricultural industry values these SLN registrations because of our state’s extensive crop diversity gives rise to specific pest control needs.

These programs ensure that pesticides are used safely, and that appropriate pesticides are available to protect Washington’s agriculture from preventable damage.

Find more information on these activities at <http://agr.wa.gov/PestFert/default.htm>.

State Toxics Control Account: \$287,317

Administrative cost: \$95,225

**Total State Toxics Control Account: \$2,145,032**

**Waste Pesticide Disposal Projects Performed by WSDA Fiscal Year 2009 (7/1/08 - 6/30/09)**

Collection Event	When	Customers	subtotal	Pounds	subtotal	Disposal Cost	subtotal	per pound
Chimacum Regional	9/3/8	7		1,968		\$5,750.22		\$2.92
Puyallup Regional	9/4/08	20		3,789		\$7,107.12		\$1.88
Mount Vernon Regional	9/16/08	26		12,601		\$20,267.66		\$1.61
Spokane Regional	10/7/08	19		5,751		\$12,213.77		\$2.12
Prosser Regional	10/8-9/08	30		21,203		\$33,492.93		\$1.58
Okanogan Regional	10/15/08	13		3,550		\$7,741.28		\$2.18
Orondo Regional	10/16/08	26		7,182		\$14,396.70		\$2.00
Pasco Regional	04/21-22/09	44		21,371		\$34,334.99		\$1.61
Walla Walla Regional	04/23/09	21		8,834		\$15,200.53		\$1.72
Yakima Regional	05/4-5/09	77		37,372		\$63,104.51		\$1.69
Chelan Regional	05/20/09	32		10,741		\$18,665.27		\$1.74
Okanogan Regional	05/21/09	12		13,477		\$19,199.86		\$1.42
<b>Regional total FY 2009</b>	<b>12 events</b>		<b>327</b>		<b>147,839</b>		<b>\$251,474.84</b>	<b>\$1.70</b>
Yakima Mini event	10/13/08	14		7,336		\$12,482.63		\$1.70
Ellensburg Mini event	10/14/08	5		371		\$2,560.35		\$6.90
Yakima County Special	11/26/08	3		717		\$674.34		\$0.94
Vashon Island Special	3/11/09	1		5,272		\$9,795.58		\$1.86
<b>Special site total FY 2009</b>	<b>4 events</b>		<b>23</b>		<b>13,696</b>		<b>\$25,512.90</b>	<b>\$1.86</b>
<b>Total FY 2009</b>	<b>16 events</b>	<b>350</b>		<b>161,535</b>		<b>\$276,987.74</b>		<b>\$1.71</b>

The average amount collected per customer during fiscal year 2009 is approximately 462 pounds. Since the program began in 1988, it has collected and properly disposed of 2,271,819 pounds of pesticides from 6,591 customers. The average amount collected per customer for the entire program (1988 - June 2009) is approximately 345 pounds.



Chemicals and environmental contaminants that harm the people of Washington are found in our water, air, soil, and sediments; they're in our food, consumer products, and wildlife --including fish.

The Washington State Department of Health (DOH) evaluates hazards posed by identified contaminants present in our environment. We collaborated with local, state, and federal agencies, with tribal governments, and with interest communities, to minimize or prevent exposures to them.

To prevent human exposures DOH must:

- Measure contaminant levels.
- Assess current and potential threats to human health.
- Identify exposure routes.
- Inform communities to minimize their exposures.
- Advise local, state, and national regulators.

**In fiscal year 2009, the Department of Health expended \$2,046,448 from the State Toxics Control Account.**

The funding supported our health assessments, education, and monitoring programs. Our goal was to protect the public—especially children—from exposure to legacy (long-lasting) and emergent (suspected or recently identified) toxic chemicals and from other hazardous environmental contaminants.

Following are highlights from some of our 2009 efforts:

### **Eating Fish: balancing the benefits with the risks** Department of Health - 2009

Fish and shellfish contain high-quality protein and other essential nutrients, are low in saturated fat, and contain omega-3 fatty acids. A well-balanced diet that includes a variety of fish and shellfish contributes to heart health and to children's proper growth and development.

Some fish, however, contain harmful chemicals. The primary pathway that most people from Washington State are exposed to mercury and PCBs, is through eating fish.

#### **Dietary exposure to Mercury**

For the most sensitive human populations –i.e., fetuses, infants, and children—the primary health effect of mercury exposure is impaired neurological development. Mercury exposure in the womb can adversely affect a growing brain and nervous system. Children exposed to mercury in the womb exhibit irreversible impacts on cognitive thinking, memory and attention, language, and on fine motor and visual spatial skills.

#### **Dietary exposure to PCBs**

High levels of PCBs in humans have been associated with increased risk of developing certain types of cancer. Health effects associated with low-level exposures vary. The children of mothers who consumed high dietary levels of PCBs have shown altered infant behavior, poorer cognitive function, and mild immune effects. Adverse reproductive effects and disruption of thyroid hormones have also been associated with PCB exposure.

#### **Did you know . . .**

- Many private wells in Washington exceed EPA's drinking water standard (limit) for arsenic.
- Scientific evidence shows that indoor air can be two to five times more polluted than outdoor air in the same geographic area.
- Studies of women of Japanese descent show their high fish consumption rates result in 50% of them carrying higher mercury levels than are considered safe.
- PCBs, mercury, and DDT are the main chemical drivers leading to Washington's fish advisories.

