



HOW DO WE RECOVER PUGET SOUND  
TO HEALTH?

REDUCE AND CONTROL THE  
SOURCES OF POLLUTION  
TO PUGET SOUND

# Reduce and Control the Sources of Pollution to Puget Sound

Reducing and controlling the sources of pollution to Puget Sound is of paramount importance to the long-term health of the Puget Sound ecosystem and its residents. Human and animal wastes, fertilizers, pesticides and the toxic chemicals that run off pavement during storms and are discharged from industrial facilities can enter the water and harm aquatic life, and also pose several health and safety problems to humans. A successful approach to pollution in Puget Sound must ensure that toxics in marine waters and sediments, and in mammals, fish, birds, shellfish and plants, do not harm the persistence of these species; urban stormwater runoff, as well as agricultural and forest runoff, is effectively controlled and managed in an integrated way; loadings of toxics, nutrients, and pathogens do not exceed levels consistent with healthy ecosystem function; shellfish populations are healthy and abundant; the threat and severity of oil-spills is minimized; and our legacy of pollution impacts in Puget Sound are addressed and cleaned up.

This chapter describes eleven overarching strategies that are essential to reduce and control the sources of pollution to Puget Sound:

- **C1** - Reduce the sources of toxic chemicals entering Puget Sound;
- **C2** - Use a comprehensive approach to manage urban stormwater runoff at the site and landscape scales;
- **C3** - Agricultural Runoff;
- **C4** - Surface Runoff from Forest Lands;
- **C5** - Prevent, reduce and/or eliminate pollution from decentralized wastewater treatment systems;
- **C6** - Prevent, reduce and/or eliminate pollution from centralized wastewater systems;
- **C7** - Rethinking how we plan for and approach wastewater control and management;
- **C8** - Control and manage pollution from discharges of wastewater from boats and vessels;
- **C9** - Abundant, healthy shellfish for ecosystem health and for commercial, subsistence, and recreational harvest consistent with ecosystem protection;
- **C10** - Effectively prevent, plan for and respond to oil spills;
- **C11** - Address and Clean Up Cumulative Water Pollution Impacts in Puget Sound.

The 2020 ecosystem recovery targets most related to reducing and controlling the sources of pollution are:

- Freshwater water quality;
- Marine water quality;
- Insects in small streams;
- Dissolved oxygen in Puget Sound;
- Management of on-site sewage systems;
- Swimming beaches;
- Shellfish bed recovery.

**These recovery targets also are described in this section.**

# Reduce the Sources of Toxic Chemicals Entering Puget Sound

## The Challenge

For decades, humans have released toxic contaminants into Puget Sound and its watersheds through a variety of activities. Concerns about the possible harmful effects of these pollutants led to the creation of Washington's Pollution Control Commission in 1945, almost 30 years before the federal Clean Water Act, as well as the Puget Sound Water Quality Authority in 1985. While these and other federal and state efforts have been important at addressing threats to water quality, many sources continue to release toxic contaminants to the water, air, and lands of the Puget Sound basin.

The Department of Ecology, in coordination with PSP and other organizations, has evaluated 17 chemicals of concern as part of a multi-year study of toxic loadings in Puget Sound. These 17 chemicals were selected for study based on the threat or known harm to biota, the broad range of conveyance pathways, and the availability of monitoring data. These chemicals of concern include metals, petroleum, persistent bioaccumulative toxic chemicals (PBTs) such as PCBs, and contaminants of emerging concern, including endocrine disrupting compounds. Of the 17 chemicals, only five have been banned nation-wide under the federal Toxics Substances Control Act (TSCA). Additional emerging contaminants, such as those from pharmaceutical waste, personal care products, and plastic pollution, may also be important toxic threats to Puget Sound, although much less is known about the exposures and effects of those contaminants in Puget Sound.

In 2007, Washington became the first state in the country to ban a class of fire retardants called polybrominated diphenyl ethers (PBDEs) because of human health and environmental concerns. More recently, Washington State enacted laws banning the use of bisphenol A (BPA) in children's bottles and other containers, banning the use of lead wheel weights to balance tires, and restricting the amount of copper in vehicle brake pads. Starting in 2012, manufacturers of children's products in Washington will be required to report to Ecology if their products contain chemicals on a list of chemicals of high concern to children, under the Children's Safe Products Act (CSPA).

Toxic chemicals enter Puget Sound through numerous pathways, including surface runoff, air

## Local Strategies

South Central has identified two related local priority strategies: restoring Local Toxics Control Account funding under the Model Toxics Control Account (MTCA) and keeping toxics and excess nutrients out of waste streams. Skagit and Stillaguamish and Snohomish are also considering related local strategies.\*

*\* See Local Areas Chapters for more detail on local areas that are in the process of completing strategy and action identification and prioritization.*

deposition, discharges from industrial sources and wastewater treatment plants, groundwater discharges, CSOs, spills, contaminated sediments, exchange with oceanic waters, and biological transport. Surface runoff or stormwater, particularly from developed areas, is the primary way that many of the contaminants of concern enter Puget Sound. Sources of toxics are varied and include vehicles, pesticides, industrial air emissions, combustion emissions, and leaching or off-gassing of toxics from products in the environment. In 2011, Ecology, PSP, and other agencies completed a multi-year study of toxic loadings in Puget Sound. Findings from this assessment are summarized in chapter of the Action Agenda addressing Question 2, what is the status of Puget Sound? Along with Sound-wide toxic loadings, there are also significant localized impacts from toxics entering Puget Sound streams and bays, such as from CSO outfalls or other point sources.

This strategy is focused on source-reduction efforts to keep chemicals from being used or generated in the Puget Sound region or released to the Puget Sound environment. Preventing polluting substances from being introduced into the Puget Sound ecosystem is an effective and efficient means of reducing the harms that toxic chemicals cause in Puget Sound's marine and fresh waters. This strategy includes reducing and restricting the use of toxic chemicals, and improving how businesses and other entities use and manage chemicals through technical assistance, education, inspections, and targeted enforcement efforts. Other strategies in Priority C deal with efforts to control specific pathways of delivery, such as wastewater and stormwater pollution, and to clean up areas where pollution has occurred.

Sub-strategies and actions to reduce the release of toxic chemicals to the Puget Sound environment include governmental and non-governmental actions to implement and strengthen authorities and programs to prevent chemical releases to the Puget Sound environment; adopt and implement plans and control strategies to address air pollutant emissions; increase compliance with and enforcement of environmental laws and standards; develop safer alternatives to chemicals; and provide education and technical assistance.

## Relationship to Recovery Targets

Specific recovery targets related to preventing the introduction or release of toxic chemicals to the water, air, and lands of the Puget Sound basin include ensuring that by 2020, the levels of specific bioaccumulative toxics (including PCBs and PDBEs), polycyclic aromatic hydrocarbons (PAHs), and endocrine-disrupting compounds are below threshold levels in fish tested in Puget Sound, and marine sediments in Puget Sound bays and regions show minimal impacts from toxic chemicals in marine sediment quality indicators. Other relevant recovery targets include decreasing the number of impaired freshwater bodies, improving the average benthic invertebrate index scores of 30 lowland watersheds from "fair" to "good," and other water quality improvements to achieve by 2020.

### C1. Reduce the sources of toxic chemicals entering Puget Sound.

#### **C1.1** Implement and strengthen authorities and programs to prevent toxic chemicals from entering the Puget Sound environment.

TSCA provides EPA with the authority to require reporting and testing of chemical substances and mixtures; however, it excludes major categories of substances such as food, drugs, cosmetics, and pesticides. Since the enactment of TSCA in 1976, EPA has screened more than 70,000 new toxic chemicals before they were introduced into commerce, and as a result of these screenings, more than 500 chemicals require workplace or manufacturing controls to protect human health and the environment. Over 100,000 chemical substances have been registered for commercial use in the U.S. (the American Chemical Society has inventoried 53 million substances), yet relatively few of these substances are regularly measured or have undergone much scrutiny.

Agencies have recognized that much more can be done to prevent the introduction of harmful substances into the environment, including strengthening chemical management laws. In 2008, the Consumer Product Safety Improvement Act was enacted, which established consumer product safety standards for children's products, including limitations on lead, cadmium, and phthalates. This substantially preempted the toxics-limitation requirements of Washington's recent CSPA, although the reporting requirements of CSPA remain in effect. Recent state laws have been enacted that phase-in bans on PDBEs, BPA in children's products and sports bottles, and lead wheel weights.