## Fish Consumption Advisories Program

Staff of the Fish Consumption Advisories Program evaluated chemical levels in recreational and commercial fish supplies, and provided consumption safety guidance. Within Washington State “high consumers” –those who eat fish more often than twice a week, such as tribal members, various ethnic groups, and sport fishers– face a greater risk of experiencing the potential health impacts associated with these toxic chemicals.

DOH staff educate the public about benefits and risks of fish consumption by publishing healthy fish eating guidelines, fact sheets, and health assessment reports and posting them on the agency’s website Fish Facts for Healthy Nutrition. We distribute these outreach materials through health practioners, Child Profile Health Promotion mailings, and the Women Infant Child Nutrition Program (WIC); we supply a WDFW fishing pamphlet, address community groups, and respond to questions and requests for information. DOH continues to work with other local and state health departments, and to attends public events, to ensure consistent and accurate statewide messaging.

### Fiscal Year 2009 STCA-funded fish consumption advisories:

- **Statewide Fish Advisory Due to Mercury**  
Staff applied Ecology’s “Mercury Trends in Freshwater Fish” study to northern pikeminnow from across the state. In response to the results, DOH updated the “Statewide Fish Advisory Due to Mercury” to include northern pikeminnow. This advisory is specific to women who are pregnant, might become pregnant, nursing mothers, and young children.
- **Yakima River**  
Staff evaluated fish tissue data Ecology had collected to determine whether erosion control projects had succeeded in reducing DDT levels in the river. Decreased DDT levels indicated that the 1993 fish consumption advisory should be lifted.
- **Lake Roosevelt/ Upper Columbia River**  
Staff participated in discussions and consultations with Ecology, with the US EPA, the Department of the Interior, and the National Parks Service, and with both the Colville and the Spokane tribal representatives. We discussed upcoming plans to sample fish from the Upper Columbia River/Lake Roosevelt waters for mercury and PCBs; ways to address background levels of mercury and other contaminants; and how we should collaborate to assess risks, and clean up, of incremental levels of contamination.
- **Background levels of PCBs and dioxins in freshwater fish**  
Staff reviewed Ecology’s draft study to characterized PCB and dioxin background levels in edible fish tissue from lakes, rivers, and streams across the state. The results will be used for prioritizing 303(d) listings for these chemicals, with the intent of accelerating cleanup actions statewide.
- **Potholes Reservoir**  
MTCA funds paid for an analyzer (measuring device) which staff used to evaluate the mercury levels in walleye. Results showed mercury levels in Potholes walleye were well below national levels. Based on this analysis, staff determined no need for a statewide walleye advisory due to mercury, at this time.
- **Puget Sound**  
Staff completed a mercury analysis on Chum Salmon. In addition to filling data gaps on a commonly consumed fish species, data was also used to evaluate the performance of the DOH program’s mercury analyzer by comparing our fish tissue results with those obtained from tests conducted by EPA’s Manchester lab. Results indicate that chum salmon have low levels of mercury.
- **Advisory Signs posted around Lake Washington and Green Lake, King County**  
With local government and community help, DOH staff developed signage that updated Lake Washington and Green Lake fish consumption advisory information. The signs advised which fish to avoid or limit, and which were safe food choices. More than 100 signs, translated into eight languages, were posted around the lakes.

## Department of Health –

### Toxic Sites: Assessing Exposures and Public Health Hazards

DOH Site Assessment staff work closely with Ecology's Toxic Cleanup Program staff to assess exposure to hazardous substances released to the environment from Model Toxics Control Act (MTCA) cleanup sites or from federal Superfund cleanup sites. This program is primarily funded by the federal Agency for Toxic Substances and Disease Registry (ATSDR); additional MTCA funding helps support our Site Assessment activities.

#### Duwamish Valley Regional Air Modeling

##### Site Description:

The Duwamish Valley is an industrial area located south of downtown Seattle along the Lower Duwamish Waterway (LDW). The predominant land use along the Duwamish Waterway and in the Duwamish Valley is commercial or industrial activity; the two residential communities in the Duwamish air-shed are Georgetown and South Park.

##### Problem:

Residents of South Park and Georgetown voiced concerns about chemical pollution and air quality in South Seattle. The neighborhoods' spokespersons asked Site Assessment staff to assess the air pollutants' impacts on their health.

##### Response:

DOH staff identified which air pollutants in the Duwamish Valley posed acute and/or chronic health risks to people, identified the key contributors of those pollutants, and determined the degree to which different geographic areas in south Seattle are impacted by air emissions from those sources.

Our first goal was to determine people's exposures to air toxics in the vicinity of a named source, and respond to their concerns about chemical pollution and air quality. Our second goal was to provide useful information to the regulatory agencies—the Puget Sound Clean Air Agency and the Department of Ecology—about future actions that could help reduce point-source, wood smoke, and vehicle emissions in South Seattle.

##### Results:

Site Assessment staff concluded that on-road mobile sources contribute the highest risks, and that hazards are greatest near major highways.\* Identified commercial/industrial emissions sources have the potential to impact residential areas, as could wood smoke during cold weather. We listed our recommendations in the Health Consultation; the Clean Air Agency and Ecology refer to the list when working together to protect air quality for South Seattle residents.