Based on a priority of EPA Administrator Lisa Jackson, EPA has announced plans to reauthorize TSCA to reform and strengthen the effectiveness of the nation's chemical management legislation. Ecology, environmental agencies from other states, and various NGOs are involved in the TSCA-reform efforts. EPA is also implementing a Phthalates Action Plan, which includes issuing rulemakings under TSCA by 2012 to regulate eight phthalates.

Ecology has a Reducing Toxic Threats initiative that aims to prevent the use of toxic chemicals, assist businesses to reduce or manage the amount of toxic chemicals that enter the environment, and clean up toxics that have polluted the air, land, or water. Key focus areas include reducing the use of toxics in products and preventing toxics from entering stormwater. In its efforts to reduce and help phase out PBTs, Ecology develops Chemical Action Plans (CAPs), which identify, characterize, and evaluate all uses and releases of a specific toxic chemical, and then recommend actions to protect human health and the environment. Past CAPs have addressed lead, mercury, and PBDEs. Ecology began focusing specifically on PAHs in 2010 as part of the Puget Sound Toxic Loading Study and plans to complete a CAP for PAHs by 2012. Draft results from the Puget Sound loading analysis identify wood smoke, creosote-treated lumber, and vehicle emissions as the largest sources of PAHs in Puget Sound.

These federal and state toxics control programs are complemented by an array of toxics reduction initiatives of local hazardous waste programs and environmental organizations such as the Washington Toxics Coalition and People for Puget Sound. These efforts are further discussed in the technical assistance and education sub-strategy below, C1.4. To be fully effective, federal, state, and local entities in the U.S. will also need to collaborate with Environment Canada to address transboundary sources of toxic contaminants in Puget Sound. This sub-strategy helps reduce the release of toxic chemicals to the Puget Sound environment by continuing and enhancing programs that prevent the release of chemicals. Based on the priorities of Ecology's Reducing Toxic Threats Initiative and the findings of the Puget Sound Toxic Loading Study, the near term actions in this sub-strategy focus on preventing pollution that enters Puget Sound from a few key sources: vehicles, pesticides, and toxic pollutants in air emissions (also discussed in C1.3). Actions to address toxics in pesticides used near streams are covered under the agricultural runoff strategy (C3). The Department of Ecology and its partners are specifically focusing in the near term on addressing chemicals of concern in Puget Sound as evaluated in the Puget Sound loading study. However, it will also be important to better understand and characterize any potential

threats to Puget Sound from emerging contaminants of concern, such as pharmaceuticals, personal care products, and micro-plastics, and then develop appropriate toxic-reduction strategies to address the most important problems.

## Ongoing Programs

Over the next few years, Ecology's Reducing Toxics Threats Initiative plans to support congressional reform of TSCA, develop rules by December 1, 2012 to implement the state law relating to brake friction material, complete and implement the CAP for PAHs, implement recommendations on lead-based paint, establish a mercury lamp product stewardship program, and complete a CAP for PFOS (perfluorooctane sulfonate, a PBT chemical). Key performance metrics in evaluating the success of toxics efforts include the number and volume of chemicals of high concern to children replaced with safer alternatives, reductions in childhood blood lead levels, and reduced environmental levels of toxics. Ecology also has an overall target of reducing the amount of hazardous materials used by 2 percent per year, and a specific target of collecting or capturing an additional 1,500 pounds of mercury over 2011–2013. Ecology has been awarded a Toxics and Nutrient Grant from EPA's National Estuary Program, which provides funding for toxics reduction efforts in Puget Sound. This grant can be used to help implement near term actions identified in the Action Agenda to reduce toxic threats.

### Key Ongoing Program Activities

- By December 1, 2012, Ecology will develop rules to implement the state law relating to limiting copper used in vehicle brake friction material and will track the pounds/year of copper reduced.
- The auto shred task force chartered by Ecology will issue its recommendations regarding how to reduce the amount of toxic chemicals present in all shred residue from shredding automobiles and other metal objects by 2012. In 2013, Ecology will begin implementation of the recommendations for an all shred residue program to reduce the amount of toxic chemicals in shred residue.