\*This conclusion agrees with the Department of Ecology's Air Quality Program findings. See discussion of this issue as it relates to the 2009 "Clean Diesel Program" funded by the Local Toxics Control Account.

### What is a Health Assessment?

**An assessment determines whether** exposure to site-related chemical contamination poses a public health hazard.

**If so, DOH makes recommendations to federal, state, and local agencies** on ways to prevent or reduce human exposures to the chemicals released at these sites.

**Protective measures are shared with the impacted community** so people can take precautions to protect their health.

DOH ensures that the property owner or business operator performs the actions required by the Department of Ecology or by the EPA, to protect the community from chemical exposures.



### Strategies to Improve Air Quality in South Seattle

The Clean Air Agency runs an extensive Diesel Solutions program. Initiated in 2001, this program reduces diesel emissions in the south Seattle area and throughout its jurisdiction. The program installs retrofit equipment on vehicles to reduce their emissions, and encourages use of cleaner fuels and reduced vehicle idling. <http://www.pscleanair.org/programs/dieselsolutions/default.aspx>.

The Port of Seattle—along with local, state, and federal air partners, and with other Northwest ports—developed its Northwest Ports Strategy to reduce the amounts and concentrations of diesel emissions generated by port activities. [http://maritimeairforum.org/news/NW\\_Ports\\_Clean-AirStrategy\\_Final-01\\_22\\_2008.pdf](http://maritimeairforum.org/news/NW_Ports_Clean-AirStrategy_Final-01_22_2008.pdf).

The Clean Air Agency's and Ecology's programs each offer ways to reduce harmful wood smoke emissions. These complementary programs include authority to issue curtailments or "burn bans" during unhealthy, stagnant air periods; funding to retrofit certain diesel-powered vehicles or upgrade some wood-burning stoves, and education and outreach messages to encourage clean home heating practices. <http://www.pscleanair.org/actions/woodstoves/default.aspx>.

The Clean Air Agency requires industrial sources to control harmful emissions through a permitting process. <http://www.pscleanair.org/regulated/businesses/default.aspx>. The Department of Ecology manages air operating permits for the state's largest industrial facilities, and for those emitters not regulated by the local Clean Air Authority.

### Preventing Childhood Lead Poisoning

Reducing childhood lead exposure is a key public health goal in Washington State. The Department of Health works to protect children from lead exposure by (1) supporting the testing of blood lead levels in children to identify exposed populations, (2) educating the public about the symptoms of exposure, and (3) working with families whose children have been exposed to significant amounts of lead to identify exposure pathways and avoidance practices.

#### Problem:

Children are most at risk for lead poisoning because of the ways and places they play; and they are most sensitive to the damaging effects of lead because of their metabolisms and their stages of physical development. Lead contamination can interfere with normal brain development, resulting in reduced mental capacity and in related behavioral problems. Severe lead poisoning in children can cause delayed or reduced physical development, seizures or coma, and possibly death.

Lead poisoning occurs when lead builds up in the body. Anyone can get lead poisoning by breathing or swallowing dust that contains lead. The human body has no use for lead, and no natural defense against its intrusion. Lead contamination affects almost every system—e.g., circulation, digestion, respiration, organ functions. Ingestion of even a small amount of lead can be harmful. The current federal blood lead action level for children is ten micrograms of lead per deciliter of blood (10 µg/dL). Recent scientific findings, however, suggest that children can be harmed by blood lead levels as low as 2 µg/dL.

#### Response:

The Department of Health and the Department of Ecology developed the Lead Chemical Action Plan with input from a broad range of interested stakeholders. This plan identifies the dangers of lead exposures and contamination, details where lead has been found in the environment, describes how people and wildlife are exposed to lead, and proposes ways to reduce such exposures through government action. The Lead Chemical Action Plan was one in a series of multi-agency environmental protection projects authorized under **Chapter 173-333 WAC - Persistent, Bioaccumulative Toxics** (the PBT Rule) to receive funding from the State Toxics Control Account.

### Budget Reductions

In 2009, State General Fund support for the Childhood Lead Poisoning Prevention Program during the 10-11 biennium was reduced by \$576,000. As a result of this budget reduction, the Department of Health reduced assistance to local health jurisdictions on elevated blood lead investigations. In addition, support for testing environmental samples for lead and contracted lead-based paint and lead hazard investigations were eliminated.

**Results:**

- Increased Blood Lead Testing

Overall, childhood blood lead testing is up significantly from past years, while the incidence of children with blood-lead levels above 10 µg/dL remains relatively low. Between July 2008 and June 2009, 17,139 Washington children age 0-15 years were tested for lead exposure – a 62 percent increase in screening over the previous fiscal year. Of the children tested during this period, 59 (0.34%) had blood lead levels (BLL) over 10 µg/dL, and 447 (2.61%) had blood lead levels between 5 and 9 µg/dL. The Washington blood lead data have been forwarded to the Centers for Disease Control and Prevention for inclusion in publically available reports and on the National Environmental Public Health Tracking Network.

- Partnerships Developed to Test High Risk Children

Head Start requires all enrolled children to have blood lead testing. In 2008 and 2009 our Environmental Epidemiology staff loaned portable blood lead analyzers to Head Start classrooms, health districts, and to Tribal Head Start classrooms or clinics. To date, 3,159 children have been tested through this program. Of the children tested, 8 (0.25%) had blood lead levels (BLL) over 10 µg/dL, and 135 (4.27%) had blood lead levels between 5 and 9 µg/dL.