## Near-Term Actions

**C1.1 NTA 1:** Ecology, working with its partners, will complete a PAH CAP by 2012 and a CAP for PFOS or all PFCs by 2013, and begin to implement the recommendations from the Plans. (Wood smoke actions in the PAH CAP will build from the control strategies outlined in the Tacoma SIP for fine particulates. The PAH CAP may also include recommendations such as diesel fleet retrofit activities and/or electrical shore power for ships at Port facilities. The PFOS/ PFC CAP will include an evaluation of safer alternatives and recommendations for reducing use of PFOS and/or PFCs.)

*Performance measures: PAH and PFOS or PFC chemical action plans completed or not; pounds/year of PAH reduced*

**C1.1 NTA 2:** Ecology will establish a mercury lamp product stewardship program by 2013.

*Performance measures: Program established or not; pounds/year of mercury reduced*

**C1.1 NTA 3:** **Water Quality and Sediment Standards Updates:** The Northwest Indian Fisheries Commission and several tribes in the Puget Sound region (and other areas of the state) are examining existing information on fish consumption and in 2012 will provide recommendations to Ecology on tribal consumption rates to support the revisions to the standards. In 2012, Ecology plans to revise the state's sediment quality standards and begin the process to revise the water quality standards to reflect up-to-date information about rates of fish and shellfish consumption in Washington.

*Performance measure: Standards revised and tribal consumption rates addressed or not*

**C1.1 NTA 4:** **The Washington Department of Agriculture will assemble data on non-agricultural use of copper-based pesticides in Washington based on changes in registration status on copper containing pesticides and comparing and contrasting use patterns in Washington and California. This work will begin with estimates of urban landscape/homeowner use and will expand to commercial applicators if funding is available.**

*Performance measure: report by Dec. 2012 providing refined estimates of urban landscape/homeowner uses of copper in Puget Sound.*

**C1.1 NTA 5:** **Alternatives to Copper in Pesticides:** Ecology and the Washington Department of Agriculture will evaluate alternatives to copper in pesticides to identify whether safer alternatives are available and commercially viable. Based on the alternatives analysis results, the agencies will explore options to limit the use of copper-based pesticides, if better alternatives are available.

*Performance measures: identification of alternatives to copper in pesticides; identification of options to limit the use of copper-based pesticides for residential use*

**C1.1 NTA 6:** **Monitoring and Assessment:** PSP and the agencies involved in toxics source-reduction programs in the Puget Sound region—including air, stormwater, wastewater, and toxics reduction programs at Ecology, DNR, DOH, and local jurisdictions—will develop a long-term Puget Sound toxics monitoring and assessment program that will cover (1) status and trends monitoring of toxics in and released to Puget Sound; (2) effectiveness of strategies and actions to reduce and prevent toxic chemicals from entering the Puget Sound environment; and (3) annual progress reports that compile information on results and effectiveness from multiple programs. To avoid redundancy and improve program design, this toxics-focused effort will be coordinated with and through the Puget Sound Assessment and Monitoring Program. Provided that funding is obtained, the agencies would seek to make recommendations for monitoring in 2012, and develop a monitoring plan in 2013.

*Performance measure: Monitoring and assessment plan developed or not*

In addition, actions related to removal of creosote pilings, derelict vessels and derelict gear are described in B3.3.

## Local Action

The South Central area identified development of sound wide efforts for source control, such as product management green chemistry and copper break pad legislation/programs, as a high priority action.

### **C1.2 Promote the development and use of safer alternatives to toxic chemicals.**

Governmental and non-governmental green chemistry and green design initiatives such as EPA's Design for Environment Program help evaluate and promote products and process alternatives that are cost effective and safer for the environment. Green chemistry refers to the design of chemical products and processes that reduce or eliminate the use or generation of hazardous substances. Green design or Design for Environment refers to an approach for designing products or processes that minimizes negative environmental impacts throughout the life cycle of the product; often this includes replacing toxic material inputs with non-toxic alternatives. This sub-strategy complements the sub-strategies focused on reducing the use of toxic chemicals through regulations, enforcement, technical assistance, and education by ensuring that safer alternatives to problem chemicals, formulations, and/or products are commercially available for businesses and consumers to use.

### **Ongoing Programs**

Activities to support the development and use of safer alternatives to toxic chemicals include developing new alternatives through green chemistry approaches, conducting assessments of alternatives, and providing guidance and training to assist organizations with their efforts to find safer alternatives. Ecology's Reducing Toxic Threats Initiative has identified several priority activities related to spurring the development of safer alternatives to toxics for 2011–13 and beyond, including:

- Strategy Development: Create a green chemistry roundtable "roadmap" for the state and implement recommendations from it.
- Guidance Development: Work with the Interstate Chemicals Clearinghouse (IC2) to develop a chemical alternative assessment guidance document. Ecology also plans to develop a case study portfolio.
- Alternatives Assessment: Perform an assessment of five chemicals to identify safer alternatives (if grant funding is received).
- Education and Training: Train businesses on Green Screen Version 2.0 (a tool to help businesses to evaluate the toxicity of various chemicals), train staff on a Quick Chemical Assessment Tool, and conduct a green chemistry workshop for high school teachers.

Overall, by reducing toxic chemicals in products and promoting safer alternatives, Ecology aims to achieve the following quantitative performance targets:

- Reduce the annual pounds of hazardous materials used by two percent per year.
- Collect/capture an additional 1,500 pounds of mercury in FY2012–FY2013.

As part of its Phthalates Action Plan, EPA intends to conduct a Design for Environment and Green Chemistry alternatives assessment by 2012 to assist with phthalate rulemakings under TSCA and the identification of safer alternatives. EPA's alternative assessment will present data on the hazards associated with the eight phthalates found in Ecology's list of chemicals of high concern to children.

### Key Ongoing Program Activity

- The EPA Design for Environment Program will complete an assessment of alternatives to commercial uses of phthalates in 2012 as part of its Phthalates Action Plan. By 2013, Ecology will interpret the data provided in EPA's phthalate alternative assessment, as well as other sources, and recommend alternative(s) to phthalates in specific applications. Ecology will also incorporate the information on safer alternatives into its guidance materials and technical assistance efforts and recommend and take actions to reduce phthalates entering Puget Sound. Future efforts will incorporate the recommendations of the Sediment Phthalate Workgroup, which provided recommendations on sediment recontaminated by phthalates in stormwater.

### Near-Term Actions

**C1.2 NTA 1:** By 2013, Ecology will work with the Interstate Chemicals Clearinghouse (IC2) to develop a guidance document on chemical alternatives assessment and will complete assessments of five chemicals to identify safer alternatives. In the same timeframe, Ecology will establish a task force that will oversee a study evaluating toxic materials (including toxic metals and, possibly, phthalates) in roofing materials and recommend strategies for promoting less-toxic alternatives. To support the task force's work, Ecology will solicit information from manufacturers on the presence of toxic chemicals in roofing materials. Using any data from manufacturers or previously published studies, Ecology will create and implement a sampling strategy to assess the release of contaminants from different roofing materials. The task force will use this information to develop its recommendations.

*Performance measures: Guidance document developed or not; alternatives assessments complete or not; study of toxic materials in roofing materials completed or not; task force recommendations developed or not*

**C1.2 NTA 2:** Ecology and key stakeholders in business, government, and academia will develop a green chemistry road map for Washington by 2012 outlining ways to promote the adoption of green chemistry practices. Ecology will begin implementation of the recommendations in the roadmap and advance green chemistry practices through the Green Chemistry Roundtable, which includes government, business, and non-governmental partners. By 2013, Ecology will host a green chemistry conference in the region.

*Performance measures: Green chemistry road map developed or not; green chemistry conference held or not*

### **C1.3 Adopt and implement plans and control strategies to reduce toxic releases into the Puget Sound from air emissions.**

One of the ways that toxics enter Puget Sound is through air emissions. Sources include vehicle emissions, air emissions from business and industry, and combustion emissions from wood stoves and fire places, among others. There are numerous woodstoves contributing to emissions; for example, in Pierce County, there are more than 25,000 uncertified stoves in the air quality non-attainment area alone. Ecology has completed close to 9,000 retrofits on school buses and publicly owned fleets to reduce diesel emissions, resulting in large gains for public health; however, private fleets and vehicles are still large contributors to regional air quality issues. Private heavy duty trucks, locomotives, ships, and construction equipment all contribute large quantities of soot, PAHs, oils, and other toxics to the environment, and much of that ends up washing downstream into Puget Sound. This sub-strategy focuses on adopting air quality plans and requirements to reduce toxic air emissions, such as through SIPs to meet stricter National Ambient Air Quality Standards (NAAQS), and implementing the plans to achieve the reductions needed to meet the air quality goals. Over the longer term, there is also a need to improve air quality laws, regulations, and guidance to protect public health and the environment from air toxics.