**Outreach and Education:**

Environmental Epidemiology staff developed health education material to help parents recognize risk factors for lead poisoning and decide whether their child or children should be tested. This material is included in the CHILD Profile mailings sent to all parents of 12-month old children in Washington. In addition, DOH is working across programs to educate the public on ways to make their homes safe and healthy; we publish the information through outreach materials and a website. Our “Healthy Homes” outreach addresses lead poisoning and other potential hazards in the home.

MTCA funds continue to support the Department of Health’s work in maintaining the Child Blood Lead Registry, helping high-risk children get blood lead tests, and providing information to parents to help them protect their children from lead exposure.

**Arsenic: Potent Poisons in Washington**

Government agencies classify elemental arsenic and arsenic compounds as toxic to humans and dangerous to the environment:

- The International Agency for Research on Cancer has determined that arsenic and arsenic compounds are carcinogenic to humans.
- The U.S. Department of Health and Human Services and the U.S. Environmental Protection Agency have determined that inorganic arsenic is a human carcinogen. Ingestion of inorganic arsenic can increase the risks of developing skin, liver, bladder, and lung cancer. Inhalation of inorganic arsenic can also increase the risk of developing lung cancer.

**Problem:**

Elemental arsenic deposits were mined in some areas of Washington, and arsenic compounds were historically used as pesticides in other areas. DOH Toxicology staff studied exposed populations’ habits and traditions to learn ways to protect the members. We hoped to apply those protection methods to groups that are similarly exposed.

**Sources of Lead Exposures**

- Children’s toys and jewelry.
- Contaminated soil.
- Drinking water supply pipes.
- Imported candy.
- Lead-based paint.
- Lead-glazed ceramic ware, pottery, leaded crystal.
- Occupational “take home” exposure.
- Pets.
- Traditional remedies.



**Strategy:**

In collaboration with University of Washington researchers we investigated arsenic exposure within a population considered to be over-exposed. Members of the ethnic Korean community within Washington consume foods known to contain arsenic (e.g., shellfish, rice, finfish, and seaweed). The Korean Women’s Association, which offers services to enhance the quality of life for minority citizens in the Northwest, assisted with recruiting study participants.

Staff examined the diets of 108 ethnic Korean women of childbearing age, from within this community; we measured arsenic levels in the hair and urine samples they provided. We also measured arsenic levels in samples of participants’ indoor air and drinking water. We collected the kinds of shellfish our participants commonly consumed, and analyzed them for total and speciated arsenic content.

**Results:**

Our work suggests that primary exposures, within the study community, come from several food sources (interestingly, rice consumption was an important source of inorganic arsenic, while shellfish consumption was not). Although the study population may rank among the highest consumers of shellfish in the U.S., their arsenic levels measured less than those associated with populations exposed to high levels of inorganic arsenic from drinking water. Accordingly, the greatest concern for arsenic exposure to individuals comes from drinking water wells containing elevated levels of inorganic arsenic. The study, *Arsenic Exposure within the Korean Community (U.S.) Based on Dietary Behavior and Arsenic Levels in Hair, Urine, Air and Water*, was published in the journal Environmental Health Perspectives.

These efforts comprise part of a long-term collaborative project, the Arsenic Mercury Intake Biometric Study, which will continue into 2011. The goals of this study include determining the extent of mercury exposure within the (U.S.) Japanese and Korean communities, and the extent of arsenic exposure within the (U.S.) Korean community. Support for this work was provided by EPA Region 10, the Washington state Department of Health (DOH), the Pacific Northwest Center for Human Health and Ocean Sciences, and the National Science Foundation.

**Indoor Air Quality Program**

Indoor air can be two to five times more polluted than ambient air at the same locale. Those persons most often exposed to indoor air pollutants tend to be people who are the most susceptible to air-borne toxics. They include children, elders, chronically ill persons, and other people living with respiratory or cardiovascular disease.

**Objective: Prevent Carbon Monoxide (CO) Poisoning—**  
Scope of the toxics problem

During the time from 1990 until 2005, a span of only fifteen years, 1197 Washington residents died from acute exposure to CO—an average of 79 deaths per year. Another 53 residents per year were hospitalized with CO poisoning symptoms.

Exposure routes

The “Undersea & Hyperbaric Medical Society-CDC Carbon Monoxide Poisoning Surveillance” data system compiles records of people treated for CO poisoning at hyperbaric oxygen treatment facilities.

**Carbon Monoxide Poisoning is a Serious Public Health Threat:**

Low levels of carbon monoxide poisoning can be confused with flu symptoms, food poisoning, or other passing illnesses, and left untreated. Symptoms of CO poisoning include:

- Shortness of breath
- Mild nausea
- Mild headaches

Moderate levels of CO exposure can pose long-term health problems and prove fatal if the symptoms persist.

- Headaches
- Dizziness
- Nausea
- Light-headedness

Exposure to high levels of CO can cause death within minutes.

The data shows residential CO emissions typically come from in-house combustion devices (fuel-fired appliances such as furnaces), and from portable generators or charcoal burners (cooking grills) brought inside from out of doors. (Not all of the 40% of residential CO cases attributed to using outdoor fuel-fired devices inside a dwelling, occurred during power outages.