#### **Ongoing Programs**

Air quality requirements will be tightening over the next several years, as EPA adopts new air quality standards for fine particulates and ozone, and as the boundaries of non-attainment areas in Puget Sound and elsewhere are subsequently redrawn. EPA adopted revised air quality standards for nitrogen dioxide (NO<sub>2</sub>) and sulfur dioxide (SO<sub>2</sub>) in 2010, and is expected to adopt new air quality standards for fine particulates (PM 2.5) in 2011. The ozone standard will likely be revised next in 2013. After adopting standards, EPA designates non-attainment areas, which are geographic areas that do not meet the standards, and then states need to prepare revised SIPs that outline emissions reductions and control strategies needed to meet the standards.

With the changes in air quality standards over the next several years, the number of nonattainment areas in Washington is expected to increase from one to four or more. The Tacoma/Pierce County State SIP for fine particulates is due in 2012, and the necessary regulations will be adopted in 2013. New non-attainment areas for fine particulates are expected to be designated in Washington in 2012, and this will lead to modeling of particulate emissions and the identification of control strategies by 2014. Additional monitoring for NO<sub>2</sub> and SO<sub>2</sub> will begin in 2012, driven by the revised standards. Ecology is also continuing its efforts to reduce diesel emissions. Through the state budget process, Ecology has secured \$7 million to assist local governments to outfit their diesel equipment with technology that would allow them to shut down their main engines while continuing to keep lights and radios functional. Ecology is also working with fire districts and emergency departments to reduce diesel idling emissions from fire trucks, emergency vehicles, and aid units.

An important aspect of air quality management in the region is inter-jurisdictional coordination, as sources of air pollutant emissions come from both within and outside the Puget Sound basin. For example, the NW AIRQUEST Consortium (Northwest International Air Quality Environmental Science and Technology Consortium), which encompasses Washington, Oregon, Idaho, Montana, Alaska, British Columbia, and Alberta, seeks to develop, maintain, and enhance a sound scientific basis for air quality management decision-making in the Pacific Western Region of North America. The SIPs that Ecology

develops for specific non-attainment areas within Puget Sound consider the effects of transboundary air pollution and information from regional data centers such as NW AIRQUEST.

### Key Ongoing Program Activities

- Ecology will complete development of a SIP for the Tacoma/Pierce County air quality non-attainment area for PM 2.5 by 2012, and will adopt the necessary regulations by 2013.
- Ecology will complete a statewide anti-idling regulation by July 1, 2013 to reduce petroleum emissions to the air. The regulations would be designed to reduce diesel soot, PAHs, and greenhouse gases from petroleum-powered engines and equipment.

### Near-Term Actions

None; work in the near-term will focus on implementation of ongoing programs.

#### **C1.4 Provide education and technical assistance to prevent and reduce toxic releases.**

This sub-strategy involves developing toxic chemical control and nutrient reduction information and messages to encourage homeowners, businesses, and others to adopt behaviors that reduce their contribution to pollution. Numerous government and non-governmental organizations around Puget Sound have education and technical assistance programs; these include local stormwater, wastewater, and solid waste utilities; educational organizations such as Washington SeaGrant, Washington State University extension, and other colleges, universities, and schools; and non-profit and community-based organizations. Examples of programs that are particularly relevant to toxics reduction include:

**Local source control programs** that educate and assist small businesses with compliance with environmental laws and with preventing polluted runoff from entering Puget Sound and other water bodies.

- **EnviroStars** is a program that originated in 1995 in which local governments in six Puget Sound counties provide assistance and incentives for small businesses to reduce hazardous materials and waste, in order to protect public health, municipal systems, and the environment.
- **People for Puget Sound** works through education and action to protect and restore the land and waters of the Puget Sound basin. The organization has developed a series of fact sheets and communication resources on toxics threatening Puget Sound.
- **Puget Sound Starts Here** (<http://pugetsoundstartshere.org/>) is PSP's education and outreach effort to help people understand the threats to the Puget Sound ecosystem and what actions they can take to reduce toxic contaminants, nutrients, and other pollution into the Sound.
- **Take Back Your Meds** is a group of organizations that support a statewide program for safe return and disposal of unused medicines to reduce access to addictive drugs, prevent poisonings, and reduce environmental contamination; it has a series of locations such as pharmacies where medicines can be dropped off.
- **Washington Toxics Coalition** advocates for policy changes to reduce toxic pollution, promotes safer alternatives to toxics, and educates people to create a healthy environment. Informational resources include strategies for reducing toxics at people's homes and gardens, in food, and in products children use.

These and other programs have had success in reducing the use and releases of toxic chemicals to our environment; however, funding constraints have limited the extent of implementation and, therefore, the results that have been achieved. Several existing EPA grants for Puget Sound-specific funding can be used for education and technical assistance; these include grants for work on toxics and nutrients, watersheds, and public engagement and stewardship, with Ecology and PSP serving as lead organizations.

## Ongoing Programs

Ecology's Reducing Toxic Threats Initiative has several performance objectives and priority activities that relate to education and technical assistance for the 2011–13 biennium. Education-related objectives include developing a "Chemicals in Washington" report, responding to information requests from the "Toxic Free Tips" phone line and email, increasing distribution of Ecology's "Shoptalk" newsletter, increasing hits to Ecology's Hazardous Waste and Toxics Reduction Program website, and developing a marketing strategy for sharing pollution prevention success stories. Performance objectives and activities related to technical assistance include:

- Document 150,000 lbs in lead, mercury, and cadmium reductions from businesses reporting via the Toxics Release Inventory (TRI).
- Reduce annual pounds of hazardous waste generated overall by 4 percent annually, with a long-term goal of 80 percent statewide reduction from 1990 levels by 2020.
- Through the Local Source Control Partnership, fund local government agencies to conduct 600 small business technical assistance visits per quarter to explain hazardous waste requirements to small businesses and prevent sources of polluted runoff to Puget Sound and the Spokane River. (Ecology currently has funding from EPA to support local source control inspections in the Puget Sound region.) Ecology prepares a biennial progress report on the Local Source Control Program describing program activities and results.
- Ecology staff will conduct 520 compliance-related technical assistance visits during 2011–13 to help businesses determine how to manage their hazardous wastes and reduce toxics use.
- Work with the Washington State Department of Enterprise Services (a new agency being formed from a combination of several state agencies) to identify opportunities for environmentally-preferable purchases for 6–10 state contracts.
- Develop policy guidance on safe hazardous waste management and toxics use reduction for hospitals, used paint recycling, and auto shred residue.
- Create web-based dangerous waste workshop module for business technical assistance.
- Receive and review 100 percent (approximately 450) of pollution prevention plans received annually from businesses and facilities.
- Visit or assist 100 percent of pollution prevention planner facilities using or producing waste containing lead, mercury, or cadmium (about 25 toxic metal visits per quarter).
- Conduct 2–4 detailed technical assistance projects annually and 20 energy assessments.

In addition to these toxics and hazardous-waste focused programs, state, tribal, and local agencies and non-governmental organizations across Puget Sound also have education and assistance programs that focus specifically on preventing and reducing water pollution problems, including the following two ongoing program activities. Additional programs are discussed in other strategies in section C.

## Key Ongoing Program Activities

- EPA and Ecology will continue to support and expand the Local Source Control Partnership in Puget Sound in which local jurisdictions provide education and technical assistance to small businesses to prevent pollution and reduce sources of polluted runoff.
- Ecology will continue to support site visits and other technical assistance for pollution prevention planner facilities in the state that use or produce waste containing lead, mercury, or cadmium to help them to reduce their hazardous wastes.

## Near-Term Actions

**C1.4 NTA 1:** Landscaper Certification: By 2013, Ecology will work with the Washington Department of Agriculture, business associations, and other stakeholders to establish a landscaper certification program to promote environmentally friendly landscape development and maintenance practices. The program would be designed to improve habitat and water quality by reducing the use of pesticides containing toxic chemicals, reducing the use of fertilizers, reducing use of water for irrigation, reducing runoff from landscaped properties, and reducing emissions from landscape equipment.

*Performance measures: Program established or not; number of accredited professionals or certified sites (or other participation measure)*

**C1.4 NTA 2:** By 2013, Ecology will work with the new Washington Department of Enterprise Services to develop environmental opportunity assessments for 6–10 contracts; these assessments will identify environmentally preferable purchases that could help reduce toxic pollution while seeking best value for the state. Best value includes looking at price, performance, availability and environmental considerations when developing and awarding contracts.