### Response

Department of Health's own Indoor Air Quality staff workgroup will identify ways to reduce the numbers of CO-related poisonings in Washington. Our initial education and outreach efforts include:

1. Anti-idling campaigns aimed at drivers of (a) vehicles stopping near schools, and (b) commercial-grade diesel trucks; and
2. Industry-awareness campaigns about the carbon monoxide poisoning risks attendant to driving (a) forklifts inside warehouses, or (b) ice-grooming equipment at indoor ice-skating rinks.

### Strategies

During Fiscal Year 2009 our IAQ staff—

- Developed and conducted nine "train the trainer" workshops for school and local health jurisdiction staff on designing and implementing IAQ programs in their communities.
- Answered questions about hazardous chemicals, safe cleaning products and methods, and our IAQ Monitoring Station Loan Program.
- Focused on ways to address the key issues identified through collaborative relationships with local and state health authorities, with environmental agencies, and with community-based professional organizations and entities.

## Drinking Water Safety

DOH Office of Drinking Water (ODW) staffers work to assure that public water supply systems provide safe and reliable drinking water to the people of Washington. Our goal is to avoid potentially health-threatening and costly problems. The ODW relies on prevention methods as the first line of defense against contamination.

### Strategies

The ODW leverages MTCA funds with federal money to maintain technical staff support. We assess water storage and delivery systems, giving technical advice to system operators whose water supplies are at risk of, or apparently impaired by, contamination.

The ODW applies powers conferred by state law to regulate the integrity of public water systems. And under a formal agreement with the U.S. Environmental Protection Agency, the OWD enforces the federal Safe Drinking Water Act's minimum standards for drinking water quality.

### Fiscal Year 2009 Efforts

Consulted with local health jurisdictions, municipalities, and purveyors where the potential for public water supplies contamination was discovered or suspected.

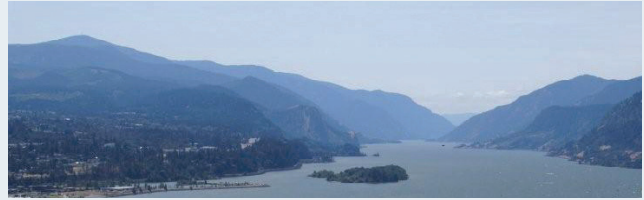
Advised more than 200 public water supply system operators statewide, whose tested sources showed elevated levels of one or more hazardous contaminants (e.g., nitrates, arsenic, or organic contaminants), to promote their compliance with federal Safe Drinking Water Act standards.

Provided technical assistance to water systems operators about appropriate post-assessment follow-up actions, including health risk information where system tests detected soil fumigants (EDB and 1,2-dichloropropane) or DCPA acid metabolites contamination in the water.

About five million of the state's six million residents are served by 16,900 regulated public water systems. Another million residents are served by about 340,000 private sources such as wells, which are not subject to state or federal drinking water regulations.

## Columbia River: Toxics Reduction Steering Committee and Workgroup

One of the world’s great river basins, the Columbia River Basin is contaminated with toxic substances that are moving through the food web. Toxics found in the water, air, soil, and sediments threaten the health of people, of fish, and of wildlife throughout the basin and beyond.



### Collaboration:

In 2005, experts from the Environmental Protection Agency and other federal agencies, from state agencies in Washington and its contiguous states, from First Nations (Tribal) Communities, and from Non-Profit Partner organizations, described their shared interests in the health of the Columbia. They established a Working Group whose goal is to prevent further toxics loading and to reduce existing toxic concentrations in the Columbia River, including reducing toxics in the fish that people eat.

DOH Toxicology staff who participated in this Working Group outlined the kinds of risks that toxic chemicals in the Columbia River Basin pose to human health and the ecosystem. We identified gaps in the shared data.

### Results:

The Working Group partners defined a set of six broad Toxics Reduction Initiatives we would apply to the Basin—our coordinated toxics reduction strategy. We summarized our joint goals and initiatives into an action plan published as the “Columbia River Basin: The State of the River Report for Toxics” released in late 2009.

### Outreach and Education:

DOH Toxicology staff presented papers about Washington state fish advisories in the Columbia River Basin, at two watershed workshops. Ongoing workshops provide forums where we exchange information and experiences with local watershed groups, municipalities, and others about toxics reduction plans, methods, issues, and measures Working Group members have used in the Columbia River Basin.

DOH Toxicology staff will continue to participate in Working Group meetings among scientists from different organizations to coordinate broad efforts and increase collaboration, and to compare progress—and results—in our efforts to confront these toxics reduction challenges.

### Columbia River Basin Toxics Reduction Action Plan Goal and Initiatives

Goal: Reduce human and ecosystem exposure to toxics in the Basin

- Increase toxic reduction actions
- Conduct monitoring to identify sources and then reduce toxics
- Develop a regional, multi-agency research program
- Develop a data management system that will allow us to share information on toxics in the Basin
- Increase public understanding and political commitment to toxics reduction in the Basin

**Columbia River Basin: State of the River Report for Toxics**  
<http://yosemite.epa.gov/r10/ecocomm.nsf/Columbia/SoRR/>

## 72 Washington Department of Natural Resources

### Creosote Debris and Piling Removal

During Fiscal Year 2009, the Department of Natural Resources (DNR) spent \$3,659,864 of State Toxics Control Account funding to remove creosote-treated pilings, structures, and beach debris throughout Puget Sound. Our DNR staff worked with local jurisdictions, state agencies, tribal communities, and private partners toward:

- Reducing contamination in the sediment and water columns of marine and estuarine environments, from creosote leaching and treated woody debris;
- Reducing the potential for human exposures to those contaminants on public beaches;
- Educating people about creosote's impacts in our marine and estuarine environments;
- Removing dilapidated water-side structures and in-water pilings; and
- Encouraging the replacement of creosote-treated wood with non-toxic materials.