*Performance measures: Number of completed “environmental opportunity assessments” for Department of Enterprise Services contracts; number of environmentally preferable purchases completed based on the assessments; pounds of hazardous wastes reduced per year*

## **C1.5** Increase compliance with and enforcement of environmental laws, regulations, and permits.

Local, state, and federal programs periodically inspect regulated facilities in Puget Sound to ensure compliance with applicable laws and regulations. These include air emissions control requirements under the Clean Air Act and the relevant SIP (as discussed in C1.3 above), industrial wastewater pretreatment requirements under the Clean Water Act (discussed in C6.1), and hazardous materials and waste management requirements such as the federal Resource Conservation and Recovery Act (RCRA) and the state Dangerous Waste and Pollution Prevention Plan regulations. This sub-strategy helps assure compliance with environmental laws governing hazardous materials and waste through targeted enforcement of those laws. Many of the agencies that conduct compliance inspections, as well as some not-for-profit organizations, also have technical assistance programs that provide education, training,

and assistance to businesses seeking to prevent pollution and emissions and improve facility operations (technical assistance efforts are discussed in strategy C1.4).

## Ongoing Programs

Ecology has Puget Sound-specific funding from EPA for work in this area, under the Toxics and Nutrients grant award. Additional funding could allow Ecology staff to conduct more compliance inspections and follow-up activities to prevent and reduce toxic releases. Ecology has proposed the following performance measures for its hazardous waste compliance program for the next two years (these are statewide targets):

- FY2012: Conduct 345 compliance inspections, including 5 treatment, storage, and disposal (TSD) facilities and 82 large quantity hazardous waste generators. Attain a 39.5 percent or less chance of finding a significant environmental threat during a compliance inspection.
- FY2013: Conduct 410 compliance inspections, including 5 TSD facilities and 82 large quantity hazardous waste generators. Attain a 37 percent or less chance of finding a significant environmental threat during a compliance inspection.
- Respond to and close out 100 percent of hazardous-waste related complaints at Washington facilities (approximately 120-180 complaints per year).

## Near-Term Actions

### **C1.5 NTA 1: Increase Ecology's hazardous waste, wastewater, and air quality compliance inspection and enforcement programs in the Puget Sound.**

*Performance measures: Number of compliance inspections completed per year; pounds of hazardous wastes and air pollutants reduced per year; volume of wastewater discharges reduced per year*

## Emerging Issues and Future Opportunities

Specific longer-term activities to control sources of toxics that were identified during the Action Agenda update process include the following:

- PSP and Ecology will assemble information on emerging contaminants of concern, including any data specific to Puget Sound, and will recommend actions to (1) better understand the threats to Puget Sound and then (2) address the highest priority problems. (Contaminants of emerging concern were not a major focus of the Puget Sound toxics study.)
- Ecology will continue to work with EPA and other partners to evaluate, recommend, and institute additional requirements to address threats posed by air toxics.
- Secure funding to allow Ecology to conduct compliance activities for state laws banning the use of toxic materials (e.g., PBDEs) in products, including supporting the development of protocols for sampling products regulated by state toxics laws and taking appropriate enforcement actions against noncompliant products.

Other ways that this strategy to reduce the sources of toxic chemicals entering Puget Sound could be advanced include the following items:

- Conducting scientific investigations of topics such as chemical causes of endocrine disruption (apparent as reproductive impairment) in Puget Sound fish, studies of the amount, fate, and transport of petroleum releases from drips and leaks, and gathering source data for PBT chemicals that were not included in the Puget Sound Toxics Loading Study.
- Exploring the possibility of additional authorities and/or voluntary agreements to have the private sector accept responsibility for product stewardship (e.g., targeting products that contain chemicals of concern). (Ecology already plans to develop a product stewardship program for lamps containing mercury.)
- Initiating a broad-based effort to investigate additional ways to reduce the release of toxic contaminants from vehicles and roadways (i.e., are there alternative means of ensuring the mobility of people and goods that would decrease the loads of toxic chemicals released to the environment?).
- Developing a chemical action plan or similar assessment and plan for reducing the use and releases of halogenated flame retardants. (This would be completed after a CAP on PFCs, depending on funding availability.)