This MTCA expenditure supported publication of information about the hazards of using creosote as a wood preservative, and other marine-related issues, through presentations at public meetings, through Beach Watcher volunteer trainings, and through media outlets.

The resources most at risk from exposure to creosote and its primary compounds (PAHs) include herring spawn, English sole, other forage fish, juvenile salmonids, and area marine sediment. Human exposure is a concern at public beaches, where people may sit on creosote-treated logs or pile them into beach fires—unaware of the risks.

### Program Priorities / site selection criteria

We chose to remove pilings or structures on those sites where (1) habitat features were highly valued, and where (2) removal of structures would spur future restoration. We chose beach projects (e.g., beaches and spits, lagoons, salt marshes, pocket estuaries) based on the balance of (1) the concentration of materials over an area and (2) the sensitivity of the habitat. We prioritized areas that were low energy and slow to flush because creosote would naturally persist in such environments.

We also factored in economic efficiencies—maximizing the number of individual sites in a general geographic region. For example, within Jefferson County, eight sites were combined into one contract, spanning an area from Protection Island to Port Townsend, Port Hadlock, and Fort Flagler. Similarly, within Kitsap County we combined piling sites and beach debris removal actions around Bainbridge Island, Harper Estuary, and Blake Island. We saved money and personnel resources, thereby reducing the mobilization costs for each project, while increasing the ecological benefit (reducing the creosote input) over a larger area.

### Measuring Progress

We measured DNR's progress as "tons of creosote-treated materials removed" from area beaches, and numbers of pilings and the square footage of overwater structures removed from a defined area. We used these gross measures because it is difficult to quantify the total volume of creosote compounds found in each piece of debris or piling that may be leaching into the aquatic environment.

### Total Piling Removal Projects—

<b>Number of Sites:</b>	<b>35</b>
Tons of Creosote-Treated Material Removed:	3,883
Number of Pilings Removed:	4,322
Square Feet of Overwater Structure Removed:	79,091
<b>Total Beach Debris Removal Projects:</b>	
<b>Number of Sites:</b>	<b>16</b>
Tons of Creosote-Treated Materials Removed:	565

### What the STCA Money Bought

DNR staff planned and supervised all project work. We hired marine contractors to remove pilings and overwater structures. Creosote-treated debris found on beach sites were removed by a variety of methods (crane, hand-haul, helicopter, barge); the workforce incorporated crews from the Washington Conservation Corps, from the EarthCorps, and from DNR's recreation staff and fire fighter, with the cleanup contractors. The contaminated materials we removed were hauled off-site, and transported via rail to a disposal site in Klickitat County.

The reduction of toxic compounds at each of these sites provided environmental benefits to the habitat, the organisms, and the marine shorelands. Removing the source of contaminants consequently reduced risks of exposure, and thereby increased public safety.

For more information visit the website:

[http://www.dnr.wa.gov/ResearchScience/Topics/AquaticClean-UpRestoration/Pages/aqr\\_restoration\\_program.aspx](http://www.dnr.wa.gov/ResearchScience/Topics/AquaticClean-UpRestoration/Pages/aqr_restoration_program.aspx)



## Puget Sound Partnership

In 2007, the Washington State Legislature created the Puget Sound Partnership (PSP). The Partnership is charged with overseeing the restoration and protection of Puget Sound.

Local governments look to PSP for guidance and direction on ways to protect and restore Puget Sound. During fiscal year 2009 the PSP continued its Low Impact Development (LID) Technical Assistance Program, to significantly improve how we manage stormwater in the Puget Sound region. Our specific activities and contributions include:

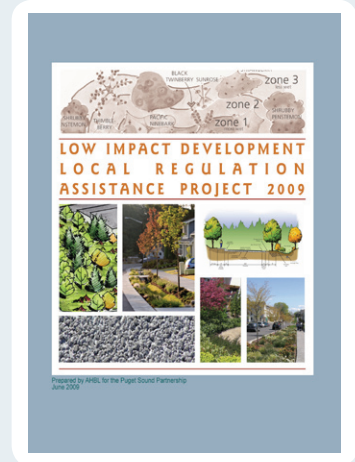
1. The Partnership completed the remaining 50% of tasks funded by the State Toxics Control Account—the 2007-09 LID Local Regulation Assistance Project.
  - The PSP provided technical assistance (through a private consultant) to three cities and one county—chosen through a competitive selection process—with help writing Low Impact Development principles into their own land development codes and their stormwater management standards.
  - These local governments received ready-to-adopt revisions to their existing codes, new draft code chapters, engineering drawings and maintenance recommendations, and other key information to re-tool community planning.
  - As of June 2009 the PSP and its predecessor (the Puget Sound Action Team) had helped a total of 36 local governments in the region integrate LID into their stormwater management and land development codes and standards.
2. Through an interagency agreement, the Partnership passed MTCA funding to the Washington State University (WSU) Pierce County Extension Office, to conduct its LID technical training classes for professionals.
  - The WSU Extension officer coordinated three additional sets of training days in Bellingham, Lacey and Seattle.
  - Each training set consisted of four 2-day classes covering all aspects of Low Impact Development facilities siting and design, infrastructure installation and maintenance, and performance measurement.
  - These 24 days of training, coupled with the eight days of training offered in FY2008, brought the total to 32 days of professional training delivered during fiscal years 2008-09. A total of 1,100 professionals attended during 2008-09.
3. Through another interagency agreement, the PSP paid for participation in the WSU-led LID technical training classes, by local conservation district staff from all 12 Puget Sound counties.
4. Through an interagency agreement, the Partnership passed MTCA funding to WSU Extension staff to (1) work with local government and state agency staff to upgrade bioretention (rain gardens) models in state-approved stormwater manuals; and (2) plan and conduct two Pervious Pavement “summits” with regional and national professionals, to improve local understanding of best methods to site, install and maintain pervious pavement. Both these projects help current efforts and will help with FY2011’s revision of the LID Technical Guidance Manual for Puget Sound.
5. The Partnership contracted with King County to reprint approximately 3,500 copies of the Rain Garden Handbook for Western Washington Homeowners. PSP sent 2,100 of those copies to local conservation districts (to give/lend to homeowners). We kept 1,400 copies to distribute to/through local governments for their constituents.

Managing stormwater runoff, especially runoff created by our everyday activities, is crucial to restoring Puget Sound. Ecology’s report on toxics, *Control of Toxic Chemicals in Puget Sound*, showed the vast majority of toxic compounds found in Puget Sound are carried there via surface runoff—not through discharge pipes from factories or treatment plants.

New municipal NPDES permits will require towns, cities, and utility districts to apply LID principles where feasible, and to include new stormwater monitoring activities in their operations. In addition to these permit requirements, all local governments in the Puget Sound Basin should run effective local stormwater programs that:

- minimize and control runoff from new and redevelopment activities,
- schedule regular maintenance on all stormwater control systems,
- promote source control protections,
- include environmental education, and involve the public in evaluating and choosing stormwater management methods and systems, and
- incorporate systems monitoring and regular evaluation.

Counties should also protect at least 65% of native vegetation outside of designated growth areas in order to protect sensitive resources throughout their watersheds.



## State Parks and Recreation Commission

The Governor and our Legislature placed a high priority on improving water quality in Puget Sound. Puget Sound’s ecosystems have been damaged through a chain of serious problems caused by human activities on the water and surrounding shores. Toxic pollutants and human waste washed into the water and settled on the bottom; the “washing” removed oxygen from the water, and the “settling” smothered benthic plants and animals. Bottom-feeders ingested the toxic chemicals tainting plants and sediment, and worked them into the food chain. Those toxins accumulated and were stored in the fatty tissues of bottom-feeders and they in turn were eaten by feeder stock. The contaminated feeder stock became meals of larger fish and of fish-eating mammals—including humans.

During Fiscal Year 2009 we used funding from several sources to conduct clean water projects. The STCA funding helped us to upgrade wastewater treatment systems and storm water control systems at 26 parks around Puget Sound.

Knowing that more parks needed to be addressed than we had available funding sources, we developed a production schedule and content guidelines for interpretive and educational installations. We designed messaging panels, benches, restroom tiles, and various other 3-dimensional elements to explain what we’re doing to cleanup Puget Sound and Hood Canal. We also designed postcards with take-away messages for park users, telling how they can contribute to a cleaner Puget Sound by their choices and practices at home or while camping.

Specifically, we spent \$2,254.98 of State Toxics Control Account funds toward the design of the interpretation and education plan; we used another \$187,130.32 to replace a failing drainfield at the north loop and trailer dump station in Ike Kinswa State Park. The total FY 2009 STCA investment in State Parks facility preservation and planning amounted to \$189,385.30.

## University of Washington (UW)

During Fiscal Year 2007 the UW decommissioned its nuclear research reactor. Although the building that had housed the reactor now sits empty, More Hall Annex was recently added to the State of Washington Heritage Register. State Toxics Control Account-funded cleanup of non-nuclear contaminants, in and around the building, continued during Fiscal Year 2009 (July 1 2008 – June 30 2009) to make the site safe for visitors.

More Hall Annex Toxics Cleanup Project	\$ 68,265.42
More Hall Annex PCBs Cleanup Project	\$ 347,144.46
More Hall Annex Asbestos Removal	\$ 527,158.42
<b>More Hall Annex FY 2009 STCA Total</b>	<b>\$ 942,568.30</b>

### Washington State Fire Academy, North Bend

The State Patrol Fire Protection Bureau's mission is to provide the means for firefighters to receive live-fire training that meets or exceeds the minimum standards required by federal and state regulations.

To meet those training standards, the academy burns class A and class B liquid fuels during its live fire exercises. Additionally, we offer firefighters access to the technical knowledge and skills practice needed to recognize and contain hazardous material incidents which threaten our human safety and environmental health. The training equips firefighters to reduce hazards risk, both to people and to property.

During Fiscal Year 2009, the Fire Protection Bureau—a division of the Washington State Patrol—expended **\$276,622** from the State Toxics Control Account, supporting a waste management program, maintaining a storm water runoff program, initiating a state of the art reclaimed water program, and providing live fire training for first responders.

#### Waste Management

Funds from the State Toxics Control Account paid for the removal, transportation, and disposal of hazardous waste products resulting from live fire training events, and for the treatment of water contaminated by the training exercises.

#### Storm water system

To fulfill our National Pollutant Discharge Elimination System (NPDES) permit requirements, we perform routine cleaning of all Fire Training Academy storm water drains. Academy staff people also conduct monthly toxicity tests on the storm water pond's sediment.

#### Reclaimed water program

In 2009 the Fire Training Academy not only dedicated a new 40-bed dormitory but also began operating a reclaimed water program as part of its new sewage treatment plant. Every week, 5,000 gallons of reclaimed water flow into our treatment filtration ponds (part of our aggressive plan to reuse water in our fire fighter training programs).

#### Hazardous Materials Handling

The Hazardous Materials Training program included both academic and hands-on training for first responders, to fulfill current requirements imposed by:

- Washington Industrial Safety and Health Act,
- Occupational Safety and Health Administration,
- Department of Transportation and
- National Fire Protection Association.

The training offers practice to those personnel who respond to calls about clandestine drug labs, acts of terrorism, weapons of mass destruction, confined space rescue, hazardous substance spills, and to risks relating to the transport of hazardous chemicals and waste.

#### Required Training

The Washington Industrial Safety and Health Act mandates standardized initial training, and regular retraining for our emergency responders. We also face a significant need for specialized hazardous materials training in our state.

As common practices and consumer products change, so too must the training we provide. For example, the auto industry manufactures electrically-powered vehicles, as well as automobiles powered by ethanol, diesel, gasoline, bio-fuel blends, or hydrogen fuels. A first responder dispatched to a motor



vehicle accident must know how to protect the people involved—and the responders themselves—from exposure to contaminant leaks, from fire or explosion burns, and from smoke or fumes inhalation.

To protect the environment from immediate and long-term damage, the responder must know how the vehicle's power trains will react to collision pressures; the responder must choose the correct suppressant (water, foam, dirt); the responder must know how to contain hazardous liquids released at the site, etc. The responder must know how to neutralize the threats and how to protect or clean up the surrounding property.

**Flammable Liquids - I**

Participants receive basic information needed to identify and control various flammable liquid emergencies. Instruction includes the fire properties, fire behavior of flammable liquids, and the affects of available fire extinguishing agents, firefighter safety, as well as, environmental concerns. Students practice extinguishing live flammable liquid fires. In addition, students learn proper foam application techniques for controlling and extinguishing flammable liquid fires, which can devastate both human life and the environment.

**Flammable Liquids-II (Pressurized Gases)**

Participants learn the basic property of liquid petroleum gas (LPG), and of LPG-powered vehicle fuel systems; of storage tanks and their built-in safety features; of LPG leak detection, product identification, and basic tactics for handling emergencies. Students practice attacking, controlling, and recovering liquid petroleum gas fires on a simulated storage tanks and a fill station. Students gain experience in fire ground tactics using standard stored pressure water extinguishers, stored pressure foam extinguishers, cartridge-operated dry chemical extinguishers, and carbon dioxide extinguishers.

**Airport Rescue Firefighting**

We constructed this unique training prop to provide hands-on live firefighting training for aircraft incidents. Training includes characteristics of jet fuel and avionics. This training experience enhances the safety of all flight operations in to and out of airports of our state.

**Marine Firefighting**

This program is designed to include academic and live hands-on firefighting for those personnel working within the marine industry. Training includes fire suppression methods and spill control techniques. The training is designed to meet the current Code of Federal Regulations, and requirements imposed by the National Fire Protection Association and the International Maritime Organization.



During Fiscal Year 2009 the Department of Revenue spent \$42,000 Of State Toxics Control Account funds to oversee the collection of **Hazardous Substance Tax, Chapter 82.21 RCW**, payments. This tax levies 0.7 percent on the wholesale value of certain substances –those defined by statute as “hazardous” and those determined by the Department of Ecology to cause a threat to human health or the environment.

### Tax Base

The law taxes the first possession (within Washington State) of a listed substance —whether “first possessed” by the producer, the distributor, or an importer of the substance. The largest category of taxable substances is petroleum products, but pesticides and 8,000 different chemicals are also subject to the tax.

The state levies an amount equal to 0.7 percent of the wholesale value of the hazardous product/substance. **During Fiscal Year 2009, the Department of Revenue deposited \$59.7 million into the State Toxics Control Account, and \$67.3 million into the Local Toxics Control Account.** The distribution formula published in RCW 70.105D.070 divides the total tax receipts; it allocates 47.1 percent to the State Toxics Control Account, 51.9 percent to the Local Toxics Control Account, and one percent of tax revenues to each, paid to Public Participation Grants.

Hazardous Substance Tax Payers			Fiscal Year 2009 Data		HST fund
Rank	# of Payers	NAICS*	Industry	Tax Due (Millions)	%
1	10	324	Petroleum Product Mfg (Refineries)	\$93.9	82.9
2	123	423-24	Wholesalers	\$12.1	10.7
3	22	481	Air Transportation	\$ 1.9	1.6
4	23	325	Chemical Manufacturing	\$ 1.7	1.5
5	31	427	Gasoline Stations	\$ 0.7	0.7
	343		Other	\$ 3.0	2.6
<b>Total</b>				<b>\$113.3</b>	<b>100</b>

\*North American Industry Classification System



